



## SAR EVALUATION REPORT

**Applicant Name:**  
Apple, Inc.  
One Apple Park Way  
Cupertino, CA 95014

**Date of Testing:**  
01/02/19 – 01/14/19  
**Test Site/Location:**  
PCTEST Lab, Morgan Hill, CA, USA  
**Document Serial No.:**  
1C1811080028-01-R1.BCG

**FCC ID:** BCGA2153  
**APPLICANT:** APPLE, INC.

**DUT Type:** Tablet Device  
**Application Type:** Certification  
**FCC Rule Part(s):** CFR §2.1093  
**Model:** A2153

| Equipment Class                            | Band & Mode        | Tx Frequency          | SAR<br>1g Body (W/kg) |
|--------------------------------------------|--------------------|-----------------------|-----------------------|
| PCB                                        | UMTS 850           | 826.40 - 846.60 MHz   | 1.13                  |
| PCB                                        | UMTS 1750          | 1712.4 - 1752.6 MHz   | 1.18                  |
| PCB                                        | UMTS 1900          | 1852.4 - 1907.6 MHz   | 1.09                  |
| PCB                                        | GPRS/EDGE 850      | 824.20 - 848.80 MHz   | 1.04                  |
| PCB                                        | GPRS/EDGE 1900     | 1850.20 - 1909.80 MHz | 0.96                  |
| PCB                                        | LTE Band 71        | 665.5 - 695.5 MHz     | 1.04                  |
| PCB                                        | LTE Band 12        | 699.7 - 715.3 MHz     | 1.18                  |
| PCB                                        | LTE Band 17        | 706.5 - 713.5 MHz     | N/A                   |
| PCB                                        | LTE Band 13        | 779.5 - 784.5 MHz     | 1.11                  |
| PCB                                        | LTE Band 14        | 790.5 - 795.5 MHz     | 0.93                  |
| PCB                                        | LTE Band 5 (Cell)  | 824.7 - 848.3 MHz     | 1.19                  |
| PCB                                        | LTE Band 26 (Cell) | 814.7 - 848.3 MHz     | 1.17                  |
| PCB                                        | LTE Band 66 (AWS)  | 1710.7 - 1779.3 MHz   | 1.19                  |
| PCB                                        | LTE Band 4 (AWS)   | 1710.7 - 1754.3 MHz   | N/A                   |
| PCB                                        | LTE Band 25 (PCS)  | 1850.7 - 1914.3 MHz   | 1.00                  |
| PCB                                        | LTE Band 2 (PCS)   | 1850.7 - 1909.3 MHz   | N/A                   |
| PCB                                        | LTE Band 30        | 2307.5 - 2312.5 MHz   | 1.01                  |
| PCB                                        | LTE Band 7         | 2502.5 - 2567.5 MHz   | 1.19                  |
| PCB                                        | LTE Band 41        | 2498.5 - 2687.5 MHz   | 1.15                  |
| DTS                                        | 2.4 GHz WLAN       | 2412 - 2472 MHz       | 1.18                  |
| NI                                         | U-NII-1            | 5180 - 5240 MHz       | 1.19                  |
| NI                                         | U-NII-2A           | 5260 - 5320 MHz       | 1.00                  |
| NI                                         | U-NII-2C           | 5500 - 5720 MHz       | 1.14                  |
| NI                                         | U-NII-3            | 5745 - 5825 MHz       | 1.13                  |
| DSS/DTS                                    | Bluetooth          | 2402 - 2480 MHz       | 1.19                  |
| Simultaneous SAR per KDB 690783 D01v01r03: |                    |                       | 1.56                  |

Note: This revised Test Report (S/N: 1C1811080028-01-R1.BCG) supersedes and replaces the previously issued test report on the same subject device for the same type of testing as indicated. Please discard or destroy the previously issued test report(s) and dispose of it accordingly.

This wireless portable device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment/general population exposure limits specified in ANSI/IEEE C95.1-1992 and has been tested in accordance with the measurement procedures specified in Section 1.7 of this report; for North American frequency bands only.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them. Test results reported herein relate only to the item(s) tested.

  
Randy Ortanez  
President



The SAR Tick is an initiative of the Mobile & Wireless Forum (MWF). While a product may be considered eligible, use of the SAR Tick logo requires an agreement with the MWF. Further details can be obtained by emailing: [sartick@mwfai.info](mailto:sartick@mwfai.info).

|                                         |                                                                                                                  |                            |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
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|                                                |                                                                                                                                   |                                   |                                        |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------------------|
| FCC ID: BCGA2153                               |  <b>PCTEST</b><br>ENGINEERING LABORATORY, INC. | <b>SAR EVALUATION REPORT</b>      | <b>Approved by:</b><br>Quality Manager |
| <b>Document S/N:</b><br>1C1811080028-01-R1.BCG | <b>Test Dates:</b><br>01/02/19-01/14/19                                                                                           | <b>DUT Type:</b><br>Tablet Device | Page 2 of 120                          |

# 1 DEVICE UNDER TEST

## 1.1 Device Overview

| Band & Mode        | Operating Modes | Tx Frequency          |
|--------------------|-----------------|-----------------------|
| UMTS 850           | Data            | 826.40 - 846.60 MHz   |
| UMTS 1750          | Data            | 1712.4 - 1752.6 MHz   |
| UMTS 1900          | Data            | 1852.4 - 1907.6 MHz   |
| GPRS/EDGE 850      | Data            | 824.20 - 848.80 MHz   |
| GPRS/EDGE 1900     | Data            | 1850.20 - 1909.80 MHz |
| LTE Band 71        | Data            | 665.5 - 695.5 MHz     |
| LTE Band 12        | Data            | 699.7 - 715.3 MHz     |
| LTE Band 17        | Data            | 706.5 - 713.5 MHz     |
| LTE Band 13        | Data            | 779.5 - 784.5 MHz     |
| LTE Band 14        | Data            | 790.5 - 795.5 MHz     |
| LTE Band 5 (Cell)  | Data            | 824.7 - 848.3 MHz     |
| LTE Band 26 (Cell) | Data            | 814.7 - 848.3 MHz     |
| LTE Band 66 (AWS)  | Data            | 1710.7 - 1779.3 MHz   |
| LTE Band 4 (AWS)   | Data            | 1710.7 - 1754.3 MHz   |
| LTE Band 25 (PCS)  | Data            | 1850.7 - 1914.3 MHz   |
| LTE Band 2 (PCS)   | Data            | 1850.7 - 1909.3 MHz   |
| LTE Band 30        | Data            | 2307.5 - 2312.5 MHz   |
| LTE Band 7         | Data            | 2502.5 - 2567.5 MHz   |
| LTE Band 41        | Data            | 2498.5 - 2687.5 MHz   |
| 2.4 GHz WLAN       | Voice/Data      | 2412 - 2472 MHz       |
| U-NII-1            | Voice/Data      | 5180 - 5240 MHz       |
| U-NII-2A           | Voice/Data      | 5260 - 5320 MHz       |
| U-NII-2C           | Voice/Data      | 5500 - 5720 MHz       |
| U-NII-3            | Voice/Data      | 5745 - 5825 MHz       |
| Bluetooth          | Data            | 2402 - 2480 MHz       |

## 1.2 Power Reduction for SAR

This device uses the manufacturer's proprietary motion detect mode to determine proximity to the user's body and set the licensed power level accordingly for SAR compliance. When being used in the hand or the body, the output power for licensed transmitters will always be reduced. Per FCC KDB Guidance, SAR testing was performed only using reduced output powers following the test positions in KDB Publication 616217.

This device additionally utilizes a power reduction mechanism for Bluetooth operations. When Bluetooth is operating simultaneously with 5 GHz WLAN antennas, the output power is permanently reduced. SAR evaluations were additionally performed at the maximum allowed output power for these scenarios to evaluate simultaneous transmission compliance.

Detailed descriptions of the power reduction mechanisms are included in the operational description. The power reduction mechanisms were confirmed during the SAR Evaluation. Appendix G contains a summary of the verification results.

## 1.3 Nominal and Maximum Output Power Specifications

This device operates using the following maximum and nominal output power specifications. SAR values were scaled to the maximum allowed power to determine compliance per KDB Publication 447498 D01v06.

|                                         |                                                                                                                  |                            |                                 |
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### 1.3.1 2G/3G/4G Output Power for Portable Use Conditions

#### A. Antenna WF3

| Mode / Band            |         | Burst Average GMSK (dBm) |              | Burst Average 8-PSK (dBm) |               |
|------------------------|---------|--------------------------|--------------|---------------------------|---------------|
|                        |         | 1 TX Slots               | 2 TX Slots   | 1 TX Slots                | 2 TX Slots    |
| GPRS/EDGE 850          | Maximum | <b>27.70</b>             | <b>24.70</b> | <b>24.75</b>              | <b>23.75</b>  |
|                        | Nominal | <b>26.95</b>             | <b>23.95</b> | <b>24.00</b>              | <b>23.00</b>  |
| GPRS/EDGE 1900         | Maximum | <b>23.10</b>             | <b>20.10</b> | <b>23.10</b>              | <b>20.10</b>  |
|                        | Nominal | <b>22.35</b>             | <b>19.35</b> | <b>22.35</b>              | <b>19.35</b>  |
| Mode / Band            |         | Modulated Average (dBm)  |              |                           |               |
|                        |         | 3GPP WCDMA               | 3GPP HSDPA   | 3GPP HSUPA                | 3GPP DC-HSDPA |
| UMTS Band 5 (850 MHz)  | Maximum | <b>18.70</b>             | <b>18.70</b> | <b>18.70</b>              | <b>18.70</b>  |
|                        | Nominal | <b>18.20</b>             | <b>18.20</b> | <b>18.20</b>              | <b>18.20</b>  |
| UMTS Band 4 (1750 MHz) | Maximum | <b>14.00</b>             | <b>14.00</b> | <b>14.00</b>              | <b>14.00</b>  |
|                        | Nominal | <b>13.50</b>             | <b>13.50</b> | <b>13.50</b>              | <b>13.50</b>  |
| UMTS Band 2 (1900 MHz) | Maximum | <b>13.50</b>             | <b>13.50</b> | <b>13.50</b>              | <b>13.50</b>  |
|                        | Nominal | <b>13.00</b>             | <b>13.00</b> | <b>13.00</b>              | <b>13.00</b>  |

|                                         |                                                                                                                  |                            |                                 |
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| Mode / Band          |         | Modulated Average<br>(dBm) |
|----------------------|---------|----------------------------|
| LTE Band 71          | Maximum | <b>18.50</b>               |
|                      | Nominal | <b>18.00</b>               |
| LTE Band 12          | Maximum | <b>19.00</b>               |
|                      | Nominal | <b>18.50</b>               |
| LTE Band 17          | Maximum | <b>19.00</b>               |
|                      | Nominal | <b>18.50</b>               |
| LTE Band 13          | Maximum | <b>18.50</b>               |
|                      | Nominal | <b>18.00</b>               |
| LTE Band 14          | Maximum | <b>18.50</b>               |
|                      | Nominal | <b>18.00</b>               |
| LTE Band 5 (Cell)    | Maximum | <b>18.70</b>               |
|                      | Nominal | <b>18.20</b>               |
| LTE Band 26 (Cell)   | Maximum | <b>18.70</b>               |
|                      | Nominal | <b>18.20</b>               |
| LTE Band 66 (AWS)    | Maximum | <b>14.00</b>               |
|                      | Nominal | <b>13.50</b>               |
| LTE Band 4 (AWS)     | Maximum | <b>14.00</b>               |
|                      | Nominal | <b>13.50</b>               |
| LTE Band 25 (PCS)    | Maximum | <b>13.50</b>               |
|                      | Nominal | <b>13.00</b>               |
| LTE Band 2 (PCS)     | Maximum | <b>13.50</b>               |
|                      | Nominal | <b>13.00</b>               |
| LTE Band 30          | Maximum | <b>13.00</b>               |
|                      | Nominal | <b>12.50</b>               |
| LTE Band 7           | Maximum | <b>11.50</b>               |
|                      | Nominal | <b>11.00</b>               |
| LTE Band 7 ULCA      | Maximum | <b>11.50</b>               |
|                      | Nominal | <b>10.50</b>               |
| LTE Band 41 PC3      | Maximum | <b>14.00</b>               |
|                      | Nominal | <b>13.50</b>               |
| LTE Band 41 PC3 ULCA | Maximum | <b>14.00</b>               |
|                      | Nominal | <b>13.00</b>               |
| LTE Band 41 PC2      | Maximum | <b>14.00</b>               |
|                      | Nominal | <b>13.50</b>               |

|                                         |                                                                                                                  |                            |                                 |
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## B. Antenna WF5

| Mode / Band            |         | Burst Average<br>GMSK (dBm) |               | Burst Average 8-<br>PSK (dBm) |                  |
|------------------------|---------|-----------------------------|---------------|-------------------------------|------------------|
|                        |         | 1 TX<br>Slots               | 2 TX<br>Slots | 1 TX<br>Slots                 | 2 TX<br>Slots    |
| GPRS/EDGE 850          | Maximum | <b>28.25</b>                | <b>26.60</b>  | <b>22.75</b>                  | <b>21.75</b>     |
|                        | Nominal | <b>27.50</b>                | <b>25.85</b>  | <b>22.00</b>                  | <b>21.00</b>     |
| GPRS/EDGE 1900         | Maximum | <b>23.80</b>                | <b>20.80</b>  | <b>22.75</b>                  | <b>20.80</b>     |
|                        | Nominal | <b>23.05</b>                | <b>20.05</b>  | <b>22.00</b>                  | <b>20.05</b>     |
| Mode / Band            |         | Modulated Average (dBm)     |               |                               |                  |
|                        |         | 3GPP<br>WCDMA               | 3GPP<br>HSDPA | 3GPP<br>HSUPA                 | 3GPP<br>DC-HSDPA |
| UMTS Band 5 (850 MHz)  | Maximum | <b>20.00</b>                | <b>20.00</b>  | <b>20.00</b>                  | <b>20.00</b>     |
|                        | Nominal | <b>19.50</b>                | <b>19.50</b>  | <b>19.50</b>                  | <b>19.50</b>     |
| UMTS Band 4 (1750 MHz) | Maximum | <b>14.20</b>                | <b>14.20</b>  | <b>14.20</b>                  | <b>14.20</b>     |
|                        | Nominal | <b>13.70</b>                | <b>13.70</b>  | <b>13.70</b>                  | <b>13.70</b>     |
| UMTS Band 2 (1900 MHz) | Maximum | <b>14.30</b>                | <b>14.30</b>  | <b>14.30</b>                  | <b>14.30</b>     |
|                        | Nominal | <b>13.80</b>                | <b>13.80</b>  | <b>13.80</b>                  | <b>13.80</b>     |

|                                         |                                                                                                                  |                            |                                 |
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| Mode / Band          |         | Modulated Average<br>(dBm) |
|----------------------|---------|----------------------------|
| LTE Band 71          | Maximum | <b>19.00</b>               |
|                      | Nominal | <b>18.50</b>               |
| LTE Band 12          | Maximum | <b>19.00</b>               |
|                      | Nominal | <b>18.50</b>               |
| LTE Band 17          | Maximum | <b>19.00</b>               |
|                      | Nominal | <b>18.50</b>               |
| LTE Band 13          | Maximum | <b>20.10</b>               |
|                      | Nominal | <b>19.60</b>               |
| LTE Band 14          | Maximum | <b>20.10</b>               |
|                      | Nominal | <b>19.60</b>               |
| LTE Band 5 (Cell)    | Maximum | <b>20.00</b>               |
|                      | Nominal | <b>19.50</b>               |
| LTE Band 26 (Cell)   | Maximum | <b>20.00</b>               |
|                      | Nominal | <b>19.50</b>               |
| LTE Band 66 (AWS)    | Maximum | <b>14.20</b>               |
|                      | Nominal | <b>13.70</b>               |
| LTE Band 4 (AWS)     | Maximum | <b>14.20</b>               |
|                      | Nominal | <b>13.70</b>               |
| LTE Band 25 (PCS)    | Maximum | <b>14.30</b>               |
|                      | Nominal | <b>13.80</b>               |
| LTE Band 2 (PCS)     | Maximum | <b>14.30</b>               |
|                      | Nominal | <b>13.80</b>               |
| LTE Band 30          | Maximum | <b>12.20</b>               |
|                      | Nominal | <b>11.70</b>               |
| LTE Band 7           | Maximum | <b>11.90</b>               |
|                      | Nominal | <b>11.40</b>               |
| LTE Band 7 ULCA      | Maximum | <b>11.90</b>               |
|                      | Nominal | <b>10.90</b>               |
| LTE Band 41 PC3      | Maximum | <b>14.50</b>               |
|                      | Nominal | <b>14.00</b>               |
| LTE Band 41 PC3 ULCA | Maximum | <b>14.50</b>               |
|                      | Nominal | <b>13.50</b>               |
| LTE Band 41 PC2      | Maximum | <b>14.50</b>               |
|                      | Nominal | <b>14.00</b>               |

|                                         |                                                                                                                  |                            |                                 |
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## 1.3.2 Unlicensed Maximum Output Power

### A. Antenna WF1

| Mode / Band              |         | Modulated Average (dBm)        |          |       |         |        |        |        |        |
|--------------------------|---------|--------------------------------|----------|-------|---------|--------|--------|--------|--------|
| Bluetooth BDR/LE         | Maximum | 20.00                          |          |       |         |        |        |        |        |
| Bluetooth EDR            | Maximum | 12.50                          |          |       |         |        |        |        |        |
| Bluetooth HDR            | Maximum | 10.00                          |          |       |         |        |        |        |        |
| Mode / Band              |         | Modulated Average (dBm)        |          |       |         |        |        |        |        |
|                          |         | Ch.1                           | Ch. 2    | Ch. 3 | Ch. 4-9 | Ch. 10 | Ch. 11 | Ch. 12 | Ch. 13 |
| IEEE 802.11b (2.4 GHz)   | Maximum | 19.50                          | 19.50    | 19.50 | 19.50   | 19.50  | 18.50  | 17.50  | 14.50  |
|                          | Nominal | 18.00                          | 18.00    | 18.00 | 18.00   | 18.00  | 17.00  | 16.00  | 13.00  |
| IEEE 802.11g (2.4 GHz)   | Maximum | 14.50                          | 18.50    | 19.00 | 19.50   | 18.00  | 14.00  | 11.50  | 3.00   |
|                          | Nominal | 13.00                          | 17.00    | 17.50 | 18.00   | 16.50  | 12.50  | 10.00  | 1.50   |
| IEEE 802.11n (2.4 GHz)   | Maximum | 14.50                          | 18.50    | 19.00 | 19.50   | 18.00  | 14.00  | 11.50  | 3.00   |
|                          | Nominal | 13.00                          | 17.00    | 17.50 | 18.00   | 16.50  | 12.50  | 10.00  | 1.50   |
| Mode / Band              |         | Modulated Average - MIMO (dBm) |          |       |         |        |        |        |        |
|                          |         | Ch.1                           | Ch. 2-10 | Ch.11 | Ch. 12  | Ch. 13 |        |        |        |
| IEEE 802.11g/n (2.4 GHz) | Maximum | 13.50                          | 17.00    | 13.00 | 10.50   | 0.00   |        |        |        |
|                          | Nominal | 12.00                          | 15.50    | 11.50 | 9.00    | -1.50  |        |        |        |

Note: In MIMO operations, Antenna WF1 transmits at maximum allowed powers as indicated above.

| Mode / Band           |         | Modulated Average (dBm)              |           |           |                  |                  |             |                  |        |        |            |             |                  |                  |             |             |             |
|-----------------------|---------|--------------------------------------|-----------|-----------|------------------|------------------|-------------|------------------|--------|--------|------------|-------------|------------------|------------------|-------------|-------------|-------------|
|                       |         | 20 MHz Bandwidth                     |           |           |                  |                  |             | 40 MHz Bandwidth |        |        |            |             |                  | 80 MHz Bandwidth |             |             |             |
|                       |         | Ch. 36-48                            | Ch. 52-60 | Ch. 64    | Ch. 100-136, 144 | Ch. 140          | Ch. 149-165 | Ch. 38           | Ch. 46 | Ch. 54 | Ch. 62-102 | Ch. 110-142 | Ch. 151-159      | Ch. 42           | Ch. 58      | 106         | Ch. 122-138 |
| IEEE 802.11a (5 GHz)  | Maximum | 15.75                                | 16.50     | 16.00     | 15.25            | 15.00            | 14.75       |                  |        |        |            |             |                  |                  |             |             |             |
|                       | Nominal | 14.25                                | 15.00     | 14.50     | 13.75            | 13.50            | 13.25       |                  |        |        |            |             |                  |                  |             |             |             |
| IEEE 802.11n (5 GHz)  | Maximum | 15.75                                | 16.50     | 16.00     | 15.25            | 15.00            | 14.75       | 14.50            | 15.75  | 16.50  | 14.50      | 15.25       | 14.75            |                  |             |             |             |
|                       | Nominal | 14.25                                | 15.00     | 14.50     | 13.75            | 13.50            | 13.25       | 13.00            | 14.25  | 15.00  | 13.00      | 13.75       | 13.25            |                  |             |             |             |
| IEEE 802.11ac (5 GHz) | Maximum | 15.75                                | 16.50     | 16.00     | 15.25            | 15.00            | 14.75       | 14.50            | 15.75  | 16.50  | 14.50      | 15.25       | 14.75            | 14.00            | 13.00       | 13.50       | 15.25       |
|                       | Nominal | 14.25                                | 15.00     | 14.50     | 13.75            | 13.50            | 13.25       | 13.00            | 14.25  | 15.00  | 13.00      | 13.75       | 13.25            | 12.50            | 11.50       | 12.00       | 13.75       |
| Mode / Band           |         | Modulated Average - MIMO (CDD) (dBm) |           |           |                  |                  |             |                  |        |        |            |             |                  |                  |             |             |             |
|                       |         | 20 MHz Bandwidth                     |           |           |                  |                  |             | 40 MHz Bandwidth |        |        |            |             |                  | 80 MHz Bandwidth |             |             |             |
|                       |         | Ch. 36, 64                           | Ch. 40-48 | Ch. 52-60 | Ch. 100-136, 144 | Ch. 140          | Ch. 149-165 | Ch. 38           | Ch. 46 | Ch. 54 | Ch. 62     | Ch. 102     | Ch. 110-126, 142 | Ch. 134          | Ch. 151-159 | Ch. 42, 106 | Ch. 58      |
| IEEE 802.11a (5 GHz)  | Maximum | 14.50                                | 15.75     | 16.50     | 15.00            | 13.50            | 14.75       |                  |        |        |            |             |                  |                  |             |             |             |
|                       | Nominal | 13.00                                | 14.25     | 15.00     | 13.50            | 12.00            | 13.25       |                  |        |        |            |             |                  |                  |             |             |             |
| IEEE 802.11n (5 GHz)  | Maximum | 14.50                                | 15.75     | 16.50     | 15.00            | 13.50            | 14.75       | 13.50            | 15.75  | 16.50  | 12.50      | 13.00       | 15.25            | 14.50            | 14.75       |             |             |
|                       | Nominal | 13.00                                | 14.25     | 15.00     | 13.50            | 12.00            | 13.25       | 12.00            | 14.25  | 15.00  | 11.00      | 11.50       | 13.75            | 13.00            | 13.25       |             |             |
| IEEE 802.11ac (5 GHz) | Maximum | 14.50                                | 15.75     | 16.50     | 15.00            | 13.50            | 14.75       | 13.50            | 15.75  | 16.50  | 12.50      | 13.00       | 15.25            | 14.50            | 14.75       | 12.00       | 11.25       |
|                       | Nominal | 13.00                                | 14.25     | 15.00     | 13.50            | 12.00            | 13.25       | 12.00            | 14.25  | 15.00  | 11.00      | 11.50       | 13.75            | 13.00            | 13.25       | 10.50       | 9.75        |
| Mode / Band           |         | Modulated Average - MIMO (SDM) (dBm) |           |           |                  |                  |             |                  |        |        |            |             |                  |                  |             |             |             |
|                       |         | 20 MHz Bandwidth                     |           |           |                  |                  |             | 40 MHz Bandwidth |        |        |            |             |                  | 80 MHz Bandwidth |             |             |             |
|                       |         | Ch. 36, 64                           | Ch. 40-48 | Ch. 52-60 | Ch. 100          | Ch. 104-136, 144 | Ch. 140     | Ch. 149-165      | Ch. 38 | Ch. 46 | Ch. 54     | Ch. 62      | Ch. 102          | Ch. 110-126, 142 | Ch. 134     | Ch. 151-159 | Ch. 42, 106 |
| IEEE 802.11n (5 GHz)  | Maximum | 14.50                                | 15.75     | 16.50     | 15.00            | 15.25            | 13.50       | 14.75            | 13.50  | 15.75  | 16.50      | 12.50       | 13.00            | 15.25            | 14.50       | 14.75       |             |
|                       | Nominal | 13.00                                | 14.25     | 15.00     | 13.50            | 13.75            | 12.00       | 13.25            | 12.00  | 14.25  | 15.00      | 11.00       | 11.50            | 13.75            | 13.00       | 13.25       |             |
| IEEE 802.11ac (5 GHz) | Maximum | 14.50                                | 15.75     | 16.50     | 15.00            | 15.25            | 13.50       | 14.75            | 13.50  | 15.75  | 16.50      | 12.50       | 13.00            | 15.25            | 14.50       | 14.75       | 12.00       |
|                       | Nominal | 13.00                                | 14.25     | 15.00     | 13.50            | 13.75            | 12.00       | 13.25            | 12.00  | 14.25  | 15.00      | 11.00       | 11.50            | 13.75            | 13.00       | 13.25       | 10.50       |

Note: In MIMO operations, Antenna WF1 transmits at maximum allowed powers as indicated above for both 2 Tx CDD and 2 Tx SDM.

|                                         |                                                                                                                  |                            |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
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## B. Antenna WF2

| Mode / Band              |         | Modulated Average (dBm) |       |                                |          |        |        |        |        |
|--------------------------|---------|-------------------------|-------|--------------------------------|----------|--------|--------|--------|--------|
| Bluetooth BDR/LE         | Maximum | 20.00                   |       |                                |          |        |        |        |        |
| Bluetooth EDR            | Maximum | 12.50                   |       |                                |          |        |        |        |        |
| Bluetooth HDR            | Maximum | 10.00                   |       |                                |          |        |        |        |        |
| Mode / Band              |         | Modulated Average (dBm) |       |                                |          |        |        |        |        |
|                          |         | Ch.1                    | Ch. 2 | Ch. 3                          | Ch. 4-9  | Ch. 10 | Ch. 11 | Ch. 12 | Ch. 13 |
| IEEE 802.11b (2.4 GHz)   | Maximum | 19.75                   | 19.75 | 19.75                          | 19.75    | 19.75  | 19.00  | 17.50  | 15.00  |
|                          | Nominal | 18.25                   | 18.25 | 18.25                          | 18.25    | 18.25  | 17.50  | 16.00  | 13.50  |
| IEEE 802.11g (2.4 GHz)   | Maximum | 14.50                   | 18.50 | 19.00                          | 19.75    | 18.00  | 14.50  | 12.00  | 3.50   |
|                          | Nominal | 13.00                   | 17.00 | 17.50                          | 18.25    | 16.50  | 13.00  | 10.50  | 2.00   |
| IEEE 802.11n (2.4 GHz)   | Maximum | 14.50                   | 18.50 | 19.00                          | 19.75    | 18.00  | 14.50  | 12.00  | 3.50   |
|                          | Nominal | 13.00                   | 17.00 | 17.50                          | 18.25    | 16.50  | 13.00  | 10.50  | 2.00   |
| Mode / Band              |         |                         |       | Modulated Average - MIMO (dBm) |          |        |        |        |        |
|                          |         |                         |       | Ch.1                           | Ch. 2-10 | Ch.11  | Ch. 12 | Ch. 13 |        |
| IEEE 802.11g/n (2.4 GHz) |         |                         |       | Maximum                        | 14.00    | 17.00  | 13.00  | 10.50  | 0.50   |
|                          |         |                         |       | Nominal                        | 12.50    | 15.50  | 11.50  | 9.00   | -1.00  |

Note: In MIMO operations, Antenna WF2 transmits at maximum allowed powers as indicated above.

| Mode / Band           |         | Modulated Average (dBm)              |           |                  |         |                  |                  |             |        |            |             |                  |         |                  |         |             |
|-----------------------|---------|--------------------------------------|-----------|------------------|---------|------------------|------------------|-------------|--------|------------|-------------|------------------|---------|------------------|---------|-------------|
|                       |         | 20 MHz Bandwidth                     |           |                  |         |                  | 40 MHz Bandwidth |             |        |            |             | 80 MHz Bandwidth |         |                  |         |             |
|                       |         | Ch. 36, 52-64                        | Ch. 40-48 | Ch. 100-136, 144 | Ch. 140 | Ch. 149-165      | Ch. 38           | Ch. 46      | Ch. 54 | Ch. 62-102 | Ch. 110-142 | Ch. 151-159      | Ch. 42  | Ch. 58           | Ch. 106 | Ch. 122-138 |
| IEEE 802.11a (5 GHz)  | Maximum | 16.00                                | 17.25     | 15.50            | 15.00   | 15.75            |                  |             |        |            |             |                  |         |                  |         |             |
|                       | Nominal | 14.50                                | 15.75     | 14.00            | 13.50   | 14.25            |                  |             |        |            |             |                  |         |                  |         |             |
| IEEE 802.11n (5 GHz)  | Maximum | 16.00                                | 17.25     | 15.50            | 15.00   | 15.75            | 14.50            | 17.25       | 16.00  | 14.50      | 15.50       | 15.75            |         |                  |         |             |
|                       | Nominal | 14.50                                | 15.75     | 14.00            | 13.50   | 14.25            | 13.00            | 15.75       | 14.50  | 13.00      | 14.00       | 14.25            |         |                  |         |             |
| IEEE 802.11ac (5 GHz) | Maximum | 16.00                                | 17.25     | 15.50            | 15.00   | 15.75            | 14.50            | 17.25       | 16.00  | 14.50      | 15.50       | 15.75            | 14.00   | 13.00            | 13.50   | 15.50       |
|                       | Nominal | 14.50                                | 15.75     | 14.00            | 13.50   | 14.25            | 13.00            | 15.75       | 14.50  | 13.00      | 14.00       | 14.25            | 12.50   | 11.50            | 12.00   | 14.00       |
| Mode / Band           |         | Modulated Average - MIMO (CDD) (dBm) |           |                  |         |                  |                  |             |        |            |             |                  |         |                  |         |             |
|                       |         | 20 MHz Bandwidth                     |           |                  |         |                  | 40 MHz Bandwidth |             |        |            |             | 80 MHz Bandwidth |         |                  |         |             |
|                       |         | Ch. 36, 64                           | Ch. 40-48 | Ch. 52-60        | Ch. 100 | Ch. 104-136, 144 | Ch. 140          | Ch. 149-165 | Ch. 38 | Ch. 46     | Ch. 54      | Ch. 62           | Ch. 102 | Ch. 110-126, 142 | Ch. 134 | Ch. 151-159 |
| IEEE 802.11a (5 GHz)  | Maximum | 14.50                                | 16.50     | 16.00            | 15.00   | 15.50            | 13.50            | 15.75       |        |            |             |                  |         |                  |         |             |
|                       | Nominal | 13.00                                | 15.00     | 14.50            | 13.50   | 14.00            | 12.00            | 14.25       |        |            |             |                  |         |                  |         |             |
| IEEE 802.11n (5 GHz)  | Maximum | 14.50                                | 16.50     | 16.00            | 15.00   | 15.50            | 13.50            | 15.75       | 13.50  | 17.25      | 16.00       | 12.50            | 13.00   | 15.50            | 14.50   | 15.75       |
|                       | Nominal | 13.00                                | 15.00     | 14.50            | 13.50   | 14.00            | 12.00            | 14.25       | 12.00  | 15.75      | 14.50       | 11.00            | 11.50   | 14.00            | 13.00   | 14.25       |
| IEEE 802.11ac (5 GHz) | Maximum | 14.50                                | 16.50     | 16.00            | 15.00   | 15.50            | 13.50            | 15.75       | 13.50  | 17.25      | 16.00       | 12.50            | 13.00   | 15.50            | 14.50   | 15.75       |
|                       | Nominal | 13.00                                | 15.00     | 14.50            | 13.50   | 14.00            | 12.00            | 14.25       | 12.00  | 15.75      | 14.50       | 11.00            | 11.50   | 14.00            | 13.00   | 14.25       |
| Mode / Band           |         | Modulated Average - MIMO (SDM) (dBm) |           |                  |         |                  |                  |             |        |            |             |                  |         |                  |         |             |
|                       |         | 20 MHz Bandwidth                     |           |                  |         |                  | 40 MHz Bandwidth |             |        |            |             | 80 MHz Bandwidth |         |                  |         |             |
|                       |         | Ch. 36, 64                           | Ch. 40-48 | Ch. 52-60        | Ch. 100 | Ch. 104-136, 144 | Ch. 140          | Ch. 149-165 | Ch. 38 | Ch. 46     | Ch. 54      | Ch. 62           | Ch. 102 | Ch. 110-126, 142 | Ch. 134 | Ch. 151-159 |
| IEEE 802.11n (5 GHz)  | Maximum | 14.50                                | 17.00     | 16.00            | 15.00   | 15.50            | 13.50            | 15.75       | 13.50  | 17.25      | 16.00       | 12.50            | 13.00   | 15.50            | 14.50   | 15.75       |
|                       | Nominal | 13.00                                | 15.50     | 14.50            | 13.50   | 14.00            | 12.00            | 14.25       | 12.00  | 15.75      | 14.50       | 11.00            | 11.50   | 14.00            | 13.00   | 14.25       |
| IEEE 802.11ac (5 GHz) | Maximum | 14.50                                | 17.00     | 16.00            | 15.00   | 15.50            | 13.50            | 15.75       | 13.50  | 17.25      | 16.00       | 12.50            | 13.00   | 15.50            | 14.50   | 15.75       |
|                       | Nominal | 13.00                                | 15.50     | 14.50            | 13.50   | 14.00            | 12.00            | 14.25       | 12.00  | 15.75      | 14.50       | 11.00            | 11.50   | 14.00            | 13.00   | 14.25       |

Note: In MIMO operations, Antenna WF2 transmits at maximum allowed powers as indicated above for both 2 Tx CDD and 2 Tx SDM.

|                                         |                                                                                                                  |                            |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
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### 1.3.3 Unlicensed Reduced Output Power

#### A. Antenna WF1 – Output Power for Simultaneous Operations with 5 GHz WLAN

| Mode / Band              |         | Modulated Average<br>(dBm) |
|--------------------------|---------|----------------------------|
| Bluetooth BDR/LE Reduced | Maximum | <b>13.00</b>               |
| Bluetooth EDR Reduced    | Maximum | <b>12.50</b>               |
| Bluetooth HDR Reduced    | Maximum | <b>10.00</b>               |

The above power levels are implemented when 2.4 BT Operations are active with 5 GHz WIFI.

#### B. Antenna WF2 – Output Power for Simultaneous Operations with 5 GHz WLAN

| Mode / Band              |         | Modulated Average<br>(dBm) |
|--------------------------|---------|----------------------------|
| Bluetooth BDR/LE Reduced | Maximum | <b>13.00</b>               |
| Bluetooth EDR Reduced    | Maximum | <b>12.50</b>               |
| Bluetooth HDR Reduced    | Maximum | <b>10.00</b>               |

The above power levels are implemented when 2.4 BT Operations are active with 5 GHz WIFI.

|                                         |                                                                                                                  |                            |                                 |
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## 1.4 DUT Antenna Locations

The overall diagonal dimension of the device is > 200 mm. A diagram showing the location of the device antennas can be found in Appendix F. Exact antenna dimensions and separation distances are shown in the Technical Descriptions in the FCC filings.

**Table 1-1**  
**Device Edges/Sides for SAR Testing**

| Mode                 | Back | Front | Top | Bottom | Right | Left |
|----------------------|------|-------|-----|--------|-------|------|
| UMTS 850 Ant WF3     | Yes  | No    | Yes | No     | Yes   | No   |
| UMTS 850 Ant WF5     | Yes  | No    | Yes | No     | No    | Yes  |
| UMTS 1750 Ant WF3    | Yes  | No    | Yes | No     | Yes   | No   |
| UMTS 1750 Ant WF5    | Yes  | No    | Yes | No     | No    | Yes  |
| UMTS 1900 Ant WF3    | Yes  | No    | Yes | No     | Yes   | No   |
| UMTS 1900 Ant WF5    | Yes  | No    | Yes | No     | No    | Yes  |
| GPRS 850 Ant WF3     | Yes  | No    | Yes | No     | Yes   | No   |
| GPRS 850 Ant WF5     | Yes  | No    | Yes | No     | No    | Yes  |
| GPRS 1900 Ant WF3    | Yes  | No    | Yes | No     | Yes   | No   |
| GPRS 1900 Ant WF5    | Yes  | No    | Yes | No     | No    | Yes  |
| LTE B71 Ant WF3      | Yes  | No    | Yes | No     | Yes   | No   |
| LTE B71 Ant WF5      | Yes  | No    | Yes | No     | No    | Yes  |
| LTE B12 Ant WF3      | Yes  | No    | Yes | No     | Yes   | No   |
| LTE B12 Ant WF5      | Yes  | No    | Yes | No     | No    | Yes  |
| LTE B13 Ant WF3      | Yes  | No    | Yes | No     | Yes   | No   |
| LTE B13 Ant WF5      | Yes  | No    | Yes | No     | No    | Yes  |
| LTE B14 Ant WF3      | Yes  | No    | Yes | No     | Yes   | No   |
| LTE B14 Ant WF5      | Yes  | No    | Yes | No     | No    | Yes  |
| LTE B5 Ant WF3       | Yes  | No    | Yes | No     | Yes   | No   |
| LTE B5 Ant WF5       | Yes  | No    | Yes | No     | No    | Yes  |
| LTE B26 Ant WF3      | Yes  | No    | Yes | No     | Yes   | No   |
| LTE B26 Ant WF5      | Yes  | No    | Yes | No     | No    | Yes  |
| LTE B66 Ant WF3      | Yes  | No    | Yes | No     | Yes   | No   |
| LTE B66 Ant WF5      | Yes  | No    | Yes | No     | No    | Yes  |
| LTE B25 Ant WF3      | Yes  | No    | Yes | No     | Yes   | No   |
| LTE B25 Ant WF5      | Yes  | No    | Yes | No     | No    | Yes  |
| LTE B30 Ant WF3      | Yes  | No    | Yes | No     | Yes   | No   |
| LTE B30 Ant WF5      | Yes  | No    | Yes | No     | No    | Yes  |
| LTE B7 Ant WF3       | Yes  | No    | Yes | No     | Yes   | No   |
| LTE B7 Ant WF5       | Yes  | No    | Yes | No     | No    | Yes  |
| LTE B41 Ant WF3      | Yes  | No    | Yes | No     | Yes   | No   |
| LTE B41 Ant WF5      | Yes  | No    | Yes | No     | No    | Yes  |
| 2.4 GHz WLAN Ant WF1 | Yes  | No    | No  | Yes    | No    | Yes  |
| 2.4 GHz WLAN Ant WF2 | Yes  | No    | No  | Yes    | Yes   | No   |
| 5 GHz WLAN Ant WF1   | Yes  | No    | No  | Yes    | No    | Yes  |
| 5 GHz WLAN Ant WF2   | Yes  | No    | No  | Yes    | Yes   | No   |
| Bluetooth Ant WF1    | Yes  | No    | No  | Yes    | No    | Yes  |
| Bluetooth Ant WF2    | Yes  | No    | No  | Yes    | Yes   | No   |

Note: Per FCC KDB Publication 616217 D04v01r01, particular edges were not required to be evaluated for SAR based on the SAR exclusion threshold in KDB 447498 D01V06. Additional edges may have been evaluated for simultaneous transmission analysis.

## 1.5 Simultaneous Transmission Capabilities

According to FCC KDB Publication 447498 D01v06, transmitters are considered to be transmitting simultaneously when there is overlapping transmission, with the exception of transmissions during network hand-offs with maximum hand-off duration less than 30 seconds.

This device contains multiple transmitters that may operate simultaneously, and therefore requires a simultaneous transmission analysis according to FCC KDB Publication 447498 D01v06 4.3.2 procedures

|                                         |                                                                                                                  |                            |                                 |
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**Table 1-2**  
**Simultaneous Transmission Scenarios**

| No. | Capable Transmit Configuration                       | Body |
|-----|------------------------------------------------------|------|
| 1   | Cellular Band + 2.4 GHz WI-FI                        | Yes  |
| 2   | Cellular Band + 5 GHz WI-FI                          | Yes  |
| 3   | Cellular Band + 2.4 GHz Bluetooth                    | Yes  |
| 4   | Cellular Band+ 2.4 GHz WI-FI MIMO                    | Yes  |
| 5   | Cellular Band + 5 GHz WI-FI MIMO                     | Yes  |
| 6   | Cellular Band + 2.4 GHz Bluetooth + 5 GHz WI-FI      | Yes  |
| 7   | Cellular Band + 2.4 GHz Bluetooth + 5 GHz WI-FI MIMO | Yes  |
| 8   | 2.4 GHz Bluetooth + 5 GHz WI-FI                      | Yes  |
| 9   | 2.4 GHz Bluetooth + 5 GHz WI-FI MIMO                 | Yes  |

1. There are no limitations in the above listed simultaneous transmission scenarios between cellular antennas and BT/WI-FI antennas.
2. 2.4 GHz WLAN and 2.4 GHz Bluetooth share the same antenna path and cannot transmit simultaneously on any antenna (WF1, WF2).
3. All licensed modes share the same antenna path and cannot transmit simultaneously.
4. This device supports 2x2 MIMO Tx for WLAN. 802.11a/g/n/ac supports CDD/STBC and 802.11n/ac additionally supports SDM. Each WLAN antenna can transmit independently or together when operating with MIMO.
5. This device supports VoWiFi.

## 1.6 Miscellaneous SAR Test Considerations

### (A) WIFI/BT

Based on the maximum allowed power for the respective antennas, U-NII-1 was evaluated for Antenna WF2 SAR, and U-NII-2A was evaluated for Antenna WF1 SAR. Additional testing for U-NII-2A Antenna WF2 SAR, or U-NII-1 Antenna WF1 SAR was not required since all reported SAR was less than 1.2 W/kg per FCC KDB Publication 248227 D01v02r02.

The WLAN/Bluetooth chipset in this device is produced by two different suppliers. The electrically identical modules are manufactured with the identical mechanical structure to meet the same specifications and functions. Two device variants are referenced as Variant 1 and Variant 2 in this report. WLAN/Bluetooth SAR worst case configuration was spotchecked on Variant 1 and Variant 2. The Variant with the highest reported SAR value was evaluated for the remaining WLAN/Bluetooth configurations.

This device supports channel 1-13 for 2.4 GHz WLAN. However, because channel 12/13 targets are not higher than that of channels 1-11, channels 1, 6 and 11 were considered for SAR testing per FCC KDB 248227 D01V02r02.

|                                         |                                                                                                                                   |                              |                                 |
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This device supports IEEE 802.11ac with the following features:

- a) Up to 80 MHz Bandwidth only
- b) No aggregate channel configurations
- c) 2 Tx antenna output
- d) 256 QAM is supported
- e) TDWR and Band gap channels are supported

## (B) Licensed Transmitter(s)

This device is only capable of QPSK HSUPA in the uplink. Therefore, no additional SAR tests are required beyond that described for devices with HSUPA in KDB 941225 D01v03r01.

LTE SAR for the higher modulations and lower bandwidths were not tested since the maximum average output power of all required channels and configurations was not more than 0.5 dB higher than the highest bandwidth; and the reported LTE SAR for the highest bandwidth was less than 1.45 W/kg for all configurations according to FCC KDB 941225 D05v02r04.

This device supports LTE Carrier Aggregation (CA) in the downlink. All uplink communications are identical to Release 8 specifications. Per FCC KDB Publication 941225 D05A v01r02, SAR for LTE CA operations was not needed since the maximum average output power in LTE CA mode was not >0.25 dB higher than the maximum output power when downlink carrier aggregation was inactive. DLCA power measurements can be found in Appendix H.

This device supports LTE Carrier Aggregation (CA) in the uplink for LTE Band 7 and LTE Band 41 with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per 2017 Fall TCB Workshop Notes.

This device supports 64QAM on the uplink and 256QAM on the downlink for LTE Operations. Conducted powers for 64QAM uplink configurations were measured per Section 5.1 of FCC KDB Publication 941225 D05v02r05. SAR was not required for 64QAM since the highest maximum output power for 64 QAM is  $\leq \frac{1}{2}$  dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is  $\leq 1.45$  W/kg, per Section 5.2.4 of FCC KDB Publication 941225 D05v02r05.

This device supports both Power Class 2 (PC2) and Power Class 3 (PC3) for LTE Band 41. Per May 2017 TCB Workshop Notes, SAR tests were performed with Power Class 3 (given the specific UL/DL limitations for Power Class 2). Additionally, SAR testing for the power class condition was evaluated for the highest configuration in Power Class 3 for each test configuration to confirm the results were scalable linearly (See Section 14.2).

This device supports LTE capabilities with overlapping transmission frequency ranges. When the supported frequency range of an LTE Band falls completely within an LTE band with a larger transmission frequency range, both LTE bands have the same target power (or the band with the larger transmission frequency range has a higher target power), and both LTE bands share the same transmission path and signal characteristics, SAR was only assessed for the band with the larger transmission frequency range.

## 1.7 Guidance Applied

- FCC KDB Publication 941225 D01v03r01, D05v02r04, D05Av01r02 (2G/3G/4G)
- FCC KDB Publication 248227 D01v02r02 (SAR Considerations for 802.11 Devices)
- FCC KDB Publication 447498 D01v06 (General SAR Guidance)
- FCC KDB Publication 865664 D01v01r04, D02v01r02 (SAR Measurements up to 6 GHz)
- FCC KDB Publication 616217 D04v01r02 (Tablet)

|                                         |                                                                                                                  |                            |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  <b>SAR EVALUATION REPORT</b> |                            | Approved by:<br>Quality Manager |
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- October 2013 TCB Workshop Notes (GPRS Testing Considerations)
- May 2017 TCB Workshop Notes (LTE Band 41 Power Class 2/3)
- April 2018 TCB Workshop Notes (LTE Carrier Aggregation)

## 1.8 Device Serial Numbers

Several samples with identical hardware were used to support SAR testing. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units. The serial numbers used for each test are indicated alongside the results in Section 10.

|                                                |                                                                                                                  |                                   |                                        |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------------------|
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| LTE Information                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                |                 |                |
|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------|----------------|
| FCC ID                                                                                                            | BCGA2153                                                                                                                                                                                                                                                                                                                                                                                                                                              |                |                 |                |
| Form Factor                                                                                                       | Tablet Device                                                                                                                                                                                                                                                                                                                                                                                                                                         |                |                 |                |
| Frequency Range of each LTE transmission band                                                                     | LTE Band 71 (665.5 - 695.5 MHz)                                                                                                                                                                                                                                                                                                                                                                                                                       |                |                 |                |
|                                                                                                                   | LTE Band 12 (699.7 - 715.3 MHz)                                                                                                                                                                                                                                                                                                                                                                                                                       |                |                 |                |
|                                                                                                                   | LTE Band 17 (706.5 - 713.5 MHz)                                                                                                                                                                                                                                                                                                                                                                                                                       |                |                 |                |
|                                                                                                                   | LTE Band 13 (779.5 - 784.5 MHz)                                                                                                                                                                                                                                                                                                                                                                                                                       |                |                 |                |
|                                                                                                                   | LTE Band 14 (790.5 - 795.5 MHz)                                                                                                                                                                                                                                                                                                                                                                                                                       |                |                 |                |
|                                                                                                                   | LTE Band 5 (Cell) (824.7 - 848.3 MHz)                                                                                                                                                                                                                                                                                                                                                                                                                 |                |                 |                |
|                                                                                                                   | LTE Band 26 (Cell) (814.7 - 848.3 MHz)                                                                                                                                                                                                                                                                                                                                                                                                                |                |                 |                |
|                                                                                                                   | LTE Band 66 (AWS) (1710.7 - 1779.3 MHz)                                                                                                                                                                                                                                                                                                                                                                                                               |                |                 |                |
|                                                                                                                   | LTE Band 4 (AWS) (1710.7 - 1754.3 MHz)                                                                                                                                                                                                                                                                                                                                                                                                                |                |                 |                |
|                                                                                                                   | LTE Band 25 (PCS) (1850.7 - 1914.3 MHz)                                                                                                                                                                                                                                                                                                                                                                                                               |                |                 |                |
|                                                                                                                   | LTE Band 2 (PCS) (1850.7 - 1909.3 MHz)                                                                                                                                                                                                                                                                                                                                                                                                                |                |                 |                |
|                                                                                                                   | LTE Band 30 (2307.5 - 2312.5 MHz)                                                                                                                                                                                                                                                                                                                                                                                                                     |                |                 |                |
|                                                                                                                   | LTE Band 7 (2502.5 - 2567.5 MHz)                                                                                                                                                                                                                                                                                                                                                                                                                      |                |                 |                |
|                                                                                                                   | LTE Band 41 (2498.5 - 2687.5 MHz)                                                                                                                                                                                                                                                                                                                                                                                                                     |                |                 |                |
|                                                                                                                   | LTE Band 71: 5 MHz, 10 MHz, 15 MHz, 20 MHz                                                                                                                                                                                                                                                                                                                                                                                                            |                |                 |                |
| Channel Bandwidths                                                                                                | LTE Band 12: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz                                                                                                                                                                                                                                                                                                                                                                                                            |                |                 |                |
|                                                                                                                   | LTE Band 17: 5 MHz, 10 MHz                                                                                                                                                                                                                                                                                                                                                                                                                            |                |                 |                |
|                                                                                                                   | LTE Band 13: 5 MHz, 10 MHz                                                                                                                                                                                                                                                                                                                                                                                                                            |                |                 |                |
|                                                                                                                   | LTE Band 14: 5 MHz, 10 MHz                                                                                                                                                                                                                                                                                                                                                                                                                            |                |                 |                |
|                                                                                                                   | LTE Band 5 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz                                                                                                                                                                                                                                                                                                                                                                                                      |                |                 |                |
|                                                                                                                   | LTE Band 26 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz                                                                                                                                                                                                                                                                                                                                                                                                     |                |                 |                |
|                                                                                                                   | LTE Band 66 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz                                                                                                                                                                                                                                                                                                                                                                                      |                |                 |                |
|                                                                                                                   | LTE Band 4 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz                                                                                                                                                                                                                                                                                                                                                                                       |                |                 |                |
|                                                                                                                   | LTE Band 25 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz                                                                                                                                                                                                                                                                                                                                                                                      |                |                 |                |
|                                                                                                                   | LTE Band 2 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz                                                                                                                                                                                                                                                                                                                                                                                       |                |                 |                |
|                                                                                                                   | LTE Band 30: 5 MHz, 10 MHz                                                                                                                                                                                                                                                                                                                                                                                                                            |                |                 |                |
|                                                                                                                   | LTE Band 7: 5 MHz, 10 MHz, 15 MHz, 20 MHz                                                                                                                                                                                                                                                                                                                                                                                                             |                |                 |                |
|                                                                                                                   | LTE Band 41: 5 MHz, 10 MHz, 15 MHz, 20 MHz                                                                                                                                                                                                                                                                                                                                                                                                            |                |                 |                |
|                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                |                 |                |
|                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                |                 |                |
| Channel Numbers and Frequencies (MHz)                                                                             | Low                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Low-Mid        | Mid             | Mid-High       |
| LTE Band 71: 5 MHz                                                                                                | 665.5 (133147)                                                                                                                                                                                                                                                                                                                                                                                                                                        | 680.5 (133297) | 695.5 (133447)  |                |
| LTE Band 71: 10 MHz                                                                                               | 668 (133172)                                                                                                                                                                                                                                                                                                                                                                                                                                          | 680.5 (133297) | 693 (133422)    |                |
| LTE Band 71: 15 MHz                                                                                               | 670.5 (133197)                                                                                                                                                                                                                                                                                                                                                                                                                                        | 680.5 (133297) | 690.5 (133397)  |                |
| LTE Band 71: 20 MHz                                                                                               | 673 (133222)                                                                                                                                                                                                                                                                                                                                                                                                                                          | 680.5 (133297) | 688 (133372)    |                |
| LTE Band 12: 1.4 MHz                                                                                              | 699.7 (23017)                                                                                                                                                                                                                                                                                                                                                                                                                                         | 707.5 (23095)  | 715.3 (23173)   |                |
| LTE Band 12: 3 MHz                                                                                                | 700.5 (23025)                                                                                                                                                                                                                                                                                                                                                                                                                                         | 707.5 (23095)  | 714.5 (23165)   |                |
| LTE Band 12: 5 MHz                                                                                                | 701.5 (23035)                                                                                                                                                                                                                                                                                                                                                                                                                                         | 707.5 (23095)  | 713.5 (23155)   |                |
| LTE Band 12: 10 MHz                                                                                               | 704 (23060)                                                                                                                                                                                                                                                                                                                                                                                                                                           | 707.5 (23095)  | 711 (23130)     |                |
| LTE Band 17: 5 MHz                                                                                                | 706.5 (23755)                                                                                                                                                                                                                                                                                                                                                                                                                                         | 710 (23790)    | 713.5 (23825)   |                |
| LTE Band 17: 10 MHz                                                                                               | 709 (23780)                                                                                                                                                                                                                                                                                                                                                                                                                                           | 710 (23790)    | 711 (23800)     |                |
| LTE Band 13: 5 MHz                                                                                                | 779.5 (23205)                                                                                                                                                                                                                                                                                                                                                                                                                                         | 782 (23230)    | 784.5 (23255)   |                |
| LTE Band 13: 10 MHz                                                                                               | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 782 (23230)    | N/A             |                |
| LTE Band 14: 5 MHz                                                                                                | 790.5 (23305)                                                                                                                                                                                                                                                                                                                                                                                                                                         | 793 (23330)    | 795.5 (23355)   |                |
| LTE Band 14: 10 MHz                                                                                               | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 793 (23330)    | N/A             |                |
| LTE Band 5 (Cell): 1.4 MHz                                                                                        | 824.7 (20407)                                                                                                                                                                                                                                                                                                                                                                                                                                         | 836.5 (20625)  | 848.3 (20643)   |                |
| LTE Band 5 (Cell): 3 MHz                                                                                          | 825.5 (20415)                                                                                                                                                                                                                                                                                                                                                                                                                                         | 836.5 (20625)  | 847.5 (20635)   |                |
| LTE Band 5 (Cell): 5 MHz                                                                                          | 826.5 (20425)                                                                                                                                                                                                                                                                                                                                                                                                                                         | 836.5 (20625)  | 846.5 (20625)   |                |
| LTE Band 5 (Cell): 10 MHz                                                                                         | 829 (20450)                                                                                                                                                                                                                                                                                                                                                                                                                                           | 836.5 (20625)  | 844 (20600)     |                |
| LTE Band 26 (Cell): 1.4 MHz                                                                                       | 814.7 (26697)                                                                                                                                                                                                                                                                                                                                                                                                                                         | 831.5 (26865)  | 848.3 (27033)   |                |
| LTE Band 26 (Cell): 3 MHz                                                                                         | 815.5 (26705)                                                                                                                                                                                                                                                                                                                                                                                                                                         | 831.5 (26865)  | 847.5 (27025)   |                |
| LTE Band 26 (Cell): 5 MHz                                                                                         | 816.5 (26715)                                                                                                                                                                                                                                                                                                                                                                                                                                         | 831.5 (26865)  | 846.5 (27015)   |                |
| LTE Band 26 (Cell): 10 MHz                                                                                        | 819 (26740)                                                                                                                                                                                                                                                                                                                                                                                                                                           | 831.5 (26865)  | 844 (26990)     |                |
| LTE Band 66 (AWS): 1.4 MHz                                                                                        | 1710.7 (131979)                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1745 (132322)  | 1779.3 (132665) |                |
| LTE Band 66 (AWS): 3 MHz                                                                                          | 1711.5 (131987)                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1745 (132322)  | 1778.5 (132657) |                |
| LTE Band 66 (AWS): 5 MHz                                                                                          | 1712.5 (131997)                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1745 (132322)  | 1777.5 (132647) |                |
| LTE Band 66 (AWS): 10 MHz                                                                                         | 1715 (132022)                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1745 (132322)  | 1775 (132622)   |                |
| LTE Band 66 (AWS): 15 MHz                                                                                         | 1717.5 (132047)                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1745 (132322)  | 1772.5 (132597) |                |
| LTE Band 66 (AWS): 20 MHz                                                                                         | 1720 (132072)                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1745 (132322)  | 1770 (132572)   |                |
| LTE Band 4 (AWS): 1.4 MHz                                                                                         | 1710.7 (19967)                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1732.5 (20175) | 1754.3 (20383)  |                |
| LTE Band 4 (AWS): 3 MHz                                                                                           | 1711.5 (19965)                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1732.5 (20175) | 1753.5 (20385)  |                |
| LTE Band 4 (AWS): 5 MHz                                                                                           | 1712.5 (19975)                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1732.5 (20175) | 1752.5 (20375)  |                |
| LTE Band 4 (AWS): 10 MHz                                                                                          | 1715 (20000)                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1732.5 (20175) | 1750 (20350)    |                |
| LTE Band 4 (AWS): 15 MHz                                                                                          | 1717.5 (20025)                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1732.5 (20175) | 1747.5 (20325)  |                |
| LTE Band 4 (AWS): 20 MHz                                                                                          | 1720 (20050)                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1732.5 (20175) | 1745 (20300)    |                |
| LTE Band 25 (PCS): 1.4 MHz                                                                                        | 1850.7 (26047)                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1882.5 (26365) | 1914.3 (26683)  |                |
| LTE Band 25 (PCS): 3 MHz                                                                                          | 1851.5 (26055)                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1882.5 (26365) | 1913.5 (26675)  |                |
| LTE Band 25 (PCS): 5 MHz                                                                                          | 1852.5 (26065)                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1882.5 (26365) | 1912.5 (26665)  |                |
| LTE Band 25 (PCS): 10 MHz                                                                                         | 1855 (26090)                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1882.5 (26365) | 1910 (26640)    |                |
| LTE Band 25 (PCS): 15 MHz                                                                                         | 1857.5 (26115)                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1882.5 (26365) | 1907.5 (26615)  |                |
| LTE Band 25 (PCS): 20 MHz                                                                                         | 1860 (26140)                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1882.5 (26365) | 1905 (26590)    |                |
| LTE Band 2 (PCS): 1.4 MHz                                                                                         | 1850.7 (18607)                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1880 (18900)   | 1909.3 (19193)  |                |
| LTE Band 2 (PCS): 3 MHz                                                                                           | 1851.5 (18615)                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1880 (18900)   | 1908.5 (19185)  |                |
| LTE Band 2 (PCS): 5 MHz                                                                                           | 1852.5 (18625)                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1880 (18900)   | 1907.5 (19175)  |                |
| LTE Band 2 (PCS): 10 MHz                                                                                          | 1855 (18650)                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1880 (18900)   | 1905 (19150)    |                |
| LTE Band 2 (PCS): 15 MHz                                                                                          | 1857.5 (18675)                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1880 (18900)   | 1902.5 (19125)  |                |
| LTE Band 2 (PCS): 20 MHz                                                                                          | 1860 (18700)                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1880 (18900)   | 1900 (19100)    |                |
| LTE Band 30: 5 MHz                                                                                                | 2307.5 (27685)                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2310 (27710)   | 2312.5 (27735)  |                |
| LTE Band 30: 10 MHz                                                                                               | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2310 (27710)   | N/A             |                |
| LTE Band 7: 5 MHz                                                                                                 | 2502.5 (20775)                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2535 (21100)   | 2567.5 (21425)  |                |
| LTE Band 7: 10 MHz                                                                                                | 2506 (20800)                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2535 (21100)   | 2565 (21400)    |                |
| LTE Band 7: 15 MHz                                                                                                | 2507.5 (20825)                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2535 (21100)   | 2562.5 (21375)  |                |
| LTE Band 7: 20 MHz                                                                                                | 2510 (20850)                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2535 (21100)   | 2560 (21350)    |                |
| LTE Band 41: 5 MHz                                                                                                | 2506 (39750)                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2549.5 (40185) | 2593 (40620)    | 2636.5 (41055) |
| LTE Band 41: 10 MHz                                                                                               | 2506 (39750)                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2549.5 (40185) | 2593 (40620)    | 2636.5 (41055) |
| LTE Band 41: 15 MHz                                                                                               | 2506 (39750)                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2549.5 (40185) | 2593 (40620)    | 2636.5 (41055) |
| LTE Band 41: 20 MHz                                                                                               | 2506 (39750)                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2549.5 (40185) | 2593 (40620)    | 2636.5 (41055) |
| UE Category                                                                                                       | DL UE Cat 16 (QPSK, 16QAM, 64QAM, 256QAM), UL UE Cat 13 (QPSK, 16QAM, 64QAM)                                                                                                                                                                                                                                                                                                                                                                          |                |                 |                |
| Modulations Supported in UL                                                                                       | QPSK, 16QAM, 64QAM                                                                                                                                                                                                                                                                                                                                                                                                                                    |                |                 |                |
| LTE MPR Permanently implemented per 3GPP TS 36.101 section 6.2.3-6.2.5? (manufacturer attestation to be provided) | YES                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                |                 |                |
| A-MPR (Additional MPR) disabled for SAR Testing?                                                                  | YES                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                |                 |                |
| LTE Carrier Aggregation Possible Combinations                                                                     | The technical description includes all the possible carrier aggregation combinations                                                                                                                                                                                                                                                                                                                                                                  |                |                 |                |
| LTE Additional Information                                                                                        | This device does not support full CA features on 3GPP Release 13. It supports carrier aggregation features as shown in Section 8 and Appendix H. All other uplink communications are identical to the Release 8 specifications. Uplink communications are done on the PCC unless otherwise specified. The following LTE Release 13 Features are not supported: Relay, HetNet, Enhanced MIMO, eCIC, eMBMS, Cross-Carrier Scheduling, Enhanced SC-FDMA. |                |                 |                |

|                                         |                                                                                                                  |                            |                                 |
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### 3 INTRODUCTION

The FCC and Innovation, Science, and Economic Development Canada have adopted the guidelines for evaluating the environmental effects of radio frequency (RF) radiation in ET Docket 93-62 on Aug. 6, 1996 and Health Canada Safety Code 6 to protect the public and workers from the potential hazards of RF emissions due to FCC-regulated portable devices. [1]

The safety limits used for the environmental evaluation measurements are based on the criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate (SAR) in IEEE/ANSI C95.1-1992 Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz [3] and Health Canada RF Exposure Guidelines Safety Code 6 [22]. The measurement procedure described in IEEE/ANSI C95.3-2002 Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave [4] is used for guidance in measuring the Specific Absorption Rate (SAR) due to the RF radiation exposure from the Equipment Under Test (EUT). These criteria for SAR evaluation are similar to those recommended by the International Committee for Non-Ionizing Radiation Protection (ICNIRP) in Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields,” Report No. Vol 74. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have been related to threshold levels for potential biological hazards.

#### 3.1 SAR Definition

Specific Absorption Rate is defined as the time derivative (rate) of the incremental energy (dU) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dV) of a given density ( $\rho$ ). It is also defined as the rate of RF energy absorption per unit mass at a point in an absorbing body (see Equation 3-1).

Equation 3-1  
SAR Mathematical Equation

$$SAR = \frac{d}{dt} \left( \frac{dU}{dm} \right) = \frac{d}{dt} \left( \frac{dU}{\rho dv} \right)$$

SAR is expressed in units of Watts per Kilogram (W/kg).

$$SAR = \frac{\sigma \cdot E^2}{\rho}$$

where:

- $\sigma$  = conductivity of the tissue-simulating material (S/m)
- $\rho$  = mass density of the tissue-simulating material (kg/m<sup>3</sup>)
- E = Total RMS electric field strength (V/m)

NOTE: The primary factors that control rate of energy absorption were found to be the wavelength of the incident field in relation to the dimensions and geometry of the irradiated organism, the orientation of the organism in relation to the polarity of field vectors, the presence of reflecting surfaces, and whether conductive contact is made by the organism with a ground plane.[6]

|                                                |                                                                                                                                   |                                   |                                        |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------------------|
| FCC ID: BCGA2153                               |  <b>PCTEST</b><br>ENGINEERING LABORATORY, INC. | <b>SAR EVALUATION REPORT</b>      | <b>Approved by:</b><br>Quality Manager |
| <b>Document S/N:</b><br>1C1811080028-01-R1.BCG | <b>Test Dates:</b><br>01/02/19-01/14/19                                                                                           | <b>DUT Type:</b><br>Tablet Device | Page 16 of 120                         |

## 4 DOSIMETRIC ASSESSMENT

### 4.1 Measurement Procedure

The evaluation was performed using the following procedure compliant to FCC KDB Publication 865664 D01v01r04 and IEEE 1528-2013:

1. The SAR distribution at the exposed side of the head or body was measured at a distance no greater than 5.0 mm from the inner surface of the shell. The area covered the entire dimension of the device-head and body interface and the horizontal grid resolution was determined per FCC KDB Publication 865664 D01v01r04 (See Table 4-1) and IEEE 1528-2013.
2. The point SAR measurement was taken at the maximum SAR region determined from Step 1 to enable the monitoring of SAR fluctuations/drifts during the 1g/10g cube evaluation. SAR at this fixed point was measured and used as a reference value.
3. Based on the area scan data, the peak of the region with maximum SAR was determined by spline interpolation. Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB Publication 865664 D01v01r04 (See Table 4-1) and IEEE 1528-2013. On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure (see references or the DASY manual online for more details):
  - a. SAR values at the inner surface of the phantom are extrapolated from the measured values along the line away from the surface with spacing no greater than that in Table 4-1. The extrapolation was based on a least-squares algorithm. A polynomial of the fourth order was calculated through the points in the z-axis (normal to the phantom shell).
  - b. After the maximum interpolated values were calculated between the points in the cube, the SAR was averaged over the spatial volume (1g or 10g) using a 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the "Not a knot" condition (in x, y, and z directions). The volume was then integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were obtained through interpolation, in order to calculate the averaged SAR.
  - c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.
4. The SAR reference value, at the same location as step 2, was re-measured after the zoom scan was complete to calculate the SAR drift. If the drift deviated by more than 5%, the SAR test and drift measurements were repeated.

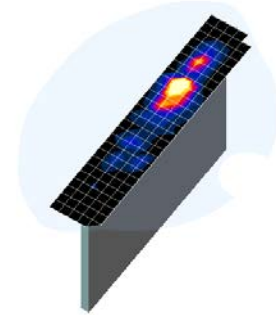


**Figure 4-1** point  
**Sample SAR Area**  
**Scan**

**Table 4-1**  
**Area and Zoom Scan Resolutions per FCC KDB Publication 865664 D01v01r04\***

| Frequency | Maximum Area Scan Resolution (mm)<br>( $\Delta x_{\text{area}}, \Delta y_{\text{area}}$ ) | Maximum Zoom Scan Resolution (mm)<br>( $\Delta x_{\text{zoom}}, \Delta y_{\text{zoom}}$ ) | Maximum Zoom Scan Spatial Resolution (mm) |                             |                                          | Minimum Zoom Scan Volume (mm)<br>(x,y,z) |
|-----------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------------------------------------|-----------------------------|------------------------------------------|------------------------------------------|
|           |                                                                                           |                                                                                           | Uniform Grid                              | Graded Grid                 |                                          |                                          |
|           |                                                                                           |                                                                                           |                                           | $\Delta z_{\text{zoom}}(n)$ | $\Delta z_{\text{zoom}}(1)^*$            |                                          |
| ≤2 GHz    | ≤15                                                                                       | ≤8                                                                                        | ≤5                                        | ≤4                          | $\leq 1.5^* \Delta z_{\text{zoom}}(n-1)$ | ≥30                                      |
| 2-3 GHz   | ≤12                                                                                       | ≤5                                                                                        | ≤5                                        | ≤4                          | $\leq 1.5^* \Delta z_{\text{zoom}}(n-1)$ | ≥30                                      |
| 3-4 GHz   | ≤12                                                                                       | ≤5                                                                                        | ≤4                                        | ≤3                          | $\leq 1.5^* \Delta z_{\text{zoom}}(n-1)$ | ≥28                                      |
| 4-5 GHz   | ≤10                                                                                       | ≤4                                                                                        | ≤3                                        | ≤2.5                        | $\leq 1.5^* \Delta z_{\text{zoom}}(n-1)$ | ≥25                                      |
| 5-6 GHz   | ≤10                                                                                       | ≤4                                                                                        | ≤2                                        | ≤2                          | $\leq 1.5^* \Delta z_{\text{zoom}}(n-1)$ | ≥22                                      |

\*Also compliant to IEEE 1528-2013 Table 6

|                                         |                                                                                                                  |                            |                                 |
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## 5 TEST CONFIGURATION POSITIONS

### 5.1 Device Holder

The device holder is made out of low-loss POM material having the following dielectric parameters: relative permittivity  $\epsilon = 3$  and loss tangent  $\delta = 0.02$ .

### 5.2 SAR Testing for Tablet per KDB Publication 616217 D04v01r02

Per FCC KDB Publication 616217 D04v01r02, the back surface and edges of the tablet should be tested for SAR compliance with the tablet touching the phantom. The SAR Exclusion Threshold in KDB 447498 D01v06 can be applied to determine SAR test exclusion for adjacent edge configurations. The closest distance from the antenna to an adjacent tablet edge is used to determine if SAR testing is required for the adjacent edges, with the adjacent edge positioned against the phantom and the edge containing the antenna positioned perpendicular to the phantom.

|                                         |                                                                                                                  |                            |                                 |
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## 6 RF EXPOSURE LIMITS

### 6.1 Uncontrolled Environment

UNCONTROLLED ENVIRONMENTS are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

### 6.2 Controlled Environment

CONTROLLED ENVIRONMENTS are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

**Table 6-1**  
**SAR Human Exposure Specified in ANSI/IEEE C95.1-1992 and Health Canada Safety Code 6**

| HUMAN EXPOSURE LIMITS                                               |                                                                           |                                                                   |
|---------------------------------------------------------------------|---------------------------------------------------------------------------|-------------------------------------------------------------------|
|                                                                     | UNCONTROLLED ENVIRONMENT<br><i>General Population</i><br>(W/kg) or (mW/g) | CONTROLLED ENVIRONMENT<br><i>Occupational</i><br>(W/kg) or (mW/g) |
| <b>Peak Spatial Average SAR</b><br>Head                             | 1.6                                                                       | 8.0                                                               |
| <b>Whole Body SAR</b>                                               | 0.08                                                                      | 0.4                                                               |
| <b>Peak Spatial Average SAR</b><br>Hands, Feet, Ankle, Wrists, etc. | 4.0                                                                       | 20                                                                |

1. The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.
2. The Spatial Average value of the SAR averaged over the whole body.
3. The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

|                                         |                                                                                                                  |                            |                                 |
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## 7 FCC MEASUREMENT PROCEDURES

Power measurements for licensed transmitters are performed using a base station simulator under digital average power.

### 7.1 Measured and Reported SAR

Per FCC KDB Publication 447498 D01v06, when SAR is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance. For simultaneous transmission, the measured aggregate SAR must be scaled according to the sum of the differences between the maximum tune-up tolerance and actual power used to test each transmitter. When SAR is measured at or scaled to the maximum tune-up tolerance limit, the results are referred to as *reported* SAR. The highest *reported* SAR results are identified on the grant of equipment authorization according to procedures in KDB 690783 D01v01r03.

### 7.2 3G SAR Test Reduction Procedure

In FCC KDB Publication 941225 D01v03r01, certain transmission modes within a frequency band and wireless mode evaluated for SAR are defined as primary modes. The equivalent modes considered for SAR test reduction are denoted as secondary modes. When the maximum output power including tune-up tolerance specified for production units in a secondary mode is  $\leq 0.25$  dB higher than the primary mode or when the highest reported SAR of the primary mode, scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode, is  $\leq 1.2$  W/kg, SAR measurements are not required for the secondary mode. These criteria are referred to as the 3G SAR test reduction procedure. When the 3G SAR test reduction procedure is not satisfied, SAR measurements are additionally required for the secondary mode.

### 7.3 Procedures Used to Establish RF Signal for SAR

The following procedures are according to FCC KDB Publication 941225 D01v03r01 “3G SAR Measurement Procedures.”

The device is placed into a simulated call using a base station simulator in a RF shielded chamber. Establishing connections in this manner ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. Devices under test are evaluated prior to testing, with a fully charged battery and were configured to operate at maximum output power. In order to verify that the device is tested throughout the SAR test at maximum output power, the SAR measurement system measures a “point SAR” at an arbitrary reference point at the start and end of the 1 gram SAR evaluation, to assess for any power drifts during the evaluation. If the power drift deviates by more than 5%, the SAR test and drift measurements are repeated.

### 7.4 SAR Measurement Conditions for UMTS

#### 7.4.1 Output Power Verification

Maximum output power is verified on the High, Middle and Low channels according to the general descriptions in section 5.2 of 3GPP TS 34.121, using the appropriate RMC with TPC (transmit power control) set to all “1s” or applying the required inner loop power control procedures to maintain maximum output power while HSUPA is active. Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes, HS-DPCCH etc) are tabulated in this test report. All configurations that are not supported by the DUT or cannot be measured due to technical or equipment limitations are identified.

|                                         |                                                                                                           |                            |                                 |
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## 7.4.2 Body SAR Measurements

SAR for body exposure configurations is measured using the 12.2 kbps RMC with the TPC bits all “1s”. The 3G SAR test reduction procedure is applied to other spreading codes and multiple DPDCH<sub>n</sub> configurations supported by the handset with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured using an applicable RMC configuration with the corresponding spreading code or DPDCH<sub>n</sub>, for the highest reported SAR configuration in 12.2 kbps RMC.

## 7.4.3 SAR Measurements with Rel 5 HSDPA

The 3G SAR test reduction procedure is applied to HSDPA body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSDPA is measured using an FRC with H-Set 1 in Sub-test 1 and a 12.2 kbps RMC configured in Test Loop Mode 1, for the highest reported SAR configuration in 12.2 kbps RMC without HSDPA. Handsets with both HSDPA and HSUPA are tested according to Release 6 HSPA test procedures.

## 7.4.4 SAR Measurements with Rel 6 HSUPA

The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSPA is measured with E-DCH Sub-test 5, using H-Set 1 and QPSK for FRC and a 12.2 kbps RMC configured in Test Loop Mode 1 and power control algorithm 2, according to the highest reported body SAR configuration in 12.2 kbps RMC without HSPA.

When VOIP applies to head exposure, the 3G SAR test reduction procedure is applied with 12.2 kbps RMC as the primary mode; otherwise, the same HSPA configuration used for body SAR measurements are applied to head exposure testing.

## 7.4.5 SAR Measurement Conditions for DC-HSDPA

SAR is required for Rel. 8 DC-HSDPA when SAR is required for Rel. 5 HSDPA; otherwise, the 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode. Power is measured for DC-HSDPA according to the H-Set 12, FRC configuration in Table C.8.1.12 of 3GPP TS 34.121-1 to determine SAR test reduction. A primary and a secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to be acceptable.

## 7.5 SAR Measurement Conditions for LTE

LTE modes are tested according to FCC KDB 941225 D05v02r04 publication. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. The R&S CMW500 or Anritsu MT8820C simulators are used for LTE output power measurements and SAR testing. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).

### 7.5.1 Spectrum Plots for RB Configurations

A properly configured base station simulator was used for SAR tests and power measurements. Therefore, spectrum plots for RB configurations were not required to be included in this report.

|                                         |                                                                                                                  |                            |                                 |
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## 7.5.2 MPR

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.

## 7.5.3 A-MPR

A-MPR (Additional MPR) has been disabled for all SAR tests by setting NS=01 on the base station simulator.

## 7.5.4 Required RB Size and RB Offsets for SAR Testing

According to FCC KDB 941225 D05v02r04:

- a. Per Section 5.2.1, SAR is required for QPSK 1 RB Allocation for the largest bandwidth
  - i. The required channel and offset combination with the highest maximum output power is required for SAR.
  - ii. When the reported SAR is  $\leq 0.8$  W/kg, testing of the remaining RB offset configurations and required test channels is not required. Otherwise, SAR is required for the remaining required test channels using the RB offset configuration with highest output power for that channel.
  - iii. When the reported SAR for a required test channel is  $> 1.45$  W/kg, SAR is required for all RB offset configurations for that channel.
- b. Per Section 5.2.2, SAR is required for 50% RB allocation using the largest bandwidth following the same procedures outlined in Section 5.2.1.
- c. Per Section 5.2.3, QPSK SAR is not required for the 100% allocation when the highest maximum output power for the 100% allocation is less than the highest maximum output power of the 1 RB and 50% RB allocations and the reported SAR for the 1 RB and 50% RB allocations is  $< 0.8$  W/kg.
- d. Per Section 5.2.4 and 5.3, SAR tests for higher order modulations and lower bandwidths configurations are not required when the conducted power of the required test configurations determined by Sections 5.2.1 through 5.2.3 is less than or equal to  $\frac{1}{2}$  dB higher than the equivalent configuration using QPSK modulation and when the QPSK SAR for those configurations is  $< 1.45$  W/kg.

According to FCC KDB 447498 D01v06, when the reported (scaled) SAR for LTE Band 41 is  $\leq 0.6$  W/kg, testing of the remaining RB offset configurations and required test channels is not required. Otherwise, SAR is required for the remaining required test channels using the RB offset configuration with highest output power for that channel.

## 7.5.5 TDD

LTE TDD testing is performed using the SAR test guidance provided in FCC KDB 941225 D05v02r04. TDD is tested at the highest duty factor using UL-DL configuration 0 with special subframe configuration 6 and applying the FDD LTE procedures in KDB 941225 D05v02r04. SAR testing is performed using the extended cyclic prefix listed in 3GPP TS 36.211 Section 4.

## 7.5.6 Downlink Only Carrier Aggregation

Conducted power measurements with LTE Carrier Aggregation (CA) (downlink only) active are made in accordance to KDB Publication 941225 D05Av01r02. The RRC connection is only handled by one cell, the primary component carrier (PCC) for downlink and uplink communications. After making a data connection to the PCC, the UE device adds secondary component carrier(s) (SCC) on the downlink only. All uplink communications and acknowledgements remain identical to specifications when downlink carrier aggregation is inactive on the PCC. For every supported combination of downlink only carrier

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aggregation, additional conducted output powers are measured with the downlink carrier aggregation active for the configuration with highest measured maximum conducted power with downlink carrier aggregation inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band. Per FCC KDB Publication 941225 D05Av01r02, no SAR measurements are required for carrier aggregation configurations when the average output power with downlink only carrier aggregation active is not more than 0.25 dB higher than the average output power with downlink only carrier aggregation inactive.

## 7.6 SAR Testing with 802.11 Transmitters

The normal network operating configurations of 802.11 transmitters are not suitable for SAR measurements. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure the results are consistent and reliable. See KDB Publication 248227 D01v02r02 for more details.

### 7.6.1 General Device Setup

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters.

A periodic duty factor is required for current generation SAR systems to measure SAR. When 802.11 frame gaps are accounted for in the transmission, a maximum transmission duty factor of 92 - 96% is typically achievable in most test mode configurations. A minimum transmission duty factor of 85% is required to avoid certain hardware and device implementation issues related to wide range SAR scaling. The reported SAR is scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit.

### 7.6.2 U-NII-1 and U-NII-2A

For devices that operate in both U-NII-1 and U-NII-2A bands, when the same maximum output power is specified for both bands, SAR measurement using OFDM SAR test procedures is not required for U-NII-1 unless the highest reported SAR for U-NII-2A is  $> 1.2$  W/kg. When different maximum output powers are specified for the bands, SAR measurement for the U-NII band with the lower maximum output power is not required unless the highest reported SAR for the U-NII band with the higher maximum output power, adjusted by the ratio of lower to higher specified maximum output power for the two bands, is  $> 1.2$  W/kg.

### 7.6.3 U-NII-2C and U-NII-3

The frequency range covered by U-NII-2C and U-NII-3 is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. When Terminal Doppler Weather Radar (TDWR) restriction applies, the channels at 5.60 – 5.65 GHz in U-NII-2C band must be disabled with acceptable mechanisms and documented in the equipment certification. Unless band gap channels are permanently disabled, SAR must be considered for these channels. Each band is tested independently according to the normally required OFDM SAR measurement and probe calibration frequency points requirements.

### 7.6.4 2.4 GHz SAR Test Requirements

SAR is measured for 2.4 GHz 802.11b DSSS using either the fixed test position or, when applicable, the initial test position procedure. SAR test reduction is determined according to the following:

|                                         |                                                                                                                  |                            |                                 |
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- 1) When the reported SAR of the highest measured maximum output power channel for the exposure configuration is  $\leq 0.8$  W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.
- 2) When the reported SAR is  $> 0.8$  W/kg, SAR is required for that position using the next highest measured output power channel. When any reported SAR is  $> 1.2$  W/kg, SAR is required for the third channel; i.e., all channels require testing.

2.4 GHz 802.11 g/n OFDM are additionally evaluated for SAR if the highest reported SAR for 802.11b, adjusted by the ratio of the OFDM to DSSS specified maximum output power, is  $> 1.2$  W/kg. When SAR is required for OFDM modes in 2.4 GHz band, the Initial Test Configuration Procedures should be followed.

## 7.6.5 OFDM Transmission Mode and SAR Test Channel Selection

When the same maximum output power was specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration with the largest channel bandwidth, lowest order modulation and lowest data rate. When the maximum output power of a channel is the same for equivalent OFDM configurations; for example, 802.11a, 802.11n and 802.11ac or 802.11g and 802.11n with the same channel bandwidth, modulation and data rate etc., the lower order 802.11 mode i.e., 802.11a, then 802.11n and 802.11ac or 802.11g then 802.11n, is used for SAR measurement. When the maximum output power are the same for multiple test channels, either according to the default or additional power measurement requirements, SAR is measured using the channel closest to the middle of the frequency band or aggregated band. When there are multiple channels with the same maximum output power, SAR is measured using the higher number channel.

## 7.6.6 Initial Test Configuration Procedure

For OFDM, an initial test configuration is determined for each frequency band and aggregated band, according to the transmission mode with the highest maximum output power specified for SAR measurements. When the same maximum output power is specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration(s) with the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order IEEE 802.11 mode. The channel of the transmission mode with the highest average RF output conducted power will be the initial test configuration.

When the reported SAR is  $\leq 0.8$  W/kg, no additional measurements on other test channels are required. Otherwise, SAR is evaluated using the subsequent highest average RF output channel until the reported SAR result is  $\leq 1.2$  W/kg or all channels are measured. When there are multiple untested channels having the same subsequent highest average RF output power, the channel with higher frequency from the lowest 802.11 mode is considered for SAR measurements (See Section 7.6.5).

## 7.6.7 Subsequent Test Configuration Procedures

For OFDM configurations in each frequency band and aggregated band, SAR is evaluated for initial test configuration using the fixed test position or the initial test position procedure. When the highest reported SAR (for the initial test configuration), adjusted by the ratio of the specified maximum output power of the subsequent test configuration to initial test configuration, is  $\leq 1.2$  W/kg, no additional SAR tests for the subsequent test configurations are required.

|                                         |                                                                                                                  |                            |                                 |
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## 7.6.8 MIMO SAR considerations

Per KDB Publication 248227 D01v02r02, the simultaneous SAR provisions in KDB Publication 447498 D01v06 should be applied to determine simultaneous transmission SAR test exclusion for WIFI MIMO. If the sum of 1g single transmission chain SAR measurements is  $<1.6$  W/kg, no additional SAR measurements for MIMO are required. Alternatively, SAR for MIMO can be measured with all antennas transmitting simultaneously at the specified maximum output power of MIMO operation. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

|                                                |                                                                                                                  |                                   |                                        |
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## 8 RF CONDUCTED POWERS

### 8.1 GSM Conducted Powers

Table 8-1  
Reduced Conducted Power – Antenna WF3

| Maximum Burst-Averaged Output Power            |              |                         |                         |                         |                         |
|------------------------------------------------|--------------|-------------------------|-------------------------|-------------------------|-------------------------|
|                                                |              | GPRS/EDGE Data (GMSK)   |                         | EDGE Data (8-PSK)       |                         |
| Band                                           | Channel      | GPRS [dBm]<br>1 Tx Slot | GPRS [dBm]<br>2 Tx Slot | EDGE [dBm]<br>1 Tx Slot | EDGE [dBm]<br>2 Tx Slot |
| GSM 850                                        | 128          | 27.69                   | 24.67                   | 24.36                   | 23.75                   |
|                                                | 190          | 27.62                   | 24.58                   | 24.29                   | 23.68                   |
|                                                | 251          | 27.57                   | 24.55                   | 24.24                   | 23.64                   |
| GSM 1900                                       | 512          | 22.18                   | 19.26                   | 22.96                   | 19.91                   |
|                                                | 661          | 22.31                   | 19.40                   | 23.06                   | 20.01                   |
|                                                | 810          | 22.42                   | 19.49                   | 23.08                   | 20.05                   |
| Calculated Maximum Frame-Averaged Output Power |              |                         |                         |                         |                         |
|                                                |              | GPRS/EDGE Data (GMSK)   |                         | EDGE Data (8-PSK)       |                         |
| Band                                           | Channel      | GPRS [dBm]<br>1 Tx Slot | GPRS [dBm]<br>2 Tx Slot | EDGE [dBm]<br>1 Tx Slot | EDGE [dBm]<br>2 Tx Slot |
| GSM 850                                        | 128          | 18.66                   | 18.65                   | 15.33                   | 17.73                   |
|                                                | 190          | 18.59                   | 18.56                   | 15.26                   | 17.66                   |
|                                                | 251          | 18.54                   | 18.53                   | 15.21                   | 17.62                   |
| GSM 1900                                       | 512          | 13.15                   | 13.24                   | 13.93                   | 13.89                   |
|                                                | 661          | 13.28                   | 13.38                   | 14.03                   | 13.99                   |
|                                                | 810          | 13.39                   | 13.47                   | 14.05                   | 14.03                   |
| GSM 850                                        | Frame        | 18.67                   | 18.68                   | 15.72                   | 17.73                   |
| GSM 1900                                       | Avg.Targets: | 14.07                   | 14.08                   | 14.07                   | 14.08                   |

|                                         |                                                                                                                  |                            |                                 |
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**Table 8-2**  
**Reduced Conducted Power – Antenna WF5**

| Maximum Burst-Averaged Output Power            |                     |                            |                            |                            |                            |
|------------------------------------------------|---------------------|----------------------------|----------------------------|----------------------------|----------------------------|
|                                                |                     | GPRS/EDGE Data<br>(GMSK)   |                            | EDGE Data<br>(8-PSK)       |                            |
| Band                                           | Channel             | GPRS<br>[dBm]<br>1 Tx Slot | GPRS<br>[dBm]<br>2 Tx Slot | EDGE<br>[dBm]<br>1 Tx Slot | EDGE<br>[dBm]<br>2 Tx Slot |
| <b>GSM 850</b>                                 | 128                 | 27.48                      | 25.95                      | 22.73                      | 21.72                      |
|                                                | 190                 | 27.39                      | 25.85                      | 22.73                      | 21.66                      |
|                                                | 251                 | 27.36                      | 25.83                      | 22.72                      | 21.71                      |
| <b>GSM 1900</b>                                | 512                 | 23.05                      | 20.03                      | 22.61                      | 20.64                      |
|                                                | 661                 | 23.04                      | 20.10                      | 22.44                      | 20.48                      |
|                                                | 810                 | 23.17                      | 20.16                      | 22.72                      | 20.74                      |
| Calculated Maximum Frame-Averaged Output Power |                     |                            |                            |                            |                            |
|                                                |                     | GPRS/EDGE Data<br>(GMSK)   |                            | EDGE Data<br>(8-PSK)       |                            |
| Band                                           | Channel             | GPRS<br>[dBm]<br>1 Tx Slot | GPRS<br>[dBm]<br>2 Tx Slot | EDGE<br>[dBm]<br>1 Tx Slot | EDGE<br>[dBm]<br>2 Tx Slot |
| <b>GSM 850</b>                                 | 128                 | 18.45                      | 19.93                      | 13.70                      | 15.70                      |
|                                                | 190                 | 18.36                      | 19.83                      | 13.70                      | 15.64                      |
|                                                | 251                 | 18.33                      | 19.81                      | 13.69                      | 15.69                      |
| <b>GSM 1900</b>                                | 512                 | 14.02                      | 14.01                      | 13.58                      | 14.62                      |
|                                                | 661                 | 14.01                      | 14.08                      | 13.41                      | 14.46                      |
|                                                | 810                 | 14.14                      | 14.14                      | 13.69                      | 14.72                      |
| <b>GSM 850</b>                                 | <b>Frame</b>        | 19.22                      | 20.58                      | 13.72                      | 15.73                      |
| <b>GSM 1900</b>                                | <b>Avg.Targets:</b> | 14.77                      | 14.78                      | 13.72                      | 14.78                      |

|                                         |                                                                                                                                   |                              |                                 |
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Note:

1. Both burst-averaged and calculated frame-averaged powers are included. Frame-averaged power was calculated from the measured burst-averaged power by converting the slot powers into linear units and calculating the energy over 8 timeslots.
2. GPRS/EDGE (GMSK) output powers were measured with coding scheme setting of 1 (CS1) on the base station simulator. CS1 was configured to measure GPRS output power measurements and SAR to ensure GMSK modulation in the signal. Our Investigation has shown that CS1 - CS4 settings do not have any impact on the output levels or modulation in the GPRS modes.
3. EDGE (8-PSK) output powers were measured with MCS7 on the base station simulator. MCS7 coding scheme was used to measure the output powers for EDGE since investigation has shown that choosing MCS7 coding scheme will ensure 8-PSK modulation. It has been shown that MCS levels that produce 8PSK modulation do not have an impact on output power.

**GSM Class: C**  
**GPRS Multislot class: 10** (Max 2 Tx uplink slots)  
**EDGE Multislot class: 10** (Max 2 Tx uplink slots)  
**DTM Multislot Class: N/A**



**Figure 8-1**  
**Power Measurement Setup**

|                                         |                                                                                                                  |                            |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  <b>SAR EVALUATION REPORT</b> |                            | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device | Page 28 of 120                  |

## 8.2 UMTS Conducted Powers

**Table 8-3**  
**Reduced Conducted Power – Antenna WF3**

| 3GPP Release Version | Mode     | 3GPP 34.121 Subtest | Cellular Band [dBm] |       |       | AWS Band [dBm] |       |       | PCS Band [dBm] |       |       | 3GPP MPR [dB] |
|----------------------|----------|---------------------|---------------------|-------|-------|----------------|-------|-------|----------------|-------|-------|---------------|
|                      |          |                     | 4132                | 4183  | 4233  | 1312           | 1412  | 1513  | 9262           | 9400  | 9538  |               |
| 99                   | WCDMA    | 12.2 kbps RMC       | 18.64               | 18.41 | 18.37 | 14.00          | 13.95 | 13.96 | 13.30          | 13.40 | 13.29 | -             |
| 99                   |          | 12.2 kbps AMR       | 18.64               | 18.50 | 18.43 | 13.99          | 14.00 | 13.93 | 13.35          | 13.38 | 13.28 | -             |
| 6                    | HSDPA    | Subtest 1           | 18.69               | 18.62 | 18.54 | 14.00          | 13.98 | 14.00 | 13.48          | 13.50 | 13.37 | 0             |
| 6                    |          | Subtest 2           | 18.70               | 18.66 | 18.55 | 13.96          | 13.99 | 13.99 | 13.43          | 13.43 | 13.31 | 0             |
| 6                    |          | Subtest 3           | 18.70               | 18.69 | 18.56 | 13.98          | 13.99 | 13.97 | 13.42          | 13.45 | 13.31 | 0.5           |
| 6                    |          | Subtest 4           | 18.70               | 18.70 | 18.54 | 14.00          | 13.98 | 13.95 | 13.49          | 13.50 | 13.30 | 0.5           |
| 6                    | HSUPA    | Subtest 1           | 18.44               | 18.41 | 18.31 | 13.93          | 13.95 | 13.99 | 13.41          | 13.46 | 13.32 | 0             |
| 6                    |          | Subtest 2           | 18.65               | 18.70 | 18.62 | 13.90          | 13.96 | 13.99 | 13.50          | 13.50 | 13.27 | 2             |
| 6                    |          | Subtest 3           | 18.54               | 18.50 | 18.35 | 13.97          | 13.95 | 13.99 | 13.39          | 13.46 | 13.30 | 1             |
| 6                    |          | Subtest 4           | 18.67               | 18.63 | 18.51 | 13.90          | 13.95 | 13.96 | 13.36          | 13.49 | 13.26 | 2             |
| 6                    |          | Subtest 5           | 18.58               | 18.70 | 18.59 | 14.00          | 13.97 | 13.97 | 13.42          | 13.46 | 13.30 | 0             |
| 8                    | DC-HSDPA | Subtest 1           | 18.70               | 18.64 | 18.60 | 13.98          | 14.00 | 14.00 | 13.50          | 13.48 | 13.34 | 0             |
| 8                    |          | Subtest 2           | 18.68               | 18.63 | 18.62 | 13.99          | 14.00 | 14.00 | 13.43          | 13.46 | 13.32 | 0             |
| 8                    |          | Subtest 3           | 18.70               | 18.65 | 18.63 | 14.00          | 13.95 | 14.00 | 13.45          | 13.46 | 13.30 | 0.5           |
| 8                    |          | Subtest 4           | 18.65               | 18.63 | 18.61 | 13.98          | 13.99 | 13.96 | 13.45          | 13.50 | 13.31 | 0.5           |

**Table 8-4**  
**Reduced Conducted Power – Antenna WF5**

| 3GPP Release Version | Mode     | 3GPP 34.121 Subtest | Cellular Band [dBm] |       |       | AWS Band [dBm] |       |       | PCS Band [dBm] |       |       | 3GPP MPR [dB] |
|----------------------|----------|---------------------|---------------------|-------|-------|----------------|-------|-------|----------------|-------|-------|---------------|
|                      |          |                     | 4132                | 4183  | 4233  | 1312           | 1412  | 1513  | 9262           | 9400  | 9538  |               |
| 99                   | WCDMA    | 12.2 kbps RMC       | 19.86               | 19.91 | 19.96 | 14.19          | 14.10 | 14.02 | 14.30          | 14.01 | 14.00 | -             |
| 99                   |          | 12.2 kbps AMR       | 19.87               | 19.91 | 19.93 | 14.17          | 14.12 | 14.03 | 14.30          | 14.02 | 13.97 | -             |
| 6                    | HSDPA    | Subtest 1           | 19.46               | 19.44 | 19.53 | 14.16          | 14.09 | 14.01 | 14.28          | 14.29 | 14.29 | 0             |
| 6                    |          | Subtest 2           | 19.73               | 19.75 | 19.79 | 14.06          | 13.88 | 13.93 | 14.30          | 14.27 | 14.30 | 0             |
| 6                    |          | Subtest 3           | 19.83               | 19.83 | 19.60 | 14.06          | 14.06 | 13.95 | 14.22          | 14.20 | 14.29 | 0.5           |
| 6                    |          | Subtest 4           | 19.78               | 19.71 | 19.74 | 14.09          | 14.03 | 13.93 | 14.28          | 14.21 | 14.28 | 0.5           |
| 6                    | HSUPA    | Subtest 1           | 19.88               | 19.74 | 19.70 | 13.94          | 13.95 | 13.83 | 14.24          | 14.16 | 14.14 | 0             |
| 6                    |          | Subtest 2           | 19.92               | 19.92 | 19.85 | 13.97          | 13.92 | 13.84 | 14.21          | 14.28 | 13.72 | 2             |
| 6                    |          | Subtest 3           | 19.85               | 19.90 | 19.86 | 13.98          | 13.95 | 13.86 | 14.25          | 14.13 | 14.11 | 1             |
| 6                    |          | Subtest 4           | 19.66               | 19.93 | 19.90 | 13.97          | 13.93 | 13.83 | 14.23          | 14.17 | 14.29 | 2             |
| 6                    |          | Subtest 5           | 19.94               | 19.95 | 19.95 | 14.00          | 13.94 | 13.87 | 14.30          | 14.10 | 14.28 | 0             |
| 8                    | DC-HSDPA | Subtest 1           | 19.76               | 19.72 | 19.75 | 14.07          | 14.02 | 13.93 | 14.30          | 14.19 | 14.11 | 0             |
| 8                    |          | Subtest 2           | 19.82               | 19.81 | 19.77 | 14.00          | 13.97 | 13.85 | 14.28          | 14.16 | 14.27 | 0             |
| 8                    |          | Subtest 3           | 19.83               | 19.84 | 19.79 | 14.02          | 13.99 | 13.88 | 14.29          | 14.13 | 14.11 | 0.5           |
| 8                    |          | Subtest 4           | 19.83               | 19.90 | 19.80 | 14.00          | 13.97 | 13.88 | 14.27          | 14.15 | 14.29 | 0.5           |

|                                         |                                                                                                                  |                            |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
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| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device | Page 29 of 120                  |

#### DC-HSDPA considerations

- 3GPP Specification 34.121-1 Release 8 Ver 8.10.0 was used for DC-HSDPA guidance
- H-Set 12 (QPSK) was confirmed to be used during DC-HSDPA measurements
- The DUT supports UE category 24 for HSDPA



**Figure 8-2**  
**Power Measurement Setup**

|                                                |                                                                                                                  |                                   |                                        |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------------------|
| FCC ID: BCGA2153                               |  <b>SAR EVALUATION REPORT</b> |                                   | <b>Approved by:</b><br>Quality Manager |
| <b>Document S/N:</b><br>1C1811080028-01-R1.BCG | <b>Test Dates:</b><br>01/02/19-01/14/19                                                                          | <b>DUT Type:</b><br>Tablet Device | Page 30 of 120                         |

## 8.3 LTE Conducted Powers

### 8.3.1 LTE Band 71

**Table 8-5**  
**LTE Band 71 Reduced Conducted Powers - 20 MHz Bandwidth – Antenna WF3**

| LTE Band 71<br>20 MHz Bandwidth |         |           |                          |                              |          |
|---------------------------------|---------|-----------|--------------------------|------------------------------|----------|
| Modulation                      | RB Size | RB Offset | Mid Channel              | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                 |         |           | 133297<br>(680.5 MHz)    |                              |          |
|                                 |         |           | Conducted Power<br>[dBm] |                              |          |
| QPSK                            | 1       | 0         | 18.41                    | 0                            | 0        |
|                                 | 1       | 50        | 18.43                    |                              | 0        |
|                                 | 1       | 99        | 18.42                    |                              | 0        |
|                                 | 50      | 0         | 18.26                    | 0-1                          | 0        |
|                                 | 50      | 25        | 18.35                    |                              | 0        |
|                                 | 50      | 50        | 18.29                    |                              | 0        |
|                                 | 100     | 0         | 18.34                    |                              | 0        |
| 16QAM                           | 1       | 0         | 18.41                    | 0-1                          | 0        |
|                                 | 1       | 50        | 18.44                    |                              | 0        |
|                                 | 1       | 99        | 18.46                    |                              | 0        |
|                                 | 50      | 0         | 18.04                    | 0-2                          | 0        |
|                                 | 50      | 25        | 18.05                    |                              | 0        |
|                                 | 50      | 50        | 18.02                    |                              | 0        |
|                                 | 100     | 0         | 18.07                    |                              | 0        |
| 64QAM                           | 1       | 0         | 18.42                    | 0-2                          | 0        |
|                                 | 1       | 50        | 18.41                    |                              | 0        |
|                                 | 1       | 99        | 18.40                    |                              | 0        |
|                                 | 50      | 0         | 18.10                    | 0-3                          | 0        |
|                                 | 50      | 25        | 18.07                    |                              | 0        |
|                                 | 50      | 50        | 18.10                    |                              | 0        |
|                                 | 100     | 0         | 18.14                    |                              | 0        |

Note: LTE Band 71 at 20 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

**Table 8-6**  
**LTE Band 71 Reduced Conducted Powers - 15 MHz Bandwidth– Antenna WF3**

| LTE Band 71<br>15 MHz Bandwidth |         |           |                          |                              |          |
|---------------------------------|---------|-----------|--------------------------|------------------------------|----------|
| Modulation                      | RB Size | RB Offset | Mid Channel              | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                 |         |           | 133297<br>(680.5 MHz)    |                              |          |
|                                 |         |           | Conducted Power<br>[dBm] |                              |          |
| QPSK                            | 1       | 0         | 18.17                    | 0                            | 0        |
|                                 | 1       | 36        | 18.36                    |                              | 0        |
|                                 | 1       | 74        | 18.15                    |                              | 0        |
|                                 | 36      | 0         | 18.20                    | 0-1                          | 0        |
|                                 | 36      | 18        | 18.14                    |                              | 0        |
|                                 | 36      | 37        | 18.09                    |                              | 0        |
|                                 | 75      | 0         | 18.28                    |                              | 0        |
| 16QAM                           | 1       | 0         | 18.33                    | 0-1                          | 0        |
|                                 | 1       | 36        | 18.46                    |                              | 0        |
|                                 | 1       | 74        | 18.36                    |                              | 0        |
|                                 | 36      | 0         | 18.18                    | 0-2                          | 0        |
|                                 | 36      | 18        | 18.22                    |                              | 0        |
|                                 | 36      | 37        | 18.05                    |                              | 0        |
|                                 | 75      | 0         | 18.19                    |                              | 0        |
| 64QAM                           | 1       | 0         | 18.28                    | 0-2                          | 0        |
|                                 | 1       | 36        | 18.31                    |                              | 0        |
|                                 | 1       | 74        | 18.21                    |                              | 0        |
|                                 | 36      | 0         | 18.15                    | 0-3                          | 0        |
|                                 | 36      | 18        | 18.20                    |                              | 0        |
|                                 | 36      | 37        | 18.13                    |                              | 0        |
|                                 | 75      | 0         | 18.11                    |                              | 0        |

Note: LTE Band 71 at 15 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

|                                         |                                                                                                                  |                            |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
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| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device | Page 31 of 120                  |

**Table 8-7**  
**LTE Band 71 Reduced Conducted Powers - 10 MHz Bandwidth– Antenna WF3**

| LTE Band 71<br>10 MHz Bandwidth |         |           |                       |                       |                       |                              |          |
|---------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                      | RB Size | RB Offset | Low Channel           | Mid Channel           | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                 |         |           | 133172<br>(668.0 MHz) | 133297<br>(680.5 MHz) | 133422<br>(693.0 MHz) |                              |          |
|                                 |         |           | Conducted Power [dBm] |                       |                       |                              |          |
| QPSK                            | 1       | 0         | 18.12                 | 18.04                 | 17.91                 | 0                            | 0        |
|                                 | 1       | 25        | 18.05                 | 18.00                 | 18.10                 |                              | 0        |
|                                 | 1       | 49        | 18.01                 | 18.10                 | 17.95                 |                              | 0        |
|                                 | 25      | 0         | 17.95                 | 17.85                 | 17.73                 | 0-1                          | 0        |
|                                 | 25      | 12        | 17.92                 | 17.82                 | 17.95                 |                              | 0        |
|                                 | 25      | 25        | 18.06                 | 17.71                 | 17.86                 |                              | 0        |
| 16QAM                           | 50      | 0         | 18.00                 | 17.84                 | 17.93                 | 0-1                          | 0        |
|                                 | 1       | 0         | 18.45                 | 18.19                 | 18.12                 |                              | 0        |
|                                 | 1       | 25        | 18.40                 | 18.22                 | 18.32                 |                              | 0        |
|                                 | 1       | 49        | 18.36                 | 18.11                 | 18.14                 | 0-2                          | 0        |
|                                 | 25      | 0         | 17.97                 | 17.82                 | 17.74                 |                              | 0        |
|                                 | 25      | 12        | 17.96                 | 17.77                 | 17.93                 |                              | 0        |
| 64QAM                           | 25      | 25        | 18.09                 | 17.65                 | 17.89                 | 0-2                          | 0        |
|                                 | 50      | 0         | 18.04                 | 17.76                 | 17.99                 |                              | 0        |
|                                 | 1       | 0         | 18.32                 | 18.08                 | 18.03                 |                              | 0-2      |
|                                 | 1       | 25        | 18.22                 | 18.02                 | 18.14                 | 0                            |          |
|                                 | 1       | 49        | 18.21                 | 17.92                 | 18.19                 | 0                            |          |
|                                 | 25      | 0         | 17.80                 | 17.89                 | 17.80                 | 0-3                          | 0        |
| 25                              | 12      | 17.76     | 17.88                 | 17.95                 | 0                     |                              |          |
| 25                              | 25      | 17.80     | 17.79                 | 17.89                 | 0                     |                              |          |
| 50                              | 0       | 17.79     | 17.79                 | 17.95                 | 0                     |                              |          |

**Table 8-8**  
**LTE Band 71 Reduced Conducted Powers - 5 MHz Bandwidth– Antenna WF3**

| LTE Band 71<br>5 MHz Bandwidth |         |           |                       |                       |                       |                              |          |
|--------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                     | RB Size | RB Offset | Low Channel           | Mid Channel           | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                |         |           | 133147<br>(665.5 MHz) | 133297<br>(680.5 MHz) | 133447<br>(695.5 MHz) |                              |          |
|                                |         |           | Conducted Power [dBm] |                       |                       |                              |          |
| QPSK                           | 1       | 0         | 18.30                 | 18.12                 | 18.20                 | 0                            | 0        |
|                                | 1       | 12        | 18.10                 | 18.06                 | 18.01                 |                              | 0        |
|                                | 1       | 24        | 18.11                 | 18.03                 | 18.08                 |                              | 0        |
|                                | 12      | 0         | 18.15                 | 18.06                 | 18.05                 | 0-1                          | 0        |
|                                | 12      | 6         | 18.01                 | 18.05                 | 18.00                 |                              | 0        |
|                                | 12      | 13        | 18.00                 | 18.00                 | 17.99                 |                              | 0        |
| 16QAM                          | 25      | 0         | 18.00                 | 17.99                 | 17.98                 | 0-1                          | 0        |
|                                | 1       | 0         | 18.40                 | 18.27                 | 18.41                 |                              | 0        |
|                                | 1       | 12        | 18.30                 | 18.24                 | 18.40                 |                              | 0        |
|                                | 1       | 24        | 18.25                 | 18.20                 | 18.39                 | 0-2                          | 0        |
|                                | 12      | 0         | 18.17                 | 18.08                 | 18.12                 |                              | 0        |
|                                | 12      | 6         | 18.05                 | 18.10                 | 18.05                 |                              | 0        |
| 64QAM                          | 12      | 13        | 18.02                 | 18.05                 | 18.04                 | 0-2                          | 0        |
|                                | 25      | 0         | 18.01                 | 18.00                 | 18.01                 |                              | 0        |
|                                | 1       | 0         | 18.27                 | 18.08                 | 18.25                 |                              | 0-2      |
|                                | 1       | 12        | 18.10                 | 18.06                 | 18.03                 | 0                            |          |
|                                | 1       | 24        | 18.01                 | 18.02                 | 18.15                 | 0-3                          |          |
|                                | 12      | 0         | 17.93                 | 17.83                 | 17.91                 |                              | 0        |
| 12                             | 6       | 17.83     | 17.85                 | 17.81                 | 0                     |                              |          |
| 12                             | 13      | 17.78     | 17.80                 | 17.85                 | 0                     |                              |          |
|                                | 25      | 0         | 17.80                 | 17.77                 | 17.78                 |                              | 0        |

|                                         |                                                                                     |                              |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|
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| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 32 of 120                  |

**Table 8-9**  
**LTE Band 71 Reduced Conducted Powers - 20 MHz Bandwidth – Antenna WF5**

| LTE Band 71<br>20 MHz Bandwidth |         |           |                                                   |                              |          |
|---------------------------------|---------|-----------|---------------------------------------------------|------------------------------|----------|
| Modulation                      | RB Size | RB Offset | Mid Channel                                       | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                 |         |           | 133297<br>(680.5 MHz)<br>Conducted Power<br>[dBm] |                              |          |
| QPSK                            | 1       | 0         | 19.00                                             | 0                            | 0        |
|                                 | 1       | 50        | 18.87                                             |                              | 0        |
|                                 | 1       | 99        | 18.66                                             |                              | 0        |
|                                 | 50      | 0         | 18.82                                             | 0-1                          | 0        |
|                                 | 50      | 25        | 18.78                                             |                              | 0        |
|                                 | 50      | 50        | 18.62                                             |                              | 0        |
|                                 | 100     | 0         | 18.81                                             |                              | 0        |
| 16QAM                           | 1       | 0         | 18.97                                             | 0-1                          | 0        |
|                                 | 1       | 50        | 18.77                                             |                              | 0        |
|                                 | 1       | 99        | 18.60                                             |                              | 0        |
|                                 | 50      | 0         | 18.46                                             | 0-2                          | 0        |
|                                 | 50      | 25        | 18.41                                             |                              | 0        |
|                                 | 50      | 50        | 18.29                                             |                              | 0        |
|                                 | 100     | 0         | 18.48                                             |                              | 0        |
| 64QAM                           | 1       | 0         | 18.95                                             | 0-2                          | 0        |
|                                 | 1       | 50        | 18.70                                             |                              | 0        |
|                                 | 1       | 99        | 18.67                                             |                              | 0        |
|                                 | 50      | 0         | 18.46                                             | 0-3                          | 0        |
|                                 | 50      | 25        | 18.48                                             |                              | 0        |
|                                 | 50      | 50        | 18.33                                             |                              | 0        |
|                                 | 100     | 0         | 18.48                                             |                              | 0        |

Note: LTE Band 71 at 20 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

**Table 8-10**  
**LTE Band 71 Reduced Conducted Powers - 15 MHz Bandwidth – Antenna WF5**

| LTE Band 71<br>15 MHz Bandwidth |         |           |                                                   |                              |          |
|---------------------------------|---------|-----------|---------------------------------------------------|------------------------------|----------|
| Modulation                      | RB Size | RB Offset | Mid Channel                                       | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                 |         |           | 133297<br>(680.5 MHz)<br>Conducted Power<br>[dBm] |                              |          |
| QPSK                            | 1       | 0         | 18.81                                             | 0                            | 0        |
|                                 | 1       | 36        | 19.00                                             |                              | 0        |
|                                 | 1       | 74        | 18.70                                             |                              | 0        |
|                                 | 36      | 0         | 18.92                                             | 0-1                          | 0        |
|                                 | 36      | 18        | 18.88                                             |                              | 0        |
|                                 | 36      | 37        | 18.71                                             |                              | 0        |
|                                 | 75      | 0         | 18.85                                             |                              | 0        |
| 16QAM                           | 1       | 0         | 18.93                                             | 0-1                          | 0        |
|                                 | 1       | 36        | 18.89                                             |                              | 0        |
|                                 | 1       | 74        | 18.70                                             |                              | 0        |
|                                 | 36      | 0         | 18.50                                             | 0-2                          | 0        |
|                                 | 36      | 18        | 18.30                                             |                              | 0        |
|                                 | 36      | 37        | 18.19                                             |                              | 0        |
|                                 | 75      | 0         | 18.35                                             |                              | 0        |
| 64QAM                           | 1       | 0         | 18.71                                             | 0-2                          | 0        |
|                                 | 1       | 36        | 18.63                                             |                              | 0        |
|                                 | 1       | 74        | 18.54                                             |                              | 0        |
|                                 | 36      | 0         | 18.49                                             | 0-3                          | 0        |
|                                 | 36      | 18        | 18.58                                             |                              | 0        |
|                                 | 36      | 37        | 18.41                                             |                              | 0        |
|                                 | 75      | 0         | 18.53                                             |                              | 0        |

Note: LTE Band 71 at 15 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

|                                         |                                                                                     |                              |                                 |
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**Table 8-11**  
**LTE Band 71 Reduced Conducted Powers - 10 MHz Bandwidth – Antenna WF5**

| LTE Band 71<br>10 MHz Bandwidth |         |           |                       |                       |                       |                              |          |
|---------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                      | RB Size | RB Offset | Low Channel           | Mid Channel           | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                 |         |           | 133172<br>(668.0 MHz) | 133297<br>(680.5 MHz) | 133422<br>(693.0 MHz) |                              |          |
|                                 |         |           | Conducted Power [dBm] |                       |                       |                              |          |
| QPSK                            | 1       | 0         | 18.86                 | 18.92                 | 18.64                 | 0                            | 0        |
|                                 | 1       | 25        | 18.66                 | 18.85                 | 18.72                 |                              | 0        |
|                                 | 1       | 49        | 18.69                 | 18.66                 | 18.73                 |                              | 0        |
|                                 | 25      | 0         | 18.75                 | 18.85                 | 18.71                 | 0-1                          | 0        |
|                                 | 25      | 12        | 18.67                 | 18.84                 | 18.78                 |                              | 0        |
|                                 | 25      | 25        | 18.78                 | 18.70                 | 18.65                 |                              | 0        |
| 16QAM                           | 50      | 0         | 18.70                 | 18.82                 | 18.79                 | 0-1                          | 0        |
|                                 | 1       | 0         | 18.80                 | 18.85                 | 18.68                 |                              | 0        |
|                                 | 1       | 25        | 18.70                 | 18.80                 | 18.80                 |                              | 0        |
|                                 | 1       | 49        | 18.73                 | 18.55                 | 18.63                 | 0-2                          | 0        |
|                                 | 25      | 0         | 18.33                 | 18.51                 | 18.36                 |                              | 0        |
|                                 | 25      | 12        | 18.29                 | 18.53                 | 18.40                 |                              | 0        |
| 64QAM                           | 25      | 25        | 18.40                 | 18.37                 | 18.28                 | 0-2                          | 0        |
|                                 | 50      | 0         | 18.30                 | 18.47                 | 18.41                 |                              | 0        |
|                                 | 1       | 0         | 19.00                 | 18.85                 | 18.51                 |                              | 0-2      |
|                                 | 1       | 25        | 18.82                 | 18.84                 | 18.57                 | 0                            |          |
|                                 | 1       | 49        | 18.84                 | 18.63                 | 18.57                 | 0                            |          |
|                                 | 25      | 0         | 18.65                 | 18.55                 | 18.22                 | 0-3                          | 0        |
| 25                              | 12      | 18.57     | 18.53                 | 18.18                 | 0                     |                              |          |
| 25                              | 25      | 18.55     | 18.40                 | 18.33                 | 0                     |                              |          |
|                                 | 50      | 0         | 18.59                 | 18.49                 | 18.21                 |                              | 0        |

**Table 8-12**  
**LTE Band 71 Reduced Conducted Powers - 5 MHz Bandwidth – Antenna WF5**

| LTE Band 71<br>5 MHz Bandwidth |         |           |                       |                       |                       |                              |          |
|--------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                     | RB Size | RB Offset | Low Channel           | Mid Channel           | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                |         |           | 133147<br>(665.5 MHz) | 133297<br>(680.5 MHz) | 133447<br>(695.5 MHz) |                              |          |
|                                |         |           | Conducted Power [dBm] |                       |                       |                              |          |
| QPSK                           | 1       | 0         | 18.90                 | 18.84                 | 18.70                 | 0                            | 0        |
|                                | 1       | 12        | 18.67                 | 18.79                 | 18.50                 |                              | 0        |
|                                | 1       | 24        | 18.66                 | 18.71                 | 18.49                 |                              | 0        |
|                                | 12      | 0         | 18.65                 | 18.84                 | 18.61                 | 0-1                          | 0        |
|                                | 12      | 6         | 18.59                 | 18.81                 | 18.47                 |                              | 0        |
|                                | 12      | 13        | 18.60                 | 18.74                 | 18.53                 |                              | 0        |
| 16QAM                          | 25      | 0         | 18.58                 | 18.71                 | 18.46                 | 0-1                          | 0        |
|                                | 1       | 0         | 18.91                 | 18.70                 | 18.80                 |                              | 0        |
|                                | 1       | 12        | 18.66                 | 18.55                 | 18.60                 |                              | 0        |
|                                | 1       | 24        | 18.69                 | 18.58                 | 18.57                 | 0-2                          | 0        |
|                                | 12      | 0         | 18.51                 | 18.40                 | 18.40                 |                              | 0        |
|                                | 12      | 6         | 18.42                 | 18.31                 | 18.29                 |                              | 0        |
| 64QAM                          | 12      | 13        | 18.44                 | 18.38                 | 18.33                 | 0-2                          | 0        |
|                                | 25      | 0         | 18.40                 | 18.25                 | 18.24                 |                              | 0        |
|                                | 1       | 0         | 18.90                 | 18.56                 | 18.54                 |                              | 0-2      |
|                                | 1       | 12        | 18.82                 | 18.74                 | 18.63                 | 0                            |          |
|                                | 1       | 24        | 18.69                 | 18.61                 | 18.63                 | 0-3                          |          |
|                                | 12      | 0         | 18.77                 | 18.55                 | 18.33                 |                              | 0        |
| 12                             | 6       | 18.61     | 18.58                 | 18.34                 | 0                     |                              |          |
|                                | 12      | 13        | 18.64                 | 18.49                 | 18.36                 |                              | 0        |
|                                | 25      | 0         | 18.57                 | 18.47                 | 18.33                 |                              | 0        |

|                                         |                                                                                     |                              |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 34 of 120                  |

### 8.3.2 LTE Band 12

**Table 8-13**  
**LTE Band 12 Reduced Conducted Powers - 10 MHz Bandwidth – Antenna WF3**

| LTE Band 12<br>10 MHz Bandwidth |         |           |                                     |                              |          |
|---------------------------------|---------|-----------|-------------------------------------|------------------------------|----------|
| Modulation                      | RB Size | RB Offset | Mid Channel<br>23095<br>(707.5 MHz) | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                 |         |           | Conducted Power<br>[dBm]            |                              |          |
| QPSK                            | 1       | 0         | 19.00                               | 0                            | 0        |
|                                 | 1       | 25        | 18.88                               |                              | 0        |
|                                 | 1       | 49        | 18.87                               |                              | 0        |
|                                 | 25      | 0         | 18.96                               | 0-1                          | 0        |
|                                 | 25      | 12        | 18.90                               |                              | 0        |
|                                 | 25      | 25        | 18.84                               |                              | 0        |
| 16QAM                           | 50      | 0         | 18.91                               | 0-1                          | 0        |
|                                 | 1       | 0         | 18.97                               |                              | 0        |
|                                 | 1       | 25        | 18.82                               |                              | 0        |
|                                 | 1       | 49        | 18.91                               | 0-2                          | 0        |
|                                 | 25      | 0         | 18.61                               |                              | 0        |
|                                 | 25      | 12        | 18.54                               |                              | 0        |
| 64QAM                           | 25      | 25        | 18.50                               | 0-2                          | 0        |
|                                 | 50      | 0         | 18.56                               |                              | 0        |
|                                 | 1       | 0         | 18.91                               | 0-2                          | 0        |
|                                 | 1       | 25        | 18.75                               |                              | 0        |
|                                 | 1       | 49        | 18.88                               |                              | 0        |
|                                 | 25      | 0         | 18.73                               | 0-3                          | 0        |
|                                 | 25      | 12        | 18.65                               |                              | 0        |
|                                 | 25      | 25        | 18.63                               |                              | 0        |
|                                 | 50      | 0         | 18.62                               |                              | 0        |

Note: LTE Band 12 at 10 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

**Table 8-14**  
**LTE Band 12 Reduced Conducted Powers - 5 MHz Bandwidth– Antenna WF3**

| LTE Band 12<br>5 MHz Bandwidth |         |           |                       |                      |                      |                              |          |
|--------------------------------|---------|-----------|-----------------------|----------------------|----------------------|------------------------------|----------|
| Modulation                     | RB Size | RB Offset | Low Channel           | Mid Channel          | High Channel         | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                |         |           | 23035<br>(701.5 MHz)  | 23095<br>(707.5 MHz) | 23155<br>(713.5 MHz) |                              |          |
|                                |         |           | Conducted Power [dBm] |                      |                      |                              |          |
| QPSK                           | 1       | 0         | 19.00                 | 18.95                | 18.99                | 0                            | 0        |
|                                | 1       | 12        | 18.98                 | 18.88                | 18.98                |                              | 0        |
|                                | 1       | 24        | 18.89                 | 18.88                | 19.00                |                              | 0        |
|                                | 12      | 0         | 18.90                 | 18.91                | 19.00                | 0-1                          | 0        |
|                                | 12      | 6         | 19.00                 | 18.89                | 18.94                |                              | 0        |
|                                | 12      | 13        | 18.89                 | 18.93                | 18.97                |                              | 0        |
| 16QAM                          | 25      | 0         | 18.85                 | 18.89                | 18.95                | 0                            |          |
|                                | 1       | 0         | 19.00                 | 18.92                | 18.98                | 0-1                          | 0        |
|                                | 1       | 12        | 19.00                 | 18.81                | 19.00                |                              | 0        |
|                                | 1       | 24        | 18.98                 | 18.95                | 18.99                |                              | 0        |
|                                | 12      | 0         | 18.69                 | 18.55                | 18.70                | 0-2                          | 0        |
|                                | 12      | 6         | 18.65                 | 18.49                | 18.67                |                              | 0        |
| 12                             | 13      | 18.66     | 18.53                 | 18.69                | 0                    |                              |          |
| 64QAM                          | 25      | 0         | 18.69                 | 18.56                | 18.64                | 0                            |          |
|                                | 1       | 0         | 18.76                 | 18.90                | 18.81                | 0-2                          | 0        |
|                                | 1       | 12        | 18.91                 | 18.75                | 18.85                |                              | 0        |
|                                | 1       | 24        | 18.89                 | 18.80                | 18.94                |                              | 0        |
|                                | 12      | 0         | 18.67                 | 18.60                | 18.70                | 0-3                          | 0        |
|                                | 12      | 6         | 18.71                 | 18.57                | 18.67                |                              | 0        |
| 12                             | 13      | 18.70     | 18.52                 | 18.73                | 0                    |                              |          |
|                                | 25      | 0         | 18.69                 | 18.56                | 18.68                | 0                            |          |

|                                         |                                                                                                                  |                            |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
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| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device | Page 35 of 120                  |

**Table 8-15**  
**LTE Band 12 Reduced Conducted Powers - 3 MHz Bandwidth– Antenna WF3**

| LTE Band 12<br>3 MHz Bandwidth |         |           |                       |                      |                      |                              |          |
|--------------------------------|---------|-----------|-----------------------|----------------------|----------------------|------------------------------|----------|
| Modulation                     | RB Size | RB Offset | Low Channel           | Mid Channel          | High Channel         | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                |         |           | 23025<br>(700.5 MHz)  | 23095<br>(707.5 MHz) | 23165<br>(714.5 MHz) |                              |          |
|                                |         |           | Conducted Power [dBm] |                      |                      |                              |          |
| QPSK                           | 1       | 0         | 18.95                 | 18.82                | 18.93                | 0                            | 0        |
|                                | 1       | 7         | 18.97                 | 18.81                | 18.99                |                              | 0        |
|                                | 1       | 14        | 18.96                 | 18.80                | 18.96                |                              | 0        |
|                                | 8       | 0         | 18.96                 | 18.88                | 18.95                | 0-1                          | 0        |
|                                | 8       | 4         | 18.95                 | 18.86                | 18.96                |                              | 0        |
|                                | 8       | 7         | 19.00                 | 18.88                | 18.94                |                              | 0        |
|                                | 15      | 0         | 18.96                 | 18.88                | 18.97                |                              | 0        |
| 16QAM                          | 1       | 0         | 18.99                 | 18.88                | 18.95                | 0-1                          | 0        |
|                                | 1       | 7         | 18.97                 | 18.89                | 18.92                |                              | 0        |
|                                | 1       | 14        | 18.94                 | 18.91                | 18.88                |                              | 0        |
|                                | 8       | 0         | 18.70                 | 18.60                | 18.73                | 0-2                          | 0        |
|                                | 8       | 4         | 18.72                 | 18.59                | 18.73                |                              | 0        |
|                                | 8       | 7         | 18.79                 | 18.60                | 18.70                |                              | 0        |
|                                | 15      | 0         | 18.67                 | 18.56                | 18.69                |                              | 0        |
| 64QAM                          | 1       | 0         | 18.87                 | 18.73                | 18.84                | 0-2                          | 0        |
|                                | 1       | 7         | 18.92                 | 18.69                | 18.90                |                              | 0        |
|                                | 1       | 14        | 18.93                 | 18.75                | 18.86                |                              | 0        |
|                                | 8       | 0         | 18.67                 | 18.65                | 18.70                | 0-3                          | 0        |
|                                | 8       | 4         | 18.66                 | 18.63                | 18.71                |                              | 0        |
|                                | 8       | 7         | 18.75                 | 18.58                | 18.69                |                              | 0        |
|                                | 15      | 0         | 18.62                 | 18.61                | 18.67                |                              | 0        |

**Table 8-16**  
**LTE Band 12 Reduced Conducted Powers -1.4 MHz Bandwidth– Antenna WF3**

| LTE Band 12<br>1.4 MHz Bandwidth |         |           |                       |                      |                      |                              |          |
|----------------------------------|---------|-----------|-----------------------|----------------------|----------------------|------------------------------|----------|
| Modulation                       | RB Size | RB Offset | Low Channel           | Mid Channel          | High Channel         | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                  |         |           | 23017<br>(699.7 MHz)  | 23095<br>(707.5 MHz) | 23173<br>(715.3 MHz) |                              |          |
|                                  |         |           | Conducted Power [dBm] |                      |                      |                              |          |
| QPSK                             | 1       | 0         | 18.99                 | 18.95                | 18.95                | 0                            | 0        |
|                                  | 1       | 2         | 18.98                 | 18.94                | 18.92                |                              | 0        |
|                                  | 1       | 5         | 18.99                 | 18.92                | 18.96                |                              | 0        |
|                                  | 3       | 0         | 18.97                 | 18.82                | 19.00                |                              | 0        |
|                                  | 3       | 2         | 18.98                 | 18.81                | 18.98                |                              | 0        |
|                                  | 3       | 3         | 18.96                 | 18.84                | 18.97                |                              | 0        |
|                                  | 6       | 0         | 18.94                 | 18.80                | 18.96                | 0-1                          | 0        |
| 16QAM                            | 1       | 0         | 18.99                 | 18.78                | 18.98                | 0-1                          | 0        |
|                                  | 1       | 2         | 18.98                 | 18.78                | 18.96                |                              | 0        |
|                                  | 1       | 5         | 19.00                 | 18.80                | 18.92                |                              | 0        |
|                                  | 3       | 0         | 18.85                 | 18.67                | 18.80                |                              | 0        |
|                                  | 3       | 2         | 18.83                 | 18.69                | 18.76                |                              | 0        |
|                                  | 3       | 3         | 18.89                 | 18.70                | 18.81                |                              | 0        |
|                                  | 6       | 0         | 18.81                 | 18.60                | 18.70                | 0-2                          | 0        |
| 64QAM                            | 1       | 0         | 18.92                 | 18.82                | 18.85                | 0-2                          | 0        |
|                                  | 1       | 2         | 18.93                 | 18.84                | 18.81                |                              | 0        |
|                                  | 1       | 5         | 18.91                 | 18.91                | 18.90                |                              | 0        |
|                                  | 3       | 0         | 18.70                 | 18.79                | 18.83                |                              | 0        |
|                                  | 3       | 2         | 18.77                 | 18.81                | 18.78                |                              | 0        |
|                                  | 3       | 3         | 18.75                 | 18.81                | 18.80                |                              | 0        |
|                                  | 6       | 0         | 18.66                 | 18.65                | 18.71                | 0-3                          | 0        |

|                                         |                                                                                                                  |                            |  |                                 |
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| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device |  | Page 36 of 120                  |

**Table 8-17**  
**LTE Band 12 Reduced Conducted Powers - 10 MHz Bandwidth- Antenna WF5**

| LTE Band 12<br>10 MHz Bandwidth |         |           |                          |                              |          |
|---------------------------------|---------|-----------|--------------------------|------------------------------|----------|
| Modulation                      | RB Size | RB Offset | 23095<br>(707.5 MHz)     | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                 |         |           | Conducted Power<br>[dBm] |                              |          |
| QPSK                            | 1       | 0         | 18.84                    | 0                            | 0        |
|                                 | 1       | 25        | 18.86                    |                              | 0        |
|                                 | 1       | 49        | 18.90                    |                              | 0        |
|                                 | 25      | 0         | 18.92                    | 0-1                          | 0        |
|                                 | 25      | 12        | 18.93                    |                              | 0        |
|                                 | 25      | 25        | 18.88                    |                              | 0        |
|                                 | 50      | 0         | 18.89                    |                              | 0        |
| 16QAM                           | 1       | 0         | 18.91                    | 0-1                          | 0        |
|                                 | 1       | 25        | 18.93                    |                              | 0        |
|                                 | 1       | 49        | 18.97                    |                              | 0        |
|                                 | 25      | 0         | 18.81                    | 0-2                          | 0        |
|                                 | 25      | 12        | 18.82                    |                              | 0        |
|                                 | 25      | 25        | 18.79                    |                              | 0        |
|                                 | 50      | 0         | 18.82                    |                              | 0        |
| 64QAM                           | 1       | 0         | 18.92                    | 0-2                          | 0        |
|                                 | 1       | 25        | 18.94                    |                              | 0        |
|                                 | 1       | 49        | 18.92                    |                              | 0        |
|                                 | 25      | 0         | 18.74                    | 0-3                          | 0        |
|                                 | 25      | 12        | 18.66                    |                              | 0        |
|                                 | 25      | 25        | 18.66                    |                              | 0        |
|                                 | 50      | 0         | 18.64                    |                              | 0        |

Note: LTE Band 12 at 10 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

**Table 8-18**  
**LTE Band 12 Reduced Conducted Powers - 5 MHz Bandwidth- Antenna WF5**

| LTE Band 12<br>5 MHz Bandwidth |         |           |                       |                      |                      |                              |          |
|--------------------------------|---------|-----------|-----------------------|----------------------|----------------------|------------------------------|----------|
| Modulation                     | RB Size | RB Offset | Low Channel           | Mid Channel          | High Channel         | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                |         |           | 23035<br>(701.5 MHz)  | 23095<br>(707.5 MHz) | 23155<br>(713.5 MHz) |                              |          |
|                                |         |           | Conducted Power [dBm] |                      |                      |                              |          |
| QPSK                           | 1       | 0         | 18.66                 | 18.78                | 18.66                | 0                            | 0        |
|                                | 1       | 12        | 18.70                 | 18.68                | 18.70                |                              | 0        |
|                                | 1       | 24        | 18.73                 | 18.71                | 18.74                |                              | 0        |
|                                | 12      | 0         | 18.60                 | 18.63                | 18.68                | 0-1                          | 0        |
|                                | 12      | 6         | 18.65                 | 18.64                | 18.61                |                              | 0        |
|                                | 12      | 13        | 18.65                 | 18.64                | 18.66                |                              | 0        |
|                                | 25      | 0         | 18.68                 | 18.65                | 18.68                |                              | 0        |
| 16QAM                          | 1       | 0         | 18.76                 | 18.92                | 18.86                | 0-1                          | 0        |
|                                | 1       | 12        | 18.83                 | 18.94                | 18.83                |                              | 0        |
|                                | 1       | 24        | 18.82                 | 18.93                | 18.83                |                              | 0        |
|                                | 12      | 0         | 18.46                 | 18.51                | 18.53                | 0-2                          | 0        |
|                                | 12      | 6         | 18.46                 | 18.54                | 18.44                |                              | 0        |
|                                | 12      | 13        | 18.48                 | 18.55                | 18.49                |                              | 0        |
|                                | 25      | 0         | 18.48                 | 18.52                | 18.51                |                              | 0        |
| 64QAM                          | 1       | 0         | 18.83                 | 18.96                | 18.84                | 0-2                          | 0        |
|                                | 1       | 12        | 18.85                 | 18.84                | 18.89                |                              | 0        |
|                                | 1       | 24        | 18.89                 | 18.85                | 18.84                |                              | 0        |
|                                | 12      | 0         | 18.54                 | 18.62                | 18.66                | 0-3                          | 0        |
|                                | 12      | 6         | 18.60                 | 18.63                | 18.57                |                              | 0        |
|                                | 12      | 13        | 18.61                 | 18.62                | 18.61                |                              | 0        |
|                                | 25      | 0         | 18.60                 | 18.61                | 18.62                |                              | 0        |

|                                         |                                                                                                                  |                            |  |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|--|---------------------------------|
| FCC ID: BCGA2153                        |  <b>SAR EVALUATION REPORT</b> |                            |  | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device |  | Page 37 of 120                  |

**Table 8-19**  
**LTE Band 12 Reduced Conducted Powers - 3 MHz Bandwidth- Antenna WF5**

| LTE Band 12<br>3 MHz Bandwidth |         |           |                       |                      |                      |                              |          |
|--------------------------------|---------|-----------|-----------------------|----------------------|----------------------|------------------------------|----------|
| Modulation                     | RB Size | RB Offset | Low Channel           | Mid Channel          | High Channel         | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                |         |           | 23025<br>(700.5 MHz)  | 23095<br>(707.5 MHz) | 23165<br>(714.5 MHz) |                              |          |
|                                |         |           | Conducted Power [dBm] |                      |                      |                              |          |
| QPSK                           | 1       | 0         | 18.52                 | 18.58                | 18.56                | 0                            | 0        |
|                                | 1       | 7         | 18.52                 | 18.65                | 18.64                |                              | 0        |
|                                | 1       | 14        | 18.57                 | 18.60                | 18.61                |                              | 0        |
|                                | 8       | 0         | 18.53                 | 18.61                | 18.59                | 0-1                          | 0        |
|                                | 8       | 4         | 18.51                 | 18.61                | 18.61                |                              | 0        |
|                                | 8       | 7         | 18.59                 | 18.63                | 18.67                |                              | 0        |
|                                | 15      | 0         | 18.62                 | 18.61                | 18.63                |                              | 0        |
| 16QAM                          | 1       | 0         | 18.70                 | 18.81                | 18.71                | 0-1                          | 0        |
|                                | 1       | 7         | 18.66                 | 18.86                | 18.81                |                              | 0        |
|                                | 1       | 14        | 18.67                 | 18.87                | 18.72                |                              | 0        |
|                                | 8       | 0         | 18.43                 | 18.55                | 18.49                | 0-2                          | 0        |
|                                | 8       | 4         | 18.34                 | 18.55                | 18.51                |                              | 0        |
|                                | 8       | 7         | 18.44                 | 18.55                | 18.54                |                              | 0        |
|                                | 15      | 0         | 18.38                 | 18.51                | 18.49                |                              | 0        |
| 64QAM                          | 1       | 0         | 18.90                 | 18.92                | 18.88                | 0-2                          | 0        |
|                                | 1       | 7         | 18.90                 | 19.00                | 18.98                |                              | 0        |
|                                | 1       | 14        | 18.89                 | 18.91                | 18.96                |                              | 0        |
|                                | 8       | 0         | 18.71                 | 18.80                | 18.74                | 0-3                          | 0        |
|                                | 8       | 4         | 18.68                 | 18.80                | 18.76                |                              | 0        |
|                                | 8       | 7         | 18.77                 | 18.81                | 18.80                |                              | 0        |
|                                | 15      | 0         | 18.68                 | 18.77                | 18.75                |                              | 0        |

**Table 8-20**  
**LTE Band 12 Reduced Conducted Powers -1.4 MHz Bandwidth- Antenna WF5**

| LTE Band 12<br>1.4 MHz Bandwidth |         |           |                       |                      |                      |                              |          |
|----------------------------------|---------|-----------|-----------------------|----------------------|----------------------|------------------------------|----------|
| Modulation                       | RB Size | RB Offset | Low Channel           | Mid Channel          | High Channel         | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                  |         |           | 23017<br>(699.7 MHz)  | 23095<br>(707.5 MHz) | 23173<br>(715.3 MHz) |                              |          |
|                                  |         |           | Conducted Power [dBm] |                      |                      |                              |          |
| QPSK                             | 1       | 0         | 18.63                 | 18.75                | 18.71                | 0                            | 0        |
|                                  | 1       | 2         | 18.63                 | 18.73                | 18.72                |                              | 0        |
|                                  | 1       | 5         | 18.59                 | 18.74                | 18.74                |                              | 0        |
|                                  | 3       | 0         | 18.60                 | 18.71                | 18.75                |                              | 0        |
|                                  | 3       | 2         | 18.61                 | 18.69                | 18.73                |                              | 0        |
|                                  | 3       | 3         | 18.62                 | 18.70                | 18.73                |                              | 0        |
|                                  | 6       | 0         | 18.60                 | 18.78                | 18.75                | 0-1                          | 0        |
| 16QAM                            | 1       | 0         | 18.80                 | 18.93                | 18.95                | 0-1                          | 0        |
|                                  | 1       | 2         | 18.78                 | 18.95                | 18.96                |                              | 0        |
|                                  | 1       | 5         | 18.75                 | 18.89                | 19.00                |                              | 0        |
|                                  | 3       | 0         | 18.55                 | 18.69                | 18.75                |                              | 0        |
|                                  | 3       | 2         | 18.55                 | 18.67                | 18.74                |                              | 0        |
|                                  | 3       | 3         | 18.70                 | 18.65                | 18.70                |                              | 0        |
|                                  | 6       | 0         | 18.47                 | 18.62                | 18.70                | 0-2                          | 0        |
| 64QAM                            | 1       | 0         | 18.87                 | 18.97                | 18.93                | 0-2                          | 0        |
|                                  | 1       | 2         | 18.91                 | 18.99                | 18.96                |                              | 0        |
|                                  | 1       | 5         | 18.86                 | 18.96                | 18.93                |                              | 0        |
|                                  | 3       | 0         | 18.79                 | 18.87                | 18.85                |                              | 0        |
|                                  | 3       | 2         | 18.77                 | 18.84                | 18.86                |                              | 0        |
|                                  | 3       | 3         | 18.75                 | 18.84                | 18.88                |                              | 0        |
|                                  | 6       | 0         | 18.67                 | 18.76                | 18.78                | 0-3                          | 0        |

|                                         |                                                                                                                  |                            |  |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|--|---------------------------------|
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### 8.3.3 LTE Band 13

**Table 8-21**  
**LTE Band 13 Reduced Conducted Powers - 10 MHz Bandwidth- Antenna WF3**

| LTE Band 13<br>10 MHz Bandwidth |         |           |                          |                              |          |
|---------------------------------|---------|-----------|--------------------------|------------------------------|----------|
| Modulation                      | RB Size | RB Offset | 18.16                    | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                 |         |           | 23230<br>(782.0 MHz)     |                              |          |
|                                 |         |           | Conducted Power<br>[dBm] |                              |          |
| QPSK                            | 1       | 0         | 18.46                    | 0                            | 0        |
|                                 | 1       | 25        | 18.33                    |                              | 0        |
|                                 | 1       | 49        | 18.32                    |                              | 0        |
|                                 | 25      | 0         | 18.12                    | 0-1                          | 0        |
|                                 | 25      | 12        | 18.31                    |                              | 0        |
|                                 | 25      | 25        | 18.37                    |                              | 0        |
|                                 | 50      | 0         | 18.36                    |                              | 0        |
| 16QAM                           | 1       | 0         | 18.48                    | 0-1                          | 0        |
|                                 | 1       | 25        | 18.31                    |                              | 0        |
|                                 | 1       | 49        | 18.27                    |                              | 0        |
|                                 | 25      | 0         | 17.77                    | 0-2                          | 0        |
|                                 | 25      | 12        | 17.93                    |                              | 0        |
|                                 | 25      | 25        | 18.00                    |                              | 0        |
|                                 | 50      | 0         | 17.99                    |                              | 0        |
| 64QAM                           | 1       | 0         | 18.47                    | 0-2                          | 0        |
|                                 | 1       | 25        | 18.25                    |                              | 0        |
|                                 | 1       | 49        | 18.07                    |                              | 0        |
|                                 | 25      | 0         | 17.73                    | 0-3                          | 0        |
|                                 | 25      | 12        | 18.04                    |                              | 0        |
|                                 | 25      | 25        | 17.99                    |                              | 0        |
|                                 | 50      | 0         | 18.16                    |                              | 0        |

**Table 8-22**  
**LTE Band 13 Reduced Conducted Powers - 5 MHz Bandwidth- Antenna WF3**

| LTE Band 13<br>5 MHz Bandwidth |         |           |                          |                              |          |
|--------------------------------|---------|-----------|--------------------------|------------------------------|----------|
| Modulation                     | RB Size | RB Offset | Mid Channel              | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                |         |           | 23230<br>(782.0 MHz)     |                              |          |
|                                |         |           | Conducted Power<br>[dBm] |                              |          |
| QPSK                           | 1       | 0         | 18.00                    | 0                            | 0        |
|                                | 1       | 12        | 18.30                    |                              | 0        |
|                                | 1       | 24        | 18.26                    |                              | 0        |
|                                | 12      | 0         | 17.94                    | 0-1                          | 0        |
|                                | 12      | 6         | 18.24                    |                              | 0        |
|                                | 12      | 13        | 18.20                    |                              | 0        |
|                                | 25      | 0         | 18.32                    |                              | 0        |
| 16QAM                          | 1       | 0         | 18.06                    | 0-1                          | 0        |
|                                | 1       | 12        | 18.21                    |                              | 0        |
|                                | 1       | 24        | 18.34                    |                              | 0        |
|                                | 12      | 0         | 17.72                    | 0-2                          | 0        |
|                                | 12      | 6         | 18.06                    |                              | 0        |
|                                | 12      | 13        | 18.00                    |                              | 0        |
|                                | 25      | 0         | 18.08                    |                              | 0        |
| 64QAM                          | 1       | 0         | 18.11                    | 0-2                          | 0        |
|                                | 1       | 12        | 18.34                    |                              | 0        |
|                                | 1       | 24        | 18.35                    |                              | 0        |
|                                | 12      | 0         | 17.81                    | 0-3                          | 0        |
|                                | 12      | 6         | 18.06                    |                              | 0        |
|                                | 12      | 13        | 18.05                    |                              | 0        |
|                                | 25      | 0         | 18.04                    |                              | 0        |

Note: LTE Band 13 at 5 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

|                                         |                                                                                                                  |                            |                                 |
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**Table 8-23**  
**LTE Band 13 Reduced Conducted Powers - 10 MHz Bandwidth- Antenna WF5**

| LTE Band 13<br>10 MHz Bandwidth |         |           |                          |                              |          |
|---------------------------------|---------|-----------|--------------------------|------------------------------|----------|
| Modulation                      | RB Size | RB Offset | Mid Channel              | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                 |         |           | 23230<br>(782.0 MHz)     |                              |          |
|                                 |         |           | Conducted Power<br>[dBm] |                              |          |
| QPSK                            | 1       | 0         | 20.04                    | 0                            | 0        |
|                                 | 1       | 25        | 19.91                    |                              | 0        |
|                                 | 1       | 49        | 19.96                    |                              | 0        |
|                                 | 25      | 0         | 19.79                    | 0-1                          | 0        |
|                                 | 25      | 12        | 19.91                    |                              | 0        |
|                                 | 25      | 25        | 20.03                    |                              | 0        |
|                                 | 50      | 0         | 19.98                    |                              | 0        |
| 16QAM                           | 1       | 0         | 20.06                    | 0-1                          | 0        |
|                                 | 1       | 25        | 19.97                    |                              | 0        |
|                                 | 1       | 49        | 19.96                    |                              | 0        |
|                                 | 25      | 0         | 19.61                    | 0-2                          | 0        |
|                                 | 25      | 12        | 19.73                    |                              | 0        |
|                                 | 25      | 25        | 19.86                    |                              | 0        |
|                                 | 50      | 0         | 19.78                    |                              | 0        |
| 64QAM                           | 1       | 0         | 20.00                    | 0-2                          | 0        |
|                                 | 1       | 25        | 19.75                    |                              | 0        |
|                                 | 1       | 49        | 19.57                    |                              | 0        |
|                                 | 25      | 0         | 19.30                    | 0-3                          | 0        |
|                                 | 25      | 12        | 19.38                    |                              | 0        |
|                                 | 25      | 25        | 19.39                    |                              | 0        |
|                                 | 50      | 0         | 19.75                    |                              | 0        |
|                                 |         |           |                          |                              |          |

**Table 8-24**  
**LTE Band 13 Reduced Conducted Powers - 5 MHz Bandwidth- Antenna WF5**

| LTE Band 13<br>5 MHz Bandwidth |         |           |                          |                              |          |
|--------------------------------|---------|-----------|--------------------------|------------------------------|----------|
| Modulation                     | RB Size | RB Offset | Mid Channel              | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                |         |           | 23230<br>(782.0 MHz)     |                              |          |
|                                |         |           | Conducted Power<br>[dBm] |                              |          |
| QPSK                           | 1       | 0         | 19.86                    | 0                            | 0        |
|                                | 1       | 12        | 19.90                    |                              | 0        |
|                                | 1       | 24        | 20.08                    |                              | 0        |
|                                | 12      | 0         | 19.78                    | 0-1                          | 0        |
|                                | 12      | 6         | 20.01                    |                              | 0        |
|                                | 12      | 13        | 20.08                    |                              | 0        |
|                                | 25      | 0         | 20.07                    |                              | 0        |
| 16QAM                          | 1       | 0         | 19.90                    | 0-1                          | 0        |
|                                | 1       | 12        | 20.00                    |                              | 0        |
|                                | 1       | 24        | 20.08                    |                              | 0        |
|                                | 12      | 0         | 19.20                    | 0-2                          | 0        |
|                                | 12      | 6         | 19.40                    |                              | 0        |
|                                | 12      | 13        | 19.47                    |                              | 0        |
|                                | 25      | 0         | 19.36                    |                              | 0        |
| 64QAM                          | 1       | 0         | 19.71                    | 0-2                          | 0        |
|                                | 1       | 12        | 19.64                    |                              | 0        |
|                                | 1       | 24        | 19.67                    |                              | 0        |
|                                | 12      | 0         | 19.21                    | 0-3                          | 0        |
|                                | 12      | 6         | 19.38                    |                              | 0        |
|                                | 12      | 13        | 19.45                    |                              | 0        |
|                                | 25      | 0         | 19.46                    |                              | 0        |
|                                |         |           |                          |                              |          |

Note: LTE Band 13 at 5 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

|                                         |                                                                                     |                              |                                 |
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### 8.3.4 LTE Band 14

**Table 8-25**  
**LTE Band 14 Reduced Conducted Powers - 10 MHz Bandwidth – Antenna WF3**

| LTE Band 14<br>10 MHz Bandwidth |         |           |                                                  |                              |          |
|---------------------------------|---------|-----------|--------------------------------------------------|------------------------------|----------|
| Modulation                      | RB Size | RB Offset | Mid Channel                                      | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                 |         |           | 23330<br>(793.0 MHz)<br>Conducted Power<br>[dBm] |                              |          |
| QPSK                            | 1       | 0         | 18.49                                            | 0                            | 0        |
|                                 | 1       | 25        | 18.35                                            |                              | 0        |
|                                 | 1       | 49        | 18.38                                            |                              | 0        |
|                                 | 25      | 0         | 18.38                                            | 0-1                          | 0        |
|                                 | 25      | 12        | 18.40                                            |                              | 0        |
|                                 | 25      | 25        | 18.35                                            |                              | 0        |
|                                 | 50      | 0         | 18.36                                            |                              | 0        |
| 16QAM                           | 1       | 0         | 18.46                                            | 0-1                          | 0        |
|                                 | 1       | 25        | 18.37                                            |                              | 0        |
|                                 | 1       | 49        | 18.36                                            |                              | 0        |
|                                 | 25      | 0         | 18.11                                            | 0-2                          | 0        |
|                                 | 25      | 12        | 18.13                                            |                              | 0        |
|                                 | 25      | 25        | 18.07                                            |                              | 0        |
|                                 | 50      | 0         | 18.06                                            |                              | 0        |
| 64QAM                           | 1       | 0         | 18.42                                            | 0-2                          | 0        |
|                                 | 1       | 25        | 18.20                                            |                              | 0        |
|                                 | 1       | 49        | 18.23                                            |                              | 0        |
|                                 | 25      | 0         | 18.09                                            | 0-3                          | 0        |
|                                 | 25      | 12        | 18.04                                            |                              | 0        |
|                                 | 25      | 25        | 17.93                                            |                              | 0        |
|                                 | 50      | 0         | 18.03                                            |                              | 0        |

**Table 8-26**  
**LTE Band 14 Reduced Conducted Powers - 5 MHz Bandwidth– Antenna WF3**

| LTE Band 14<br>5 MHz Bandwidth |         |           |                                                  |                              |          |
|--------------------------------|---------|-----------|--------------------------------------------------|------------------------------|----------|
| Modulation                     | RB Size | RB Offset | Mid Channel                                      | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                |         |           | 23330<br>(793.0 MHz)<br>Conducted Power<br>[dBm] |                              |          |
| QPSK                           | 1       | 0         | 18.40                                            | 0                            | 0        |
|                                | 1       | 12        | 18.25                                            |                              | 0        |
|                                | 1       | 24        | 18.26                                            |                              | 0        |
|                                | 12      | 0         | 18.34                                            | 0-1                          | 0        |
|                                | 12      | 6         | 18.32                                            |                              | 0        |
|                                | 12      | 13        | 18.32                                            |                              | 0        |
|                                | 25      | 0         | 18.26                                            |                              | 0        |
| 16QAM                          | 1       | 0         | 18.35                                            | 0-1                          | 0        |
|                                | 1       | 12        | 18.24                                            |                              | 0        |
|                                | 1       | 24        | 18.25                                            |                              | 0        |
|                                | 12      | 0         | 17.97                                            | 0-2                          | 0        |
|                                | 12      | 6         | 17.92                                            |                              | 0        |
|                                | 12      | 13        | 17.95                                            |                              | 0        |
|                                | 25      | 0         | 17.89                                            |                              | 0        |
| 64QAM                          | 1       | 0         | 18.40                                            | 0-2                          | 0        |
|                                | 1       | 12        | 18.23                                            |                              | 0        |
|                                | 1       | 24        | 18.19                                            |                              | 0        |
|                                | 12      | 0         | 18.00                                            | 0-3                          | 0        |
|                                | 12      | 6         | 17.96                                            |                              | 0        |
|                                | 12      | 13        | 18.03                                            |                              | 0        |
|                                | 25      | 0         | 17.91                                            |                              | 0        |

Note: LTE Band 14 at 5 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

|                                         |                                                                                                                  |                            |                                 |
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**Table 8-27**  
**LTE Band 14 Reduced Conducted Powers - 10 MHz Bandwidth- Antenna WF5**

| LTE Band 14<br>10 MHz Bandwidth |         |           |                          |                              |          |
|---------------------------------|---------|-----------|--------------------------|------------------------------|----------|
| Modulation                      | RB Size | RB Offset | Mid Channel              | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                 |         |           | 23330<br>(793.0 MHz)     |                              |          |
|                                 |         |           | Conducted Power<br>[dBm] |                              |          |
| QPSK                            | 1       | 0         | 20.10                    | 0                            | 0        |
|                                 | 1       | 25        | 19.92                    |                              | 0        |
|                                 | 1       | 49        | 20.07                    |                              | 0        |
|                                 | 25      | 0         | 20.07                    | 0-1                          | 0        |
|                                 | 25      | 12        | 19.98                    |                              | 0        |
|                                 | 25      | 25        | 19.93                    |                              | 0        |
|                                 | 50      | 0         | 19.94                    |                              | 0        |
| 16QAM                           | 1       | 0         | 20.09                    | 0-1                          | 0        |
|                                 | 1       | 25        | 19.92                    |                              | 0        |
|                                 | 1       | 49        | 20.06                    |                              | 0        |
|                                 | 25      | 0         | 19.68                    | 0-2                          | 0        |
|                                 | 25      | 12        | 19.60                    |                              | 0        |
|                                 | 25      | 25        | 19.56                    |                              | 0        |
|                                 | 50      | 0         | 19.57                    |                              | 0        |
| 64QAM                           | 1       | 0         | 20.07                    | 0-2                          | 0        |
|                                 | 1       | 25        | 19.90                    |                              | 0        |
|                                 | 1       | 49        | 20.05                    |                              | 0        |
|                                 | 25      | 0         | 19.84                    | 0-3                          | 0        |
|                                 | 25      | 12        | 19.73                    |                              | 0        |
|                                 | 25      | 25        | 19.65                    |                              | 0        |
|                                 | 50      | 0         | 19.68                    |                              | 0        |

**Table 8-28**  
**LTE Band 14 Reduced Conducted Powers - 5 MHz Bandwidth- Antenna WF5**

| LTE Band 14<br>5 MHz Bandwidth |         |           |                          |                              |          |
|--------------------------------|---------|-----------|--------------------------|------------------------------|----------|
| Modulation                     | RB Size | RB Offset | Mid Channel              | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                |         |           | 23330<br>(793.0 MHz)     |                              |          |
|                                |         |           | Conducted Power<br>[dBm] |                              |          |
| QPSK                           | 1       | 0         | 20.10                    | 0                            | 0        |
|                                | 1       | 12        | 20.00                    |                              | 0        |
|                                | 1       | 24        | 19.95                    |                              | 0        |
|                                | 12      | 0         | 20.06                    | 0-1                          | 0        |
|                                | 12      | 6         | 20.05                    |                              | 0        |
|                                | 12      | 13        | 20.04                    |                              | 0        |
|                                | 25      | 0         | 20.09                    |                              | 0        |
| 16QAM                          | 1       | 0         | 20.09                    | 0-1                          | 0        |
|                                | 1       | 12        | 20.09                    |                              | 0        |
|                                | 1       | 24        | 19.90                    |                              | 0        |
|                                | 12      | 0         | 19.46                    | 0-2                          | 0        |
|                                | 12      | 6         | 19.47                    |                              | 0        |
|                                | 12      | 13        | 19.47                    |                              | 0        |
|                                | 25      | 0         | 19.44                    |                              | 0        |
| 64QAM                          | 1       | 0         | 20.06                    | 0-2                          | 0        |
|                                | 1       | 12        | 19.95                    |                              | 0        |
|                                | 1       | 24        | 19.95                    |                              | 0        |
|                                | 12      | 0         | 19.75                    | 0-3                          | 0        |
|                                | 12      | 6         | 19.75                    |                              | 0        |
|                                | 12      | 13        | 19.75                    |                              | 0        |
|                                | 25      | 0         | 19.68                    |                              | 0        |

Note: LTE Band 14 at 5 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

|                                         |                                                                                     |                              |                                 |
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### 8.3.5 LTE Band 5 (Cell)

**Table 8-29**  
**LTE Band 5 (Cell) Reduced Conducted Powers - 10 MHz Bandwidth- Antenna WF3**

| LTE Band 5 (Cell)<br>10 MHz Bandwidth |         |           |                                                  |                              |          |
|---------------------------------------|---------|-----------|--------------------------------------------------|------------------------------|----------|
| Modulation                            | RB Size | RB Offset | Mid Channel                                      | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                       |         |           | 20525<br>(836.5 MHz)<br>Conducted Power<br>[dBm] |                              |          |
| QPSK                                  | 1       | 0         | 18.62                                            | 0                            | 0        |
|                                       | 1       | 25        | 18.68                                            |                              | 0        |
|                                       | 1       | 49        | 18.70                                            |                              | 0        |
|                                       | 25      | 0         | 18.68                                            | 0-1                          | 0        |
|                                       | 25      | 12        | 18.67                                            |                              | 0        |
|                                       | 25      | 25        | 18.70                                            |                              | 0        |
|                                       | 50      | 0         | 18.67                                            |                              | 0        |
| 16QAM                                 | 1       | 0         | 18.46                                            | 0-1                          | 0        |
|                                       | 1       | 25        | 18.42                                            |                              | 0        |
|                                       | 1       | 49        | 18.66                                            |                              | 0        |
|                                       | 25      | 0         | 18.18                                            | 0-2                          | 0        |
|                                       | 25      | 12        | 18.17                                            |                              | 0        |
|                                       | 25      | 25        | 18.29                                            |                              | 0        |
|                                       | 50      | 0         | 18.21                                            |                              | 0        |
| 64QAM                                 | 1       | 0         | 18.47                                            | 0-2                          | 0        |
|                                       | 1       | 25        | 18.45                                            |                              | 0        |
|                                       | 1       | 49        | 18.70                                            |                              | 0        |
|                                       | 25      | 0         | 18.35                                            | 0-3                          | 0        |
|                                       | 25      | 12        | 18.31                                            |                              | 0        |
|                                       | 25      | 25        | 18.41                                            |                              | 0        |
|                                       | 50      | 0         | 18.35                                            |                              | 0        |

Note: LTE Band 5 (Cell) at 10 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

**Table 8-30**  
**LTE Band 5 (Cell) Reduced Conducted Powers - 5 MHz Bandwidth- Antenna WF3**

| LTE Band 5 (Cell)<br>5 MHz Bandwidth |         |           |                                               |                                               |                                               |                              |          |
|--------------------------------------|---------|-----------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|------------------------------|----------|
| Modulation                           | RB Size | RB Offset | Low Channel                                   | Mid Channel                                   | High Channel                                  | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                      |         |           | 20425<br>(826.5 MHz)<br>Conducted Power [dBm] | 20525<br>(836.5 MHz)<br>Conducted Power [dBm] | 20625<br>(846.5 MHz)<br>Conducted Power [dBm] |                              |          |
| QPSK                                 | 1       | 0         | 18.63                                         | 18.40                                         | 18.46                                         | 0                            | 0        |
|                                      | 1       | 12        | 18.50                                         | 18.35                                         | 18.47                                         |                              | 0        |
|                                      | 1       | 24        | 18.52                                         | 18.44                                         | 18.52                                         |                              | 0        |
|                                      | 12      | 0         | 18.49                                         | 18.50                                         | 18.43                                         | 0-1                          | 0        |
|                                      | 12      | 6         | 18.47                                         | 18.47                                         | 18.44                                         |                              | 0        |
|                                      | 12      | 13        | 18.44                                         | 18.52                                         | 18.47                                         |                              | 0        |
|                                      | 25      | 0         | 18.48                                         | 18.48                                         | 18.43                                         |                              | 0        |
| 16QAM                                | 1       | 0         | 18.68                                         | 18.52                                         | 18.56                                         | 0-1                          | 0        |
|                                      | 1       | 12        | 18.53                                         | 18.47                                         | 18.58                                         |                              | 0        |
|                                      | 1       | 24        | 18.59                                         | 18.67                                         | 18.56                                         |                              | 0        |
|                                      | 12      | 0         | 18.30                                         | 18.38                                         | 18.35                                         | 0-2                          | 0        |
|                                      | 12      | 6         | 18.29                                         | 18.25                                         | 18.29                                         |                              | 0        |
|                                      | 12      | 13        | 18.27                                         | 18.37                                         | 18.30                                         |                              | 0        |
|                                      | 25      | 0         | 18.33                                         | 18.27                                         | 18.29                                         |                              | 0        |
| 64QAM                                | 1       | 0         | 18.68                                         | 18.49                                         | 18.63                                         | 0-2                          | 0        |
|                                      | 1       | 12        | 18.55                                         | 18.40                                         | 18.41                                         |                              | 0        |
|                                      | 1       | 24        | 18.49                                         | 18.62                                         | 18.55                                         |                              | 0        |
|                                      | 12      | 0         | 18.40                                         | 18.22                                         | 18.25                                         | 0-3                          | 0        |
|                                      | 12      | 6         | 18.41                                         | 18.21                                         | 18.14                                         |                              | 0        |
|                                      | 12      | 13        | 18.39                                         | 18.29                                         | 18.16                                         |                              | 0        |
|                                      | 25      | 0         | 18.37                                         | 18.25                                         | 18.15                                         |                              | 0        |

|                                         |                                                                                                                  |                            |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  <b>SAR EVALUATION REPORT</b> |                            | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device | Page 43 of 120                  |

**Table 8-31**  
**LTE Band 5 (Cell) Reduced Conducted Powers - 3 MHz Bandwidth- Antenna WF3**

| LTE Band 5 (Cell)<br>3 MHz Bandwidth |         |           |                       |                      |                      |                              |          |
|--------------------------------------|---------|-----------|-----------------------|----------------------|----------------------|------------------------------|----------|
| Modulation                           | RB Size | RB Offset | Low Channel           | Mid Channel          | High Channel         | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                      |         |           | 20415<br>(825.5 MHz)  | 20525<br>(836.5 MHz) | 20635<br>(847.5 MHz) |                              |          |
|                                      |         |           | Conducted Power [dBm] |                      |                      |                              |          |
| QPSK                                 | 1       | 0         | 18.50                 | 18.44                | 18.41                | 0                            | 0        |
|                                      | 1       | 7         | 18.49                 | 18.46                | 18.50                |                              | 0        |
|                                      | 1       | 14        | 18.43                 | 18.45                | 18.43                |                              | 0        |
|                                      | 8       | 0         | 18.61                 | 18.53                | 18.45                | 0-1                          | 0        |
|                                      | 8       | 4         | 18.52                 | 18.53                | 18.52                |                              | 0        |
|                                      | 8       | 7         | 18.51                 | 18.60                | 18.50                |                              | 0        |
|                                      | 15      | 0         | 18.53                 | 18.56                | 18.54                |                              | 0        |
| 16QAM                                | 1       | 0         | 18.67                 | 18.50                | 18.47                | 0-1                          | 0        |
|                                      | 1       | 7         | 18.54                 | 18.58                | 18.41                |                              | 0        |
|                                      | 1       | 14        | 18.58                 | 18.54                | 18.38                |                              | 0        |
|                                      | 8       | 0         | 18.39                 | 18.31                | 18.25                | 0-2                          | 0        |
|                                      | 8       | 4         | 18.34                 | 18.32                | 18.40                |                              | 0        |
|                                      | 8       | 7         | 18.34                 | 18.36                | 18.27                |                              | 0        |
|                                      | 15      | 0         | 18.31                 | 18.29                | 18.27                |                              | 0        |
| 64QAM                                | 1       | 0         | 18.64                 | 18.42                | 18.38                | 0-2                          | 0        |
|                                      | 1       | 7         | 18.63                 | 18.41                | 18.44                |                              | 0        |
|                                      | 1       | 14        | 18.67                 | 18.51                | 18.43                |                              | 0        |
|                                      | 8       | 0         | 18.48                 | 18.33                | 18.21                | 0-3                          | 0        |
|                                      | 8       | 4         | 18.38                 | 18.31                | 18.26                |                              | 0        |
|                                      | 8       | 7         | 18.41                 | 18.40                | 18.31                |                              | 0        |
|                                      | 15      | 0         | 18.35                 | 18.27                | 18.24                |                              | 0        |

**Table 8-32**  
**LTE Band 5 (Cell) Reduced Conducted Powers -1.4 MHz Bandwidth- Antenna WF3**

| LTE Band 5 (Cell)<br>1.4 MHz Bandwidth |         |           |                       |                      |                      |                              |          |
|----------------------------------------|---------|-----------|-----------------------|----------------------|----------------------|------------------------------|----------|
| Modulation                             | RB Size | RB Offset | Low Channel           | Mid Channel          | High Channel         | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                        |         |           | 20407<br>(824.7 MHz)  | 20525<br>(836.5 MHz) | 20643<br>(848.3 MHz) |                              |          |
|                                        |         |           | Conducted Power [dBm] |                      |                      |                              |          |
| QPSK                                   | 1       | 0         | 18.33                 | 18.39                | 18.30                | 0                            | 0        |
|                                        | 1       | 2         | 18.31                 | 18.41                | 18.26                |                              | 0        |
|                                        | 1       | 5         | 18.33                 | 18.38                | 18.32                |                              | 0        |
|                                        | 3       | 0         | 18.38                 | 18.35                | 18.36                |                              | 0        |
|                                        | 3       | 2         | 18.37                 | 18.36                | 18.37                |                              | 0        |
|                                        | 3       | 3         | 18.36                 | 18.37                | 18.36                |                              | 0        |
|                                        | 6       | 0         | 18.34                 | 18.37                | 18.33                | 0-1                          | 0        |
| 16QAM                                  | 1       | 0         | 18.47                 | 18.37                | 18.43                | 0-1                          | 0        |
|                                        | 1       | 2         | 18.44                 | 18.36                | 18.51                |                              | 0        |
|                                        | 1       | 5         | 18.37                 | 18.38                | 18.48                |                              | 0        |
|                                        | 3       | 0         | 18.33                 | 18.29                | 18.29                |                              | 0        |
|                                        | 3       | 2         | 18.34                 | 18.31                | 18.30                |                              | 0        |
|                                        | 3       | 3         | 18.35                 | 18.30                | 18.25                |                              | 0        |
|                                        | 6       | 0         | 18.29                 | 18.26                | 18.19                | 0-2                          | 0        |
| 64QAM                                  | 1       | 0         | 18.59                 | 18.49                | 18.59                | 0-2                          | 0        |
|                                        | 1       | 2         | 18.61                 | 18.43                | 18.47                |                              | 0        |
|                                        | 1       | 5         | 18.56                 | 18.50                | 18.43                |                              | 0        |
|                                        | 3       | 0         | 18.41                 | 18.41                | 18.43                |                              | 0        |
|                                        | 3       | 2         | 18.42                 | 18.36                | 18.39                |                              | 0        |
|                                        | 3       | 3         | 18.44                 | 18.39                | 18.41                |                              | 0        |
|                                        | 6       | 0         | 18.41                 | 18.35                | 18.25                | 0-3                          | 0        |

|                                         |                                                                                     |                              |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|
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| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 44 of 120                  |

**Table 8-33**  
**LTE Band 5 (Cell) Reduced Conducted Powers - 10 MHz Bandwidth- Antenna WF5**

| LTE Band 5 (Cell)<br>10 MHz Bandwidth |         |           |                          |                              |          |
|---------------------------------------|---------|-----------|--------------------------|------------------------------|----------|
| Modulation                            | RB Size | RB Offset | Mid Channel              | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                       |         |           | 20525<br>(836.5 MHz)     |                              |          |
|                                       |         |           | Conducted Power<br>[dBm] |                              |          |
| QPSK                                  | 1       | 0         | 19.75                    | 0                            | 0        |
|                                       | 1       | 25        | 19.79                    |                              | 0        |
|                                       | 1       | 49        | 19.96                    |                              | 0        |
|                                       | 25      | 0         | 19.82                    | 0-1                          | 0        |
|                                       | 25      | 12        | 19.83                    |                              | 0        |
|                                       | 25      | 25        | 19.88                    |                              | 0        |
|                                       | 50      | 0         | 19.82                    |                              | 0        |
| 16QAM                                 | 1       | 0         | 19.78                    | 0-1                          | 0        |
|                                       | 1       | 25        | 19.85                    |                              | 0        |
|                                       | 1       | 49        | 19.98                    |                              | 0        |
|                                       | 25      | 0         | 19.55                    | 0-2                          | 0        |
|                                       | 25      | 12        | 19.53                    |                              | 0        |
|                                       | 25      | 25        | 19.66                    |                              | 0        |
|                                       | 50      | 0         | 19.55                    |                              | 0        |
| 64QAM                                 | 1       | 0         | 19.85                    | 0-2                          | 0        |
|                                       | 1       | 25        | 19.86                    |                              | 0        |
|                                       | 1       | 49        | 19.98                    |                              | 0        |
|                                       | 25      | 0         | 19.65                    | 0-3                          | 0        |
|                                       | 25      | 12        | 19.64                    |                              | 0        |
|                                       | 25      | 25        | 19.68                    |                              | 0        |
|                                       | 50      | 0         | 19.65                    |                              | 0        |

Note: LTE Band 5 (Cell) at 10 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

**Table 8-34**  
**LTE Band 5 (Cell) Reduced Conducted Powers - 5 MHz Bandwidth- Antenna WF5**

| LTE Band 5 (Cell)<br>5 MHz Bandwidth |         |           |                       |                      |                      |                              |          |
|--------------------------------------|---------|-----------|-----------------------|----------------------|----------------------|------------------------------|----------|
| Modulation                           | RB Size | RB Offset | Low Channel           | Mid Channel          | High Channel         | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                      |         |           | 20425<br>(826.5 MHz)  | 20525<br>(836.5 MHz) | 20625<br>(846.5 MHz) |                              |          |
|                                      |         |           | Conducted Power [dBm] |                      |                      |                              |          |
| QPSK                                 | 1       | 0         | 19.99                 | 19.70                | 19.79                | 0                            | 0        |
|                                      | 1       | 12        | 19.94                 | 19.64                | 19.69                |                              | 0        |
|                                      | 1       | 24        | 19.96                 | 19.74                | 19.78                |                              | 0        |
|                                      | 12      | 0         | 19.87                 | 19.76                | 19.71                | 0-1                          | 0        |
|                                      | 12      | 6         | 19.84                 | 19.73                | 19.67                |                              | 0        |
|                                      | 12      | 13        | 19.84                 | 19.81                | 19.66                |                              | 0        |
|                                      | 25      | 0         | 19.83                 | 19.73                | 19.67                |                              | 0        |
| 16QAM                                | 1       | 0         | 19.90                 | 19.69                | 19.71                | 0-1                          | 0        |
|                                      | 1       | 12        | 19.80                 | 19.66                | 19.66                |                              | 0        |
|                                      | 1       | 24        | 19.82                 | 19.74                | 19.80                |                              | 0        |
|                                      | 12      | 0         | 19.61                 | 19.44                | 19.48                | 0-2                          | 0        |
|                                      | 12      | 6         | 19.57                 | 19.46                | 19.43                |                              | 0        |
|                                      | 12      | 13        | 19.58                 | 19.52                | 19.44                |                              | 0        |
|                                      | 25      | 0         | 19.56                 | 19.45                | 19.45                |                              | 0        |
| 64QAM                                | 1       | 0         | 19.99                 | 19.91                | 19.95                | 0-2                          | 0        |
|                                      | 1       | 12        | 19.89                 | 19.81                | 19.81                |                              | 0        |
|                                      | 1       | 24        | 19.91                 | 19.90                | 19.85                |                              | 0        |
|                                      | 12      | 0         | 19.76                 | 19.65                | 19.70                | 0-3                          | 0        |
|                                      | 12      | 6         | 19.74                 | 19.64                | 19.62                |                              | 0        |
|                                      | 12      | 13        | 19.71                 | 19.71                | 19.58                |                              | 0        |
|                                      | 25      | 0         | 19.72                 | 19.63                | 19.61                |                              | 0        |

|                                         |                                                                                     |                              |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|
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**Table 8-35**  
**LTE Band 5 (Cell) Reduced Conducted Powers - 3 MHz Bandwidth- Antenna WF5**

| LTE Band 5 (Cell)<br>3 MHz Bandwidth |         |           |                       |                      |                      |                              |          |
|--------------------------------------|---------|-----------|-----------------------|----------------------|----------------------|------------------------------|----------|
| Modulation                           | RB Size | RB Offset | Low Channel           | Mid Channel          | High Channel         | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                      |         |           | 20415<br>(825.5 MHz)  | 20525<br>(836.5 MHz) | 20635<br>(847.5 MHz) |                              |          |
|                                      |         |           | Conducted Power [dBm] |                      |                      |                              |          |
| QPSK                                 | 1       | 0         | 19.64                 | 19.84                | 19.67                | 0                            | 0        |
|                                      | 1       | 7         | 19.53                 | 19.83                | 19.71                |                              | 0        |
|                                      | 1       | 14        | 19.50                 | 19.97                | 19.71                |                              | 0        |
|                                      | 8       | 0         | 19.57                 | 19.88                | 19.68                | 0-1                          | 0        |
|                                      | 8       | 4         | 19.55                 | 19.84                | 19.66                |                              | 0        |
|                                      | 8       | 7         | 19.56                 | 19.92                | 19.67                |                              | 0        |
|                                      | 15      | 0         | 19.60                 | 19.84                | 19.69                |                              | 0        |
| 16QAM                                | 1       | 0         | 19.80                 | 19.72                | 19.58                | 0-1                          | 0        |
|                                      | 1       | 7         | 19.84                 | 19.70                | 19.61                |                              | 0        |
|                                      | 1       | 14        | 19.79                 | 19.73                | 19.64                |                              | 0        |
|                                      | 8       | 0         | 19.59                 | 19.48                | 19.42                | 0-2                          | 0        |
|                                      | 8       | 4         | 19.56                 | 19.46                | 19.40                |                              | 0        |
|                                      | 8       | 7         | 19.57                 | 19.53                | 19.41                |                              | 0        |
|                                      | 15      | 0         | 19.52                 | 19.43                | 19.37                |                              | 0        |
| 64QAM                                | 1       | 0         | 19.94                 | 19.82                | 19.80                | 0-2                          | 0        |
|                                      | 1       | 7         | 19.96                 | 19.89                | 19.85                |                              | 0        |
|                                      | 1       | 14        | 19.88                 | 19.87                | 19.83                |                              | 0        |
|                                      | 8       | 0         | 19.80                 | 19.61                | 19.63                | 0-3                          | 0        |
|                                      | 8       | 4         | 19.77                 | 19.67                | 19.60                |                              | 0        |
|                                      | 8       | 7         | 19.75                 | 19.74                | 19.63                |                              | 0        |
|                                      | 15      | 0         | 19.74                 | 19.64                | 19.60                |                              | 0        |

**Table 8-36**  
**LTE Band 5 (Cell) Reduced Conducted Powers -1.4 MHz Bandwidth- Antenna WF5**

| LTE Band 5 (Cell)<br>1.4 MHz Bandwidth |         |           |                       |                      |                      |                              |          |
|----------------------------------------|---------|-----------|-----------------------|----------------------|----------------------|------------------------------|----------|
| Modulation                             | RB Size | RB Offset | Low Channel           | Mid Channel          | High Channel         | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                        |         |           | 20407<br>(824.7 MHz)  | 20525<br>(836.5 MHz) | 20643<br>(848.3 MHz) |                              |          |
|                                        |         |           | Conducted Power [dBm] |                      |                      |                              |          |
| QPSK                                   | 1       | 0         | 19.92                 | 19.60                | 19.75                | 0                            | 0        |
|                                        | 1       | 2         | 19.92                 | 19.56                | 19.72                |                              | 0        |
|                                        | 1       | 5         | 19.93                 | 19.60                | 19.80                |                              | 0        |
|                                        | 3       | 0         | 19.80                 | 19.48                | 19.65                |                              | 0        |
|                                        | 3       | 2         | 19.82                 | 19.45                | 19.66                |                              | 0        |
|                                        | 3       | 3         | 19.80                 | 19.44                | 19.71                |                              | 0        |
|                                        | 6       | 0         | 19.73                 | 19.41                | 19.64                | 0-1                          | 0        |
| 16QAM                                  | 1       | 0         | 19.83                 | 19.79                | 19.79                | 0-1                          | 0        |
|                                        | 1       | 2         | 19.86                 | 19.70                | 19.76                |                              | 0        |
|                                        | 1       | 5         | 19.89                 | 19.75                | 19.84                |                              | 0        |
|                                        | 3       | 0         | 19.80                 | 19.63                | 19.50                |                              | 0        |
|                                        | 3       | 2         | 19.80                 | 19.62                | 19.59                |                              | 0        |
|                                        | 3       | 3         | 19.75                 | 19.60                | 19.63                |                              | 0        |
|                                        | 6       | 0         | 19.73                 | 19.58                | 19.50                | 0-2                          | 0        |
| 64QAM                                  | 1       | 0         | 20.00                 | 19.89                | 19.88                | 0-2                          | 0        |
|                                        | 1       | 2         | 19.97                 | 19.89                | 19.82                |                              | 0        |
|                                        | 1       | 5         | 19.95                 | 19.90                | 19.91                |                              | 0        |
|                                        | 3       | 0         | 19.87                 | 19.77                | 19.69                |                              | 0        |
|                                        | 3       | 2         | 19.87                 | 19.74                | 19.71                |                              | 0        |
|                                        | 3       | 3         | 19.86                 | 19.72                | 19.74                |                              | 0        |
|                                        | 6       | 0         | 19.78                 | 19.68                | 19.64                | 0-3                          | 0        |

|                                         |                                                                                     |                              |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 46 of 120                  |

### 8.3.6 LTE Band 26 (Cell)

**Table 8-37**  
**LTE Band 26 (Cell) Reduced Conducted Powers - 10 MHz Bandwidth- Antenna WF3**

| LTE Band 26 (Cell)<br>10 MHz Bandwidth |         |           |                       |                      |                      |                              |          |
|----------------------------------------|---------|-----------|-----------------------|----------------------|----------------------|------------------------------|----------|
| Modulation                             | RB Size | RB Offset | Low Channel           | Mid Channel          | High Channel         | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                        |         |           | 26740<br>(819.0 MHz)  | 26865<br>(831.5 MHz) | 26990<br>(844.0 MHz) |                              |          |
|                                        |         |           | Conducted Power [dBm] |                      |                      |                              |          |
| QPSK                                   | 1       | 0         | 18.63                 | 18.38                | 18.45                | 0                            | 0        |
|                                        | 1       | 25        | 18.29                 | 18.22                | 18.36                |                              | 0        |
|                                        | 1       | 49        | 18.45                 | 18.32                | 18.22                |                              | 0        |
|                                        | 25      | 0         | 18.31                 | 18.34                | 18.51                | 0-1                          | 0        |
|                                        | 25      | 12        | 18.30                 | 18.27                | 18.28                |                              | 0        |
|                                        | 25      | 25        | 18.40                 | 18.22                | 18.29                |                              | 0        |
| 16QAM                                  | 50      | 0         | 18.37                 | 18.25                | 18.39                | 0-1                          | 0        |
|                                        | 1       | 0         | 18.62                 | 18.40                | 18.66                |                              | 0        |
|                                        | 1       | 25        | 18.45                 | 18.27                | 18.49                |                              | 0        |
|                                        | 1       | 49        | 18.55                 | 18.35                | 18.43                | 0-2                          | 0        |
|                                        | 25      | 0         | 18.19                 | 18.25                | 18.37                |                              | 0        |
|                                        | 25      | 12        | 18.21                 | 18.24                | 18.32                |                              | 0        |
| 64QAM                                  | 25      | 25        | 18.33                 | 18.15                | 18.21                | 0-2                          | 0        |
|                                        | 50      | 0         | 18.32                 | 18.21                | 18.34                |                              | 0        |
|                                        | 1       | 0         | 18.50                 | 18.25                | 18.40                |                              | 0-2      |
|                                        | 1       | 25        | 18.44                 | 18.23                | 18.38                | 0                            |          |
|                                        | 1       | 49        | 18.48                 | 18.26                | 18.33                | 0-3                          |          |
|                                        | 25      | 0         | 18.14                 | 18.12                | 18.25                |                              | 0        |
| 25                                     | 12      | 18.05     | 18.07                 | 18.24                | 0                    |                              |          |
| 64QAM                                  | 25      | 25        | 18.16                 | 18.06                | 18.12                | 0-3                          | 0        |
|                                        | 50      | 0         | 18.15                 | 18.05                | 18.15                |                              | 0        |

**Table 8-38**  
**LTE Band 26 (Cell) Reduced Conducted Powers - 5 MHz Bandwidth- Antenna WF3**

| LTE Band 26 (Cell)<br>5 MHz Bandwidth |         |           |                       |                      |                      |                              |          |
|---------------------------------------|---------|-----------|-----------------------|----------------------|----------------------|------------------------------|----------|
| Modulation                            | RB Size | RB Offset | Low Channel           | Mid Channel          | High Channel         | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                       |         |           | 26715<br>(816.5 MHz)  | 26865<br>(831.5 MHz) | 27015<br>(846.5 MHz) |                              |          |
|                                       |         |           | Conducted Power [dBm] |                      |                      |                              |          |
| QPSK                                  | 1       | 0         | 18.68                 | 18.40                | 18.50                | 0                            | 0        |
|                                       | 1       | 12        | 18.43                 | 18.34                | 18.38                |                              | 0        |
|                                       | 1       | 24        | 18.46                 | 18.32                | 18.56                |                              | 0        |
|                                       | 12      | 0         | 18.48                 | 18.31                | 18.54                | 0-1                          | 0        |
|                                       | 12      | 6         | 18.37                 | 18.30                | 18.48                |                              | 0        |
|                                       | 12      | 13        | 18.39                 | 18.28                | 18.47                |                              | 0        |
| 16QAM                                 | 25      | 0         | 18.37                 | 18.29                | 18.49                | 0-1                          | 0        |
|                                       | 1       | 0         | 18.65                 | 18.40                | 18.52                |                              | 0        |
|                                       | 1       | 12        | 18.42                 | 18.35                | 18.37                |                              | 0        |
|                                       | 1       | 24        | 18.35                 | 18.32                | 18.53                | 0-2                          | 0        |
|                                       | 12      | 0         | 18.26                 | 18.15                | 18.25                |                              | 0        |
|                                       | 12      | 6         | 18.10                 | 18.10                | 18.18                |                              | 0        |
| 64QAM                                 | 12      | 13        | 18.12                 | 18.08                | 18.21                | 0-2                          | 0        |
|                                       | 25      | 0         | 18.10                 | 18.07                | 18.18                |                              | 0        |
|                                       | 1       | 0         | 18.44                 | 18.31                | 18.54                |                              | 0-2      |
|                                       | 1       | 12        | 18.29                 | 18.32                | 18.44                | 0                            |          |
|                                       | 1       | 24        | 18.23                 | 18.33                | 18.46                | 0                            |          |
|                                       | 12      | 0         | 18.21                 | 18.15                | 18.18                | 0-3                          | 0        |
| 12                                    | 6       | 18.10     | 18.10                 | 18.12                | 0                    |                              |          |
| 12                                    | 13      | 18.08     | 18.10                 | 18.13                | 0                    |                              |          |
| 25                                    | 0       | 18.10     | 18.09                 | 18.14                | 0                    |                              |          |

|                                         |                                                                                                                  |                            |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  <b>SAR EVALUATION REPORT</b> |                            | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device | Page 47 of 120                  |

**Table 8-39**  
**LTE Band 26 (Cell) Reduced Conducted Powers - 3 MHz Bandwidth- Antenna WF3**

| LTE Band 26 (Cell)<br>3 MHz Bandwidth |         |           |                       |                      |                      |                              |          |
|---------------------------------------|---------|-----------|-----------------------|----------------------|----------------------|------------------------------|----------|
| Modulation                            | RB Size | RB Offset | Low Channel           | Mid Channel          | High Channel         | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                       |         |           | 26705<br>(815.5 MHz)  | 26865<br>(831.5 MHz) | 27025<br>(847.5 MHz) |                              |          |
|                                       |         |           | Conducted Power [dBm] |                      |                      |                              |          |
| QPSK                                  | 1       | 0         | 18.70                 | 18.57                | 18.47                | 0                            | 0        |
|                                       | 1       | 7         | 18.61                 | 18.59                | 18.55                |                              | 0        |
|                                       | 1       | 14        | 18.46                 | 18.52                | 18.56                |                              | 0        |
|                                       | 8       | 0         | 18.66                 | 18.63                | 18.51                | 0-1                          | 0        |
|                                       | 8       | 4         | 18.63                 | 18.60                | 18.54                |                              | 0        |
|                                       | 8       | 7         | 18.61                 | 18.60                | 18.56                |                              | 0        |
|                                       | 15      | 0         | 18.70                 | 18.62                | 18.55                |                              | 0        |
| 16QAM                                 | 1       | 0         | 18.70                 | 18.46                | 18.40                | 0-1                          | 0        |
|                                       | 1       | 7         | 18.63                 | 18.52                | 18.51                |                              | 0        |
|                                       | 1       | 14        | 18.51                 | 18.45                | 18.58                |                              | 0        |
|                                       | 8       | 0         | 18.45                 | 18.33                | 18.24                | 0-2                          | 0        |
|                                       | 8       | 4         | 18.34                 | 18.30                | 18.25                |                              | 0        |
|                                       | 8       | 7         | 18.30                 | 18.25                | 18.26                |                              | 0        |
|                                       | 15      | 0         | 18.33                 | 18.24                | 18.20                |                              | 0        |
| 64QAM                                 | 1       | 0         | 18.61                 | 18.42                | 18.36                | 0-2                          | 0        |
|                                       | 1       | 7         | 18.52                 | 18.45                | 18.31                |                              | 0        |
|                                       | 1       | 14        | 18.54                 | 18.46                | 18.38                |                              | 0        |
|                                       | 8       | 0         | 18.44                 | 18.36                | 18.21                | 0-3                          | 0        |
|                                       | 8       | 4         | 18.31                 | 18.31                | 18.22                |                              | 0        |
|                                       | 8       | 7         | 18.29                 | 18.27                | 18.29                |                              | 0        |
|                                       | 15      | 0         | 18.29                 | 18.22                | 18.25                |                              | 0        |

**Table 8-40**  
**LTE Band 26 (Cell) Reduced Conducted Powers -1.4 MHz Bandwidth- Antenna WF3**

| LTE Band 26 (Cell)<br>1.4 MHz Bandwidth |         |           |                       |                      |                      |                              |          |
|-----------------------------------------|---------|-----------|-----------------------|----------------------|----------------------|------------------------------|----------|
| Modulation                              | RB Size | RB Offset | Low Channel           | Mid Channel          | High Channel         | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                         |         |           | 26697<br>(814.7 MHz)  | 26865<br>(831.5 MHz) | 27033<br>(848.3 MHz) |                              |          |
|                                         |         |           | Conducted Power [dBm] |                      |                      |                              |          |
| QPSK                                    | 1       | 0         | 18.70                 | 18.35                | 18.45                | 0                            | 0        |
|                                         | 1       | 2         | 18.66                 | 18.34                | 18.40                |                              | 0        |
|                                         | 1       | 5         | 18.61                 | 18.33                | 18.47                |                              | 0        |
|                                         | 3       | 0         | 18.68                 | 18.35                | 18.34                |                              | 0        |
|                                         | 3       | 2         | 18.60                 | 18.32                | 18.33                |                              | 0        |
|                                         | 3       | 3         | 18.61                 | 18.32                | 18.32                |                              | 0        |
|                                         | 6       | 0         | 18.59                 | 18.34                | 18.32                | 0-1                          | 0        |
| 16QAM                                   | 1       | 0         | 18.66                 | 18.47                | 18.48                | 0-1                          | 0        |
|                                         | 1       | 2         | 18.65                 | 18.42                | 18.43                |                              | 0        |
|                                         | 1       | 5         | 18.62                 | 18.39                | 18.51                |                              | 0        |
|                                         | 3       | 0         | 18.46                 | 18.26                | 18.27                |                              | 0        |
|                                         | 3       | 2         | 18.40                 | 18.22                | 18.19                |                              | 0        |
|                                         | 3       | 3         | 18.41                 | 18.24                | 18.22                |                              | 0        |
|                                         | 6       | 0         | 18.36                 | 18.17                | 18.23                | 0-2                          | 0        |
| 64QAM                                   | 1       | 0         | 18.59                 | 18.47                | 18.49                | 0-2                          | 0        |
|                                         | 1       | 2         | 18.62                 | 18.42                | 18.44                |                              | 0        |
|                                         | 1       | 5         | 18.63                 | 18.46                | 18.51                |                              | 0        |
|                                         | 3       | 0         | 18.61                 | 18.22                | 18.29                |                              | 0        |
|                                         | 3       | 2         | 18.59                 | 18.23                | 18.26                |                              | 0        |
|                                         | 3       | 3         | 18.55                 | 18.21                | 18.27                |                              | 0        |
|                                         | 6       | 0         | 18.40                 | 18.20                | 18.20                | 0-3                          | 0        |

|                                         |                                                                                     |                              |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 48 of 120                  |

**Table 8-41**  
**LTE Band 26 (Cell) Reduced Conducted Powers - 10 MHz Bandwidth – Antenna WF5**

| LTE Band 26 (Cell)<br>10 MHz Bandwidth |         |           |                       |                      |                      |                              |          |
|----------------------------------------|---------|-----------|-----------------------|----------------------|----------------------|------------------------------|----------|
| Modulation                             | RB Size | RB Offset | Low Channel           | Mid Channel          | High Channel         | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                        |         |           | 26740<br>(819.0 MHz)  | 26865<br>(831.5 MHz) | 26990<br>(844.0 MHz) |                              |          |
|                                        |         |           | Conducted Power [dBm] |                      |                      |                              |          |
| QPSK                                   | 1       | 0         | 19.97                 | 19.97                | 19.91                | 0                            | 0        |
|                                        | 1       | 25        | 19.77                 | 19.73                | 19.92                |                              | 0        |
|                                        | 1       | 49        | 19.99                 | 19.82                | 19.83                |                              | 0        |
|                                        | 25      | 0         | 19.71                 | 19.81                | 19.97                | 0-1                          | 0        |
|                                        | 25      | 12        | 19.73                 | 19.73                | 19.90                |                              | 0        |
|                                        | 25      | 25        | 19.90                 | 19.69                | 19.83                |                              | 0        |
|                                        | 50      | 0         | 19.81                 | 19.74                | 19.89                |                              | 0        |
| 16QAM                                  | 1       | 0         | 19.95                 | 19.82                | 19.92                | 0-1                          | 0        |
|                                        | 1       | 25        | 19.74                 | 19.67                | 19.88                |                              | 0        |
|                                        | 1       | 49        | 19.99                 | 19.69                | 19.82                |                              | 0        |
|                                        | 25      | 0         | 19.51                 | 19.58                | 19.74                | 0-2                          | 0        |
|                                        | 25      | 12        | 19.45                 | 19.46                | 19.66                |                              | 0        |
|                                        | 25      | 25        | 19.64                 | 19.44                | 19.58                |                              | 0        |
|                                        | 50      | 0         | 19.56                 | 19.47                | 19.65                |                              | 0        |
| 64QAM                                  | 1       | 0         | 19.84                 | 19.70                | 19.82                | 0-2                          | 0        |
|                                        | 1       | 25        | 19.70                 | 19.50                | 19.85                |                              | 0        |
|                                        | 1       | 49        | 19.81                 | 19.54                | 19.87                |                              | 0        |
|                                        | 25      | 0         | 19.36                 | 19.41                | 19.71                | 0-3                          | 0        |
|                                        | 25      | 12        | 19.36                 | 19.24                | 19.62                |                              | 0        |
|                                        | 25      | 25        | 19.49                 | 19.33                | 19.55                |                              | 0        |
|                                        | 50      | 0         | 19.48                 | 19.38                | 19.65                |                              | 0        |

**Table 8-42**  
**LTE Band 26 (Cell) Reduced Conducted Powers - 5 MHz Bandwidth– Antenna WF5**

| LTE Band 26 (Cell)<br>5 MHz Bandwidth |         |           |                       |                      |                      |                              |          |
|---------------------------------------|---------|-----------|-----------------------|----------------------|----------------------|------------------------------|----------|
| Modulation                            | RB Size | RB Offset | Low Channel           | Mid Channel          | High Channel         | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                       |         |           | 26715<br>(816.5 MHz)  | 26865<br>(831.5 MHz) | 27015<br>(846.5 MHz) |                              |          |
|                                       |         |           | Conducted Power [dBm] |                      |                      |                              |          |
| QPSK                                  | 1       | 0         | 20.00                 | 19.92                | 20.00                | 0                            | 0        |
|                                       | 1       | 12        | 19.99                 | 19.79                | 19.99                |                              | 0        |
|                                       | 1       | 24        | 20.00                 | 19.76                | 19.97                |                              | 0        |
|                                       | 12      | 0         | 19.98                 | 19.88                | 20.00                | 0-1                          | 0        |
|                                       | 12      | 6         | 19.97                 | 19.79                | 19.96                |                              | 0        |
|                                       | 12      | 13        | 19.92                 | 19.77                | 19.91                |                              | 0        |
|                                       | 25      | 0         | 19.97                 | 19.80                | 19.97                |                              | 0        |
| 16QAM                                 | 1       | 0         | 19.99                 | 20.00                | 19.99                | 0-1                          | 0        |
|                                       | 1       | 12        | 19.84                 | 19.86                | 19.97                |                              | 0        |
|                                       | 1       | 24        | 19.86                 | 19.85                | 20.00                |                              | 0        |
|                                       | 12      | 0         | 19.71                 | 19.73                | 19.79                | 0-2                          | 0        |
|                                       | 12      | 6         | 19.52                 | 19.63                | 19.73                |                              | 0        |
|                                       | 12      | 13        | 19.54                 | 19.60                | 19.68                |                              | 0        |
|                                       | 25      | 0         | 19.50                 | 19.60                | 19.72                |                              | 0        |
| 64QAM                                 | 1       | 0         | 19.80                 | 19.73                | 19.90                | 0-2                          | 0        |
|                                       | 1       | 12        | 19.55                 | 19.60                | 19.76                |                              | 0        |
|                                       | 1       | 24        | 19.58                 | 19.52                | 19.90                |                              | 0        |
|                                       | 12      | 0         | 19.48                 | 19.48                | 19.64                | 0-3                          | 0        |
|                                       | 12      | 6         | 19.30                 | 19.40                | 19.56                |                              | 0        |
|                                       | 12      | 13        | 19.35                 | 19.37                | 19.59                |                              | 0        |
|                                       | 25      | 0         | 19.31                 | 19.38                | 19.55                |                              | 0        |

|                                         |                                                                                     |                              |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 49 of 120                  |

**Table 8-43**  
**LTE Band 26 (Cell) Reduced Conducted Powers - 3 MHz Bandwidth– Antenna WF5**

| LTE Band 26 (Cell)<br>3 MHz Bandwidth |         |           |                       |                      |                      |                              |          |
|---------------------------------------|---------|-----------|-----------------------|----------------------|----------------------|------------------------------|----------|
| Modulation                            | RB Size | RB Offset | Low Channel           | Mid Channel          | High Channel         | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                       |         |           | 26705<br>(815.5 MHz)  | 26865<br>(831.5 MHz) | 27025<br>(847.5 MHz) |                              |          |
|                                       |         |           | Conducted Power [dBm] |                      |                      |                              |          |
| QPSK                                  | 1       | 0         | 20.00                 | 19.87                | 19.99                | 0                            | 0        |
|                                       | 1       | 7         | 19.89                 | 19.84                | 19.96                |                              | 0        |
|                                       | 1       | 14        | 19.77                 | 19.76                | 20.00                |                              | 0        |
|                                       | 8       | 0         | 20.00                 | 19.90                | 19.98                | 0-1                          | 0        |
|                                       | 8       | 4         | 19.84                 | 19.82                | 19.94                |                              | 0        |
|                                       | 8       | 7         | 19.79                 | 19.83                | 20.00                |                              | 0        |
|                                       | 15      | 0         | 19.84                 | 19.82                | 19.93                |                              | 0        |
| 16QAM                                 | 1       | 0         | 20.00                 | 19.94                | 20.00                | 0-1                          | 0        |
|                                       | 1       | 7         | 19.93                 | 19.87                | 19.99                |                              | 0        |
|                                       | 1       | 14        | 19.80                 | 19.75                | 20.00                |                              | 0        |
|                                       | 8       | 0         | 19.79                 | 19.70                | 19.77                | 0-2                          | 0        |
|                                       | 8       | 4         | 19.65                 | 19.63                | 19.72                |                              | 0        |
|                                       | 8       | 7         | 19.55                 | 19.65                | 19.80                |                              | 0        |
|                                       | 15      | 0         | 19.59                 | 19.60                | 19.69                |                              | 0        |
| 64QAM                                 | 1       | 0         | 19.90                 | 19.77                | 19.83                | 0-2                          | 0        |
|                                       | 1       | 7         | 19.80                 | 19.70                | 19.88                |                              | 0        |
|                                       | 1       | 14        | 19.58                 | 19.57                | 19.88                |                              | 0        |
|                                       | 8       | 0         | 19.67                 | 19.58                | 19.65                | 0-3                          | 0        |
|                                       | 8       | 4         | 19.52                 | 19.49                | 19.59                |                              | 0        |
|                                       | 8       | 7         | 19.47                 | 19.50                | 19.64                |                              | 0        |
|                                       | 15      | 0         | 19.49                 | 19.47                | 19.58                |                              | 0        |

**Table 8-44**  
**LTE Band 26 (Cell) Reduced Conducted Powers -1.4 MHz Bandwidth– Antenna WF5**

| LTE Band 26 (Cell)<br>1.4 MHz Bandwidth |         |           |                       |                      |                      |                              |          |
|-----------------------------------------|---------|-----------|-----------------------|----------------------|----------------------|------------------------------|----------|
| Modulation                              | RB Size | RB Offset | Low Channel           | Mid Channel          | High Channel         | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                         |         |           | 26697<br>(814.7 MHz)  | 26865<br>(831.5 MHz) | 27033<br>(848.3 MHz) |                              |          |
|                                         |         |           | Conducted Power [dBm] |                      |                      |                              |          |
| QPSK                                    | 1       | 0         | 20.00                 | 19.90                | 19.92                | 0                            | 0        |
|                                         | 1       | 2         | 19.93                 | 19.88                | 19.99                |                              | 0        |
|                                         | 1       | 5         | 19.91                 | 19.88                | 19.90                |                              | 0        |
|                                         | 3       | 0         | 19.95                 | 19.90                | 19.95                |                              | 0        |
|                                         | 3       | 2         | 19.97                 | 19.89                | 19.94                |                              | 0        |
|                                         | 3       | 3         | 20.00                 | 19.88                | 19.98                |                              | 0        |
|                                         | 6       | 0         | 19.92                 | 19.88                | 19.99                | 0-1                          | 0        |
| 16QAM                                   | 1       | 0         | 19.90                 | 19.87                | 19.97                | 0-1                          | 0        |
|                                         | 1       | 2         | 19.80                 | 19.91                | 19.92                |                              | 0        |
|                                         | 1       | 5         | 19.81                 | 19.94                | 20.00                |                              | 0        |
|                                         | 3       | 0         | 19.59                 | 19.74                | 19.87                |                              | 0        |
|                                         | 3       | 2         | 19.61                 | 19.71                | 19.90                |                              | 0        |
|                                         | 3       | 3         | 19.57                 | 19.75                | 19.85                |                              | 0        |
|                                         | 6       | 0         | 19.56                 | 19.26                | 19.82                | 0-2                          | 0        |
| 64QAM                                   | 1       | 0         | 20.00                 | 19.69                | 19.90                | 0-2                          | 0        |
|                                         | 1       | 2         | 19.89                 | 19.70                | 19.87                |                              | 0        |
|                                         | 1       | 5         | 19.82                 | 19.65                | 19.92                |                              | 0        |
|                                         | 3       | 0         | 19.78                 | 19.55                | 19.74                |                              | 0        |
|                                         | 3       | 2         | 19.76                 | 19.57                | 19.72                |                              | 0        |
|                                         | 3       | 3         | 19.73                 | 19.58                | 19.75                |                              | 0        |
|                                         | 6       | 0         | 19.65                 | 19.49                | 19.68                | 0-3                          | 0        |

|                                         |                                                                                     |                              |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 50 of 120                  |

### 8.3.7 LTE Band 66 (AWS)

**Table 8-45**  
**LTE Band 66 (AWS) Reduced Conducted Powers - 20 MHz Bandwidth- Antenna WF3**

| LTE Band 66 (AWS)<br>20 MHz Bandwidth |         |           |                        |                        |                        |                              |          |
|---------------------------------------|---------|-----------|------------------------|------------------------|------------------------|------------------------------|----------|
| Modulation                            | RB Size | RB Offset | Low Channel            | Mid Channel            | High Channel           | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                       |         |           | 132072<br>(1720.0 MHz) | 132322<br>(1745.0 MHz) | 132572<br>(1770.0 MHz) |                              |          |
|                                       |         |           | Conducted Power [dBm]  |                        |                        |                              |          |
| QPSK                                  | 1       | 0         | 13.90                  | 13.95                  | 13.79                  | 0                            | 0        |
|                                       | 1       | 50        | 13.77                  | 13.87                  | 13.74                  |                              | 0        |
|                                       | 1       | 99        | 13.89                  | 13.88                  | 13.96                  |                              | 0        |
|                                       | 50      | 0         | 13.88                  | 13.94                  | 13.86                  | 0-1                          | 0        |
|                                       | 50      | 25        | 13.82                  | 13.82                  | 13.78                  |                              | 0        |
|                                       | 50      | 50        | 13.86                  | 13.81                  | 13.79                  |                              | 0        |
|                                       | 100     | 0         | 13.86                  | 13.93                  | 13.82                  |                              | 0        |
| 16QAM                                 | 1       | 0         | 13.99                  | 13.98                  | 13.82                  | 0-1                          | 0        |
|                                       | 1       | 50        | 13.90                  | 13.91                  | 13.73                  |                              | 0        |
|                                       | 1       | 99        | 14.00                  | 13.82                  | 13.97                  |                              | 0        |
|                                       | 50      | 0         | 13.67                  | 13.69                  | 13.58                  | 0-2                          | 0        |
|                                       | 50      | 25        | 13.62                  | 13.64                  | 13.52                  |                              | 0        |
|                                       | 50      | 50        | 13.72                  | 13.55                  | 13.53                  |                              | 0        |
|                                       | 100     | 0         | 13.71                  | 13.67                  | 13.59                  |                              | 0        |
| 64QAM                                 | 1       | 0         | 13.93                  | 13.65                  | 13.66                  | 0-2                          | 0        |
|                                       | 1       | 50        | 13.85                  | 13.60                  | 13.59                  |                              | 0        |
|                                       | 1       | 99        | 13.93                  | 13.63                  | 13.79                  |                              | 0        |
|                                       | 50      | 0         | 13.70                  | 13.50                  | 13.53                  | 0-3                          | 0        |
|                                       | 50      | 25        | 13.50                  | 13.49                  | 13.43                  |                              | 0        |
|                                       | 50      | 50        | 13.60                  | 13.46                  | 13.40                  |                              | 0        |
|                                       | 100     | 0         | 13.58                  | 13.51                  | 13.47                  |                              | 0        |

**Table 8-46**  
**LTE Band 66 (AWS) Reduced Conducted Powers - 15 MHz Bandwidth- Antenna WF3**

| LTE Band 66 (AWS)<br>15 MHz Bandwidth |         |           |                        |                        |                        |                              |          |
|---------------------------------------|---------|-----------|------------------------|------------------------|------------------------|------------------------------|----------|
| Modulation                            | RB Size | RB Offset | Low Channel            | Mid Channel            | High Channel           | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                       |         |           | 132047<br>(1717.5 MHz) | 132322<br>(1745.0 MHz) | 132597<br>(1772.5 MHz) |                              |          |
|                                       |         |           | Conducted Power [dBm]  |                        |                        |                              |          |
| QPSK                                  | 1       | 0         | 13.92                  | 13.97                  | 13.95                  | 0                            | 0        |
|                                       | 1       | 36        | 13.90                  | 13.93                  | 13.84                  |                              | 0        |
|                                       | 1       | 74        | 13.87                  | 13.89                  | 13.90                  |                              | 0        |
|                                       | 36      | 0         | 13.86                  | 13.93                  | 13.92                  | 0-1                          | 0        |
|                                       | 36      | 18        | 13.74                  | 13.88                  | 13.82                  |                              | 0        |
|                                       | 36      | 37        | 13.71                  | 13.85                  | 13.84                  |                              | 0        |
|                                       | 75      | 0         | 13.87                  | 13.91                  | 13.93                  |                              | 0        |
| 16QAM                                 | 1       | 0         | 13.86                  | 13.95                  | 13.97                  | 0-1                          | 0        |
|                                       | 1       | 36        | 13.75                  | 13.84                  | 13.86                  |                              | 0        |
|                                       | 1       | 74        | 13.94                  | 13.87                  | 13.97                  |                              | 0        |
|                                       | 36      | 0         | 13.47                  | 13.61                  | 13.54                  | 0-2                          | 0        |
|                                       | 36      | 18        | 13.44                  | 13.58                  | 13.54                  |                              | 0        |
|                                       | 36      | 37        | 13.40                  | 13.50                  | 13.55                  |                              | 0        |
|                                       | 75      | 0         | 13.47                  | 13.55                  | 13.58                  |                              | 0        |
| 64QAM                                 | 1       | 0         | 13.82                  | 13.93                  | 13.98                  | 0-2                          | 0        |
|                                       | 1       | 36        | 13.79                  | 13.94                  | 13.87                  |                              | 0        |
|                                       | 1       | 74        | 13.96                  | 13.90                  | 13.93                  |                              | 0        |
|                                       | 36      | 0         | 13.65                  | 13.78                  | 13.72                  | 0-3                          | 0        |
|                                       | 36      | 18        | 13.65                  | 13.78                  | 13.73                  |                              | 0        |
|                                       | 36      | 37        | 13.61                  | 13.72                  | 13.75                  |                              | 0        |
|                                       | 75      | 0         | 13.62                  | 13.77                  | 13.69                  |                              | 0        |

|                                         |                                                                                                                  |                            |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  <b>SAR EVALUATION REPORT</b> |                            | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device | Page 51 of 120                  |

Table 8-47

## LTE Band 66 (AWS) Reduced Conducted Powers - 10 MHz Bandwidth- Antenna WF3

| LTE Band 66 (AWS)<br>10 MHz Bandwidth |         |           |                        |                        |                        |                              |          |
|---------------------------------------|---------|-----------|------------------------|------------------------|------------------------|------------------------------|----------|
| Modulation                            | RB Size | RB Offset | Low Channel            | Mid Channel            | High Channel           | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                       |         |           | 132022<br>(1715.0 MHz) | 132322<br>(1745.0 MHz) | 132622<br>(1775.0 MHz) |                              |          |
|                                       |         |           | Conducted Power [dBm]  |                        |                        |                              |          |
| QPSK                                  | 1       | 0         | 13.91                  | 13.97                  | 13.93                  | 0                            | 0        |
|                                       | 1       | 25        | 13.84                  | 13.94                  | 13.91                  |                              | 0        |
|                                       | 1       | 49        | 13.80                  | 13.87                  | 13.96                  |                              | 0        |
|                                       | 25      | 0         | 13.82                  | 13.80                  | 13.82                  | 0-1                          | 0        |
|                                       | 25      | 12        | 13.79                  | 13.84                  | 13.80                  |                              | 0        |
|                                       | 25      | 25        | 13.77                  | 13.81                  | 13.80                  |                              | 0        |
| 50                                    | 0       | 13.84     | 13.86                  | 13.85                  | 0                      |                              |          |
| 16QAM                                 | 1       | 0         | 13.92                  | 13.96                  | 13.92                  | 0-1                          | 0        |
|                                       | 1       | 25        | 13.90                  | 13.96                  | 13.99                  |                              | 0        |
|                                       | 1       | 49        | 13.87                  | 13.93                  | 13.99                  |                              | 0        |
|                                       | 25      | 0         | 13.52                  | 13.58                  | 13.59                  | 0-2                          | 0        |
|                                       | 25      | 12        | 13.56                  | 13.62                  | 13.57                  |                              | 0        |
|                                       | 25      | 25        | 13.53                  | 13.63                  | 13.58                  |                              | 0        |
| 50                                    | 0       | 13.52     | 13.57                  | 13.60                  | 0                      |                              |          |
| 64QAM                                 | 1       | 0         | 13.96                  | 13.99                  | 13.97                  | 0-2                          | 0        |
|                                       | 1       | 25        | 13.96                  | 13.99                  | 13.95                  |                              | 0        |
|                                       | 1       | 49        | 13.94                  | 13.95                  | 13.96                  |                              | 0        |
|                                       | 25      | 0         | 13.74                  | 13.84                  | 13.81                  | 0-3                          | 0        |
|                                       | 25      | 12        | 13.74                  | 13.84                  | 13.76                  |                              | 0        |
|                                       | 25      | 25        | 13.68                  | 13.86                  | 13.81                  |                              | 0        |
|                                       | 50      | 0         | 13.75                  | 13.81                  | 13.86                  |                              | 0        |

Table 8-48

## LTE Band 66 (AWS) Reduced Conducted Powers - 5 MHz Bandwidth- Antenna WF3

| LTE Band 66 (AWS)<br>5 MHz Bandwidth |         |           |                        |                        |                        |                              |          |
|--------------------------------------|---------|-----------|------------------------|------------------------|------------------------|------------------------------|----------|
| Modulation                           | RB Size | RB Offset | Low Channel            | Mid Channel            | High Channel           | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                      |         |           | 131997<br>(1712.5 MHz) | 132322<br>(1745.0 MHz) | 132647<br>(1777.5 MHz) |                              |          |
|                                      |         |           | Conducted Power [dBm]  |                        |                        |                              |          |
| QPSK                                 | 1       | 0         | 13.98                  | 13.95                  | 13.95                  | 0                            | 0        |
|                                      | 1       | 12        | 13.92                  | 13.91                  | 13.90                  |                              | 0        |
|                                      | 1       | 24        | 13.92                  | 13.97                  | 13.99                  |                              | 0        |
|                                      | 12      | 0         | 13.93                  | 13.90                  | 13.86                  | 0-1                          | 0        |
|                                      | 12      | 6         | 13.88                  | 13.89                  | 13.86                  |                              | 0        |
|                                      | 12      | 13        | 13.90                  | 13.91                  | 13.95                  |                              | 0        |
| 16QAM                                | 25      | 0         | 13.90                  | 13.93                  | 13.87                  | 0-1                          | 0        |
|                                      | 1       | 0         | 13.98                  | 13.99                  | 14.00                  |                              | 0        |
|                                      | 1       | 12        | 13.93                  | 13.98                  | 13.97                  |                              | 0        |
|                                      | 1       | 24        | 13.93                  | 13.99                  | 13.99                  | 0-2                          | 0        |
|                                      | 12      | 0         | 13.66                  | 13.69                  | 13.70                  |                              | 0        |
|                                      | 12      | 6         | 13.65                  | 13.66                  | 13.66                  |                              | 0        |
| 64QAM                                | 12      | 13        | 13.61                  | 13.70                  | 13.72                  | 0-2                          | 0        |
|                                      | 25      | 0         | 13.63                  | 13.68                  | 13.66                  |                              | 0        |
|                                      | 1       | 0         | 13.98                  | 13.99                  | 14.00                  | 0-2                          | 0        |
|                                      | 1       | 12        | 13.94                  | 13.99                  | 13.92                  |                              | 0        |
|                                      | 1       | 24        | 13.97                  | 13.97                  | 13.98                  |                              | 0        |
|                                      | 12      | 0         | 13.75                  | 13.87                  | 13.82                  | 0-3                          | 0        |
|                                      | 12      | 6         | 13.71                  | 13.87                  | 13.81                  |                              | 0        |
|                                      | 12      | 13        | 13.74                  | 13.88                  | 13.85                  |                              | 0        |
| 25                                   | 0       | 13.73     | 13.86                  | 13.78                  | 0                      |                              |          |

|                                         |                                                                                                                  |                            |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  <b>SAR EVALUATION REPORT</b> |                            | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device | Page 52 of 120                  |

**Table 8-49**  
**LTE Band 66 (AWS) Reduced Conducted Powers - 3 MHz Bandwidth- Antenna WF3**

| LTE Band 66 (AWS)<br>3 MHz Bandwidth |         |           |                        |                        |                        |                              |          |
|--------------------------------------|---------|-----------|------------------------|------------------------|------------------------|------------------------------|----------|
| Modulation                           | RB Size | RB Offset | Low Channel            | Mid Channel            | High Channel           | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                      |         |           | 131987<br>(1711.5 MHz) | 132322<br>(1745.0 MHz) | 132657<br>(1778.5 MHz) |                              |          |
|                                      |         |           | Conducted Power [dBm]  |                        |                        |                              |          |
| QPSK                                 | 1       | 0         | 13.89                  | 13.86                  | 13.84                  | 0                            | 0        |
|                                      | 1       | 7         | 13.91                  | 13.91                  | 13.98                  |                              | 0        |
|                                      | 1       | 14        | 13.83                  | 13.90                  | 13.94                  |                              | 0        |
|                                      | 8       | 0         | 13.90                  | 13.90                  | 13.86                  | 0-1                          | 0        |
|                                      | 8       | 4         | 13.87                  | 13.89                  | 13.95                  |                              | 0        |
|                                      | 8       | 7         | 13.86                  | 13.92                  | 13.95                  |                              | 0        |
|                                      | 15      | 0         | 13.88                  | 13.86                  | 13.95                  |                              | 0        |
| 16QAM                                | 1       | 0         | 13.87                  | 13.95                  | 13.91                  | 0-1                          | 0        |
|                                      | 1       | 7         | 13.92                  | 13.96                  | 13.92                  |                              | 0        |
|                                      | 1       | 14        | 13.80                  | 13.95                  | 13.93                  |                              | 0        |
|                                      | 8       | 0         | 13.63                  | 13.71                  | 13.65                  | 0-2                          | 0        |
|                                      | 8       | 4         | 13.64                  | 13.66                  | 13.70                  |                              | 0        |
|                                      | 8       | 7         | 13.61                  | 13.66                  | 13.72                  |                              | 0        |
|                                      | 15      | 0         | 13.58                  | 13.66                  | 13.66                  |                              | 0        |
| 64QAM                                | 1       | 0         | 13.92                  | 13.99                  | 13.98                  | 0-2                          | 0        |
|                                      | 1       | 7         | 13.97                  | 13.98                  | 14.00                  |                              | 0        |
|                                      | 1       | 14        | 13.89                  | 13.97                  | 13.99                  |                              | 0        |
|                                      | 8       | 0         | 13.79                  | 13.85                  | 13.82                  | 0-3                          | 0        |
|                                      | 8       | 4         | 13.75                  | 13.83                  | 13.84                  |                              | 0        |
|                                      | 8       | 7         | 13.73                  | 13.83                  | 13.87                  |                              | 0        |
|                                      | 15      | 0         | 13.74                  | 13.80                  | 13.80                  |                              | 0        |

**Table 8-50**  
**LTE Band 66 (AWS) Reduced Conducted Powers -1.4 MHz Bandwidth- Antenna WF3**

| LTE Band 66 (AWS)<br>1.4 MHz Bandwidth |         |           |                        |                        |                        |                              |          |
|----------------------------------------|---------|-----------|------------------------|------------------------|------------------------|------------------------------|----------|
| Modulation                             | RB Size | RB Offset | Low Channel            | Mid Channel            | High Channel           | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                        |         |           | 131979<br>(1710.7 MHz) | 132322<br>(1745.0 MHz) | 132665<br>(1779.3 MHz) |                              |          |
|                                        |         |           | Conducted Power [dBm]  |                        |                        |                              |          |
| QPSK                                   | 1       | 0         | 13.95                  | 13.91                  | 13.95                  | 0                            | 0        |
|                                        | 1       | 2         | 13.94                  | 13.88                  | 13.94                  |                              | 0        |
|                                        | 1       | 5         | 13.98                  | 13.89                  | 13.94                  |                              | 0        |
|                                        | 3       | 0         | 13.94                  | 13.87                  | 13.94                  |                              | 0        |
|                                        | 3       | 2         | 13.94                  | 13.87                  | 13.92                  |                              | 0        |
|                                        | 3       | 3         | 13.94                  | 13.88                  | 13.93                  |                              | 0        |
|                                        | 6       | 0         | 13.93                  | 13.87                  | 13.93                  | 0-1                          | 0        |
| 16QAM                                  | 1       | 0         | 13.98                  | 13.98                  | 13.98                  | 0-1                          | 0        |
|                                        | 1       | 2         | 13.91                  | 13.97                  | 13.99                  |                              | 0        |
|                                        | 1       | 5         | 13.93                  | 13.96                  | 13.98                  |                              | 0        |
|                                        | 3       | 0         | 13.73                  | 13.77                  | 13.79                  |                              | 0        |
|                                        | 3       | 2         | 13.72                  | 13.75                  | 13.72                  |                              | 0        |
|                                        | 3       | 3         | 13.72                  | 13.78                  | 13.79                  |                              | 0        |
|                                        | 6       | 0         | 13.67                  | 13.70                  | 13.71                  | 0-2                          | 0        |
| 64QAM                                  | 1       | 0         | 13.97                  | 14.00                  | 13.96                  | 0-2                          | 0        |
|                                        | 1       | 2         | 14.00                  | 13.95                  | 13.97                  |                              | 0        |
|                                        | 1       | 5         | 13.99                  | 13.99                  | 14.00                  |                              | 0        |
|                                        | 3       | 0         | 13.91                  | 13.94                  | 13.94                  |                              | 0        |
|                                        | 3       | 2         | 13.88                  | 13.92                  | 13.94                  |                              | 0        |
|                                        | 3       | 3         | 13.92                  | 13.96                  | 13.95                  |                              | 0        |
|                                        | 6       | 0         | 13.82                  | 13.86                  | 13.84                  | 0-3                          | 0        |

|                                         |                                                                                     |                              |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 53 of 120                  |

**Table 8-51**  
**LTE Band 66 (AWS) Reduced Conducted Powers - 20 MHz Bandwidth- Antenna WF5**

| LTE Band 66 (AWS)<br>20 MHz Bandwidth |         |           |                        |                        |                        |                              |          |
|---------------------------------------|---------|-----------|------------------------|------------------------|------------------------|------------------------------|----------|
| Modulation                            | RB Size | RB Offset | Low Channel            | Mid Channel            | High Channel           | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                       |         |           | 132072<br>(1720.0 MHz) | 132322<br>(1745.0 MHz) | 132572<br>(1770.0 MHz) |                              |          |
|                                       |         |           | Conducted Power [dBm]  |                        |                        |                              |          |
| QPSK                                  | 1       | 0         | 14.05                  | 14.13                  | 14.02                  | 0                            | 0        |
|                                       | 1       | 50        | 14.02                  | 14.02                  | 13.87                  |                              | 0        |
|                                       | 1       | 99        | 14.09                  | 14.06                  | 13.93                  |                              | 0        |
|                                       | 50      | 0         | 13.92                  | 14.01                  | 13.86                  | 0-1                          | 0        |
|                                       | 50      | 25        | 13.91                  | 13.90                  | 13.78                  |                              | 0        |
|                                       | 50      | 50        | 13.92                  | 13.91                  | 13.79                  |                              | 0        |
|                                       | 100     | 0         | 13.99                  | 13.93                  | 13.83                  |                              | 0        |
| 16QAM                                 | 1       | 0         | 14.12                  | 14.16                  | 14.02                  | 0-1                          | 0        |
|                                       | 1       | 50        | 14.15                  | 14.05                  | 13.89                  |                              | 0        |
|                                       | 1       | 99        | 14.20                  | 14.14                  | 13.99                  |                              | 0        |
|                                       | 50      | 0         | 13.77                  | 13.85                  | 13.67                  | 0-2                          | 0        |
|                                       | 50      | 25        | 13.83                  | 13.80                  | 13.58                  |                              | 0        |
|                                       | 50      | 50        | 13.86                  | 13.79                  | 13.63                  |                              | 0        |
|                                       | 100     | 0         | 13.89                  | 13.82                  | 13.64                  |                              | 0        |
| 64QAM                                 | 1       | 0         | 14.15                  | 14.16                  | 14.10                  | 0-2                          | 0        |
|                                       | 1       | 50        | 14.08                  | 14.09                  | 13.89                  |                              | 0        |
|                                       | 1       | 99        | 13.98                  | 14.05                  | 14.03                  |                              | 0        |
|                                       | 50      | 0         | 13.60                  | 13.69                  | 13.59                  | 0-3                          | 0        |
|                                       | 50      | 25        | 13.59                  | 13.61                  | 13.50                  |                              | 0        |
|                                       | 50      | 50        | 13.69                  | 13.53                  | 13.50                  |                              | 0        |
|                                       | 100     | 0         | 13.66                  | 13.63                  | 13.57                  |                              | 0        |

**Table 8-52**  
**LTE Band 66 (AWS) Reduced Conducted Powers - 15 MHz Bandwidth- Antenna WF5**

| LTE Band 66 (AWS)<br>15 MHz Bandwidth |         |           |                        |                        |                        |                              |          |
|---------------------------------------|---------|-----------|------------------------|------------------------|------------------------|------------------------------|----------|
| Modulation                            | RB Size | RB Offset | Low Channel            | Mid Channel            | High Channel           | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                       |         |           | 132047<br>(1717.5 MHz) | 132322<br>(1745.0 MHz) | 132597<br>(1772.5 MHz) |                              |          |
|                                       |         |           | Conducted Power [dBm]  |                        |                        |                              |          |
| QPSK                                  | 1       | 0         | 13.76                  | 13.76                  | 14.02                  | 0                            | 0        |
|                                       | 1       | 36        | 13.69                  | 13.65                  | 13.91                  |                              | 0        |
|                                       | 1       | 74        | 13.77                  | 13.66                  | 13.92                  |                              | 0        |
|                                       | 36      | 0         | 13.74                  | 13.73                  | 13.76                  | 0-1                          | 0        |
|                                       | 36      | 18        | 13.75                  | 13.69                  | 13.73                  |                              | 0        |
|                                       | 36      | 37        | 13.78                  | 13.71                  | 13.73                  |                              | 0        |
|                                       | 75      | 0         | 13.77                  | 13.70                  | 13.75                  |                              | 0        |
| 16QAM                                 | 1       | 0         | 14.04                  | 14.06                  | 14.06                  | 0-1                          | 0        |
|                                       | 1       | 36        | 13.98                  | 13.90                  | 14.03                  |                              | 0        |
|                                       | 1       | 74        | 14.09                  | 13.94                  | 14.03                  |                              | 0        |
|                                       | 36      | 0         | 13.62                  | 13.62                  | 13.68                  | 0-2                          | 0        |
|                                       | 36      | 18        | 13.63                  | 13.54                  | 13.61                  |                              | 0        |
|                                       | 36      | 37        | 13.68                  | 13.58                  | 13.62                  |                              | 0        |
|                                       | 75      | 0         | 13.66                  | 13.54                  | 13.64                  |                              | 0        |
| 64QAM                                 | 1       | 0         | 14.17                  | 13.92                  | 14.09                  | 0-2                          | 0        |
|                                       | 1       | 36        | 14.11                  | 13.99                  | 13.90                  |                              | 0        |
|                                       | 1       | 74        | 14.06                  | 13.93                  | 14.02                  |                              | 0        |
|                                       | 36      | 0         | 13.69                  | 13.64                  | 13.49                  | 0-3                          | 0        |
|                                       | 36      | 18        | 13.65                  | 13.67                  | 13.55                  |                              | 0        |
|                                       | 36      | 37        | 13.66                  | 13.54                  | 13.53                  |                              | 0        |
|                                       | 75      | 0         | 13.66                  | 13.61                  | 13.54                  |                              | 0        |

|                                         |                                                                                                                  |                            |  |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|--|---------------------------------|
| FCC ID: BCGA2153                        |  <b>SAR EVALUATION REPORT</b> |                            |  | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device |  | Page 54 of 120                  |

**Table 8-53**  
**LTE Band 66 (AWS) Reduced Conducted Powers - 10 MHz Bandwidth- Antenna WF5**

| LTE Band 66 (AWS)<br>10 MHz Bandwidth |         |           |                        |                        |                        |                              |          |
|---------------------------------------|---------|-----------|------------------------|------------------------|------------------------|------------------------------|----------|
| Modulation                            | RB Size | RB Offset | Low Channel            | Mid Channel            | High Channel           | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                       |         |           | 132022<br>(1715.0 MHz) | 132322<br>(1745.0 MHz) | 132622<br>(1775.0 MHz) |                              |          |
|                                       |         |           | Conducted Power [dBm]  |                        |                        |                              |          |
| QPSK                                  | 1       | 0         | 13.81                  | 13.73                  | 13.69                  | 0                            | 0        |
|                                       | 1       | 25        | 13.72                  | 13.63                  | 13.63                  |                              | 0        |
|                                       | 1       | 49        | 13.79                  | 13.70                  | 13.71                  |                              | 0        |
|                                       | 25      | 0         | 13.77                  | 13.67                  | 13.67                  | 0-1                          | 0        |
|                                       | 25      | 12        | 13.73                  | 13.66                  | 13.63                  |                              | 0        |
|                                       | 25      | 25        | 13.75                  | 13.66                  | 13.66                  |                              | 0        |
| 50                                    | 0       | 13.78     | 13.68                  | 13.72                  | 0                      |                              |          |
| 16QAM                                 | 1       | 0         | 13.99                  | 14.01                  | 13.96                  | 0-1                          | 0        |
|                                       | 1       | 25        | 13.95                  | 13.91                  | 13.92                  |                              | 0        |
|                                       | 1       | 49        | 13.87                  | 13.95                  | 14.00                  |                              | 0        |
|                                       | 25      | 0         | 13.64                  | 13.55                  | 13.56                  | 0-2                          | 0        |
|                                       | 25      | 12        | 13.59                  | 13.52                  | 13.51                  |                              | 0        |
|                                       | 25      | 25        | 13.63                  | 13.54                  | 13.56                  |                              | 0        |
| 50                                    | 0       | 13.65     | 13.54                  | 13.58                  | 0                      |                              |          |
| 64QAM                                 | 1       | 0         | 14.10                  | 14.09                  | 13.98                  | 0-2                          | 0        |
|                                       | 1       | 25        | 13.91                  | 13.97                  | 13.90                  |                              | 0        |
|                                       | 1       | 49        | 14.03                  | 13.88                  | 13.98                  |                              | 0        |
|                                       | 25      | 0         | 13.62                  | 13.60                  | 13.47                  | 0-3                          | 0        |
|                                       | 25      | 12        | 13.60                  | 13.69                  | 13.46                  |                              | 0        |
|                                       | 25      | 25        | 13.59                  | 13.59                  | 13.43                  |                              | 0        |
|                                       | 50      | 0         | 13.58                  | 13.58                  | 13.41                  |                              | 0        |

**Table 8-54**  
**LTE Band 66 (AWS) Reduced Conducted Powers - 5 MHz Bandwidth- Antenna WF5**

| LTE Band 66 (AWS)<br>5 MHz Bandwidth |         |           |                        |                        |                        |                              |          |
|--------------------------------------|---------|-----------|------------------------|------------------------|------------------------|------------------------------|----------|
| Modulation                           | RB Size | RB Offset | Low Channel            | Mid Channel            | High Channel           | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                      |         |           | 131997<br>(1712.5 MHz) | 132322<br>(1745.0 MHz) | 132647<br>(1777.5 MHz) |                              |          |
|                                      |         |           | Conducted Power [dBm]  |                        |                        |                              |          |
| QPSK                                 | 1       | 0         | 13.77                  | 13.75                  | 13.82                  | 0                            | 0        |
|                                      | 1       | 12        | 13.70                  | 13.71                  | 13.78                  |                              | 0        |
|                                      | 1       | 24        | 13.72                  | 13.76                  | 13.85                  |                              | 0        |
|                                      | 12      | 0         | 13.83                  | 13.70                  | 13.67                  | 0-1                          | 0        |
|                                      | 12      | 6         | 13.80                  | 13.68                  | 13.64                  |                              | 0        |
|                                      | 12      | 13        | 13.79                  | 13.69                  | 13.70                  |                              | 0        |
| 16QAM                                | 25      | 0         | 13.79                  | 13.70                  | 13.67                  | 0-1                          | 0        |
|                                      | 1       | 0         | 13.99                  | 13.94                  | 13.60                  |                              | 0        |
|                                      | 1       | 12        | 13.92                  | 13.92                  | 13.92                  | 0-1                          | 0        |
|                                      | 1       | 24        | 13.89                  | 13.86                  | 14.04                  |                              | 0        |
|                                      | 12      | 0         | 13.77                  | 13.63                  | 13.59                  |                              | 0-2      |
|                                      | 12      | 6         | 13.67                  | 13.61                  | 13.56                  | 0                            |          |
| 12                                   | 13      | 13.70     | 13.60                  | 13.62                  | 0                      |                              |          |
| 64QAM                                | 25      | 0         | 13.64                  | 13.57                  | 13.54                  | 0-2                          | 0        |
|                                      | 1       | 0         | 14.11                  | 14.04                  | 13.89                  |                              | 0        |
|                                      | 1       | 12        | 14.08                  | 14.00                  | 14.00                  | 0-2                          | 0        |
|                                      | 1       | 24        | 14.01                  | 14.05                  | 14.07                  |                              | 0        |
|                                      | 12      | 0         | 13.71                  | 13.74                  | 13.53                  |                              | 0-3      |
|                                      | 12      | 6         | 13.70                  | 13.64                  | 13.42                  | 0                            |          |
| 12                                   | 13      | 13.67     | 13.58                  | 13.57                  | 0                      |                              |          |
|                                      | 25      | 0         | 13.63                  | 13.54                  | 13.44                  |                              | 0        |

|                                         |                                                                                                                  |                            |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  <b>SAR EVALUATION REPORT</b> |                            | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device | Page 55 of 120                  |

**Table 8-55**  
**LTE Band 66 (AWS) Reduced Conducted Powers - 3 MHz Bandwidth- Antenna WF5**

| LTE Band 66 (AWS)<br>3 MHz Bandwidth |         |           |                        |                        |                        |                              |          |
|--------------------------------------|---------|-----------|------------------------|------------------------|------------------------|------------------------------|----------|
| Modulation                           | RB Size | RB Offset | Low Channel            | Mid Channel            | High Channel           | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                      |         |           | 131987<br>(1711.5 MHz) | 132322<br>(1745.0 MHz) | 132657<br>(1778.5 MHz) |                              |          |
|                                      |         |           | Conducted Power [dBm]  |                        |                        |                              |          |
| QPSK                                 | 1       | 0         | 13.76                  | 13.60                  | 13.64                  | 0                            | 0        |
|                                      | 1       | 7         | 13.80                  | 13.65                  | 13.72                  |                              | 0        |
|                                      | 1       | 14        | 13.73                  | 13.60                  | 13.68                  |                              | 0        |
|                                      | 8       | 0         | 13.81                  | 13.69                  | 13.69                  | 0-1                          | 0        |
|                                      | 8       | 4         | 13.80                  | 13.68                  | 13.73                  |                              | 0        |
|                                      | 8       | 7         | 13.77                  | 13.67                  | 13.73                  |                              | 0        |
|                                      | 15      | 0         | 13.79                  | 13.68                  | 13.75                  |                              | 0        |
| 16QAM                                | 1       | 0         | 14.06                  | 13.89                  | 13.75                  | 0-1                          | 0        |
|                                      | 1       | 7         | 14.09                  | 13.99                  | 13.86                  |                              | 0        |
|                                      | 1       | 14        | 13.99                  | 13.91                  | 13.92                  |                              | 0        |
|                                      | 8       | 0         | 13.76                  | 13.62                  | 13.60                  | 0-2                          | 0        |
|                                      | 8       | 4         | 13.78                  | 13.64                  | 13.63                  |                              | 0        |
|                                      | 8       | 7         | 13.66                  | 13.64                  | 13.61                  |                              | 0        |
|                                      | 15      | 0         | 13.71                  | 13.58                  | 13.57                  |                              | 0        |
| 64QAM                                | 1       | 0         | 14.09                  | 14.10                  | 14.12                  | 0-2                          | 0        |
|                                      | 1       | 7         | 14.11                  | 14.12                  | 13.99                  |                              | 0        |
|                                      | 1       | 14        | 14.02                  | 14.16                  | 14.13                  |                              | 0        |
|                                      | 8       | 0         | 13.86                  | 13.93                  | 13.62                  | 0-3                          | 0        |
|                                      | 8       | 4         | 13.80                  | 13.76                  | 13.65                  |                              | 0        |
|                                      | 8       | 7         | 13.76                  | 13.72                  | 13.68                  |                              | 0        |
|                                      | 15      | 0         | 13.86                  | 13.85                  | 13.70                  |                              | 0        |

**Table 8-56**  
**LTE Band 66 (AWS) Reduced Conducted Powers -1.4 MHz Bandwidth- Antenna WF5**

| LTE Band 66 (AWS)<br>1.4 MHz Bandwidth |         |           |                        |                        |                        |                              |          |
|----------------------------------------|---------|-----------|------------------------|------------------------|------------------------|------------------------------|----------|
| Modulation                             | RB Size | RB Offset | Low Channel            | Mid Channel            | High Channel           | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                        |         |           | 131979<br>(1710.7 MHz) | 132322<br>(1745.0 MHz) | 132665<br>(1779.3 MHz) |                              |          |
|                                        |         |           | Conducted Power [dBm]  |                        |                        |                              |          |
| QPSK                                   | 1       | 0         | 13.88                  | 13.61                  | 13.60                  | 0                            | 0        |
|                                        | 1       | 2         | 13.86                  | 13.59                  | 13.58                  |                              | 0        |
|                                        | 1       | 5         | 13.87                  | 13.61                  | 13.58                  |                              | 0        |
|                                        | 3       | 0         | 13.77                  | 13.67                  | 13.61                  |                              | 0        |
|                                        | 3       | 2         | 13.78                  | 13.65                  | 13.60                  |                              | 0        |
|                                        | 3       | 3         | 13.81                  | 13.65                  | 13.61                  |                              | 0        |
|                                        | 6       | 0         | 13.75                  | 13.62                  | 13.60                  | 0-1                          | 0        |
| 16QAM                                  | 1       | 0         | 14.14                  | 14.11                  | 14.11                  | 0-1                          | 0        |
|                                        | 1       | 2         | 14.16                  | 14.12                  | 14.09                  |                              | 0        |
|                                        | 1       | 5         | 14.19                  | 14.05                  | 14.10                  |                              | 0        |
|                                        | 3       | 0         | 14.00                  | 13.99                  | 13.68                  |                              | 0        |
|                                        | 3       | 2         | 14.01                  | 13.88                  | 13.85                  |                              | 0        |
|                                        | 3       | 3         | 14.08                  | 13.73                  | 13.75                  | 0                            |          |
| 64QAM                                  | 6       | 0         | 13.89                  | 13.82                  | 13.78                  | 0-2                          | 0        |
|                                        | 1       | 0         | 14.19                  | 14.17                  | 14.13                  | 0-2                          | 0        |
|                                        | 1       | 2         | 14.10                  | 14.14                  | 14.07                  |                              | 0        |
|                                        | 1       | 5         | 14.05                  | 14.07                  | 14.00                  |                              | 0        |
|                                        | 3       | 0         | 13.99                  | 14.04                  | 13.87                  |                              | 0        |
|                                        | 3       | 2         | 14.00                  | 13.93                  | 13.93                  |                              | 0        |
|                                        | 3       | 3         | 14.03                  | 13.91                  | 13.85                  | 0                            |          |
| 6                                      | 0       | 13.96     | 13.89                  | 13.68                  | 0-3                    | 0                            |          |

|                                         |                                                                                     |                              |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 56 of 120                  |

### 8.3.8 LTE Band 25 (PCS)

**Table 8-57**  
**LTE Band 25 (PCS) Reduced Conducted Powers - 20 MHz Bandwidth- Antenna WF3**

| LTE Band 25 (PCS)<br>20 MHz Bandwidth |         |           |                       |                       |                       |                              |          |
|---------------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                            | RB Size | RB Offset | Low Channel           | Mid Channel           | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                       |         |           | 26140<br>(1860.0 MHz) | 26365<br>(1882.5 MHz) | 26590<br>(1905.0 MHz) |                              |          |
|                                       |         |           | Conducted Power [dBm] |                       |                       |                              |          |
| QPSK                                  | 1       | 0         | 13.27                 | 13.23                 | 13.40                 | 0                            | 0        |
|                                       | 1       | 50        | 13.25                 | 13.26                 | 13.27                 |                              | 0        |
|                                       | 1       | 99        | 13.33                 | 13.28                 | 13.47                 |                              | 0        |
|                                       | 50      | 0         | 13.19                 | 13.23                 | 13.20                 | 0-1                          | 0        |
|                                       | 50      | 25        | 13.17                 | 13.33                 | 13.22                 |                              | 0        |
|                                       | 50      | 50        | 13.26                 | 13.29                 | 13.47                 |                              | 0        |
| 16QAM                                 | 100     | 0         | 13.24                 | 13.46                 | 13.45                 | 0                            |          |
|                                       | 1       | 0         | 13.36                 | 13.28                 | 13.46                 | 0-1                          | 0        |
|                                       | 1       | 50        | 13.30                 | 13.45                 | 13.29                 |                              | 0        |
|                                       | 1       | 99        | 13.37                 | 13.40                 | 13.48                 |                              | 0-2      |
|                                       | 50      | 0         | 12.99                 | 13.10                 | 13.00                 | 0                            |          |
|                                       | 50      | 25        | 12.98                 | 13.18                 | 13.03                 | 0                            |          |
| 64QAM                                 | 50      | 50        | 13.02                 | 13.15                 | 13.20                 | 0                            |          |
|                                       | 100     | 0         | 13.06                 | 13.24                 | 13.20                 | 0                            |          |
|                                       | 1       | 0         | 13.40                 | 13.35                 | 13.42                 | 0-2                          | 0        |
|                                       | 1       | 50        | 13.37                 | 13.49                 | 13.27                 |                              | 0        |
|                                       | 1       | 99        | 13.36                 | 13.50                 | 13.44                 |                              | 0        |
|                                       | 50      | 0         | 13.13                 | 13.07                 | 13.09                 | 0-3                          | 0        |
| 50                                    | 25      | 13.07     | 13.19                 | 13.11                 | 0                     |                              |          |
| 50                                    | 50      | 13.08     | 13.15                 | 13.22                 | 0                     |                              |          |
|                                       | 100     | 0         | 13.40                 | 13.28                 | 13.29                 |                              | 0        |

**Table 8-58**  
**LTE Band 25 (PCS) Reduced Conducted Powers - 15 MHz Bandwidth- Antenna WF3**

| LTE Band 25 (PCS)<br>15 MHz Bandwidth |         |           |                       |                       |                       |                              |          |
|---------------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                            | RB Size | RB Offset | Low Channel           | Mid Channel           | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                       |         |           | 26115<br>(1857.5 MHz) | 26365<br>(1882.5 MHz) | 26615<br>(1907.5 MHz) |                              |          |
|                                       |         |           | Conducted Power [dBm] |                       |                       |                              |          |
| QPSK                                  | 1       | 0         | 13.24                 | 13.09                 | 13.07                 | 0                            | 0        |
|                                       | 1       | 36        | 13.09                 | 13.25                 | 13.02                 |                              | 0        |
|                                       | 1       | 74        | 12.90                 | 13.22                 | 13.15                 |                              | 0        |
|                                       | 36      | 0         | 13.12                 | 13.08                 | 13.05                 | 0-1                          | 0        |
|                                       | 36      | 18        | 13.08                 | 13.19                 | 13.04                 |                              | 0        |
|                                       | 36      | 37        | 13.06                 | 13.23                 | 13.17                 |                              | 0        |
|                                       | 75      | 0         | 13.01                 | 13.25                 | 13.16                 |                              | 0        |
| 16QAM                                 | 1       | 0         | 13.33                 | 13.22                 | 13.13                 | 0-1                          | 0        |
|                                       | 1       | 36        | 13.20                 | 13.37                 | 13.15                 |                              | 0        |
|                                       | 1       | 74        | 13.07                 | 13.27                 | 13.30                 |                              | 0        |
|                                       | 36      | 0         | 12.91                 | 12.87                 | 12.84                 | 0-2                          | 0        |
|                                       | 36      | 18        | 12.89                 | 13.01                 | 12.83                 |                              | 0        |
|                                       | 36      | 37        | 12.86                 | 13.00                 | 12.96                 |                              | 0        |
|                                       | 75      | 0         | 12.85                 | 13.05                 | 12.95                 |                              | 0        |
| 64QAM                                 | 1       | 0         | 13.44                 | 13.30                 | 13.30                 | 0-2                          | 0        |
|                                       | 1       | 36        | 13.35                 | 13.43                 | 13.37                 |                              | 0        |
|                                       | 1       | 74        | 13.19                 | 13.37                 | 13.37                 |                              | 0        |
|                                       | 36      | 0         | 13.12                 | 13.06                 | 13.10                 | 0-3                          | 0        |
|                                       | 36      | 18        | 13.08                 | 13.19                 | 13.09                 |                              | 0        |
|                                       | 36      | 37        | 13.07                 | 13.16                 | 13.17                 |                              | 0        |
|                                       | 75      | 0         | 13.01                 | 13.20                 | 13.20                 |                              | 0        |

|                                         |                                                                                                                  |                            |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  <b>SAR EVALUATION REPORT</b> |                            | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device | Page 57 of 120                  |

**Table 8-59**  
**LTE Band 25 (PCS) Reduced Conducted Powers - 10 MHz Bandwidth- Antenna WF3**

| LTE Band 25 (PCS)<br>10 MHz Bandwidth |         |           |                       |                       |                       |                              |          |
|---------------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                            | RB Size | RB Offset | Low Channel           | Mid Channel           | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                       |         |           | 26090<br>(1855.0 MHz) | 26365<br>(1882.5 MHz) | 26640<br>(1910.0 MHz) |                              |          |
|                                       |         |           | Conducted Power [dBm] |                       |                       |                              |          |
| QPSK                                  | 1       | 0         | 13.24                 | 13.09                 | 13.15                 | 0                            | 0        |
|                                       | 1       | 25        | 13.12                 | 13.23                 | 13.20                 |                              | 0        |
|                                       | 1       | 49        | 13.19                 | 13.28                 | 13.19                 |                              | 0        |
|                                       | 25      | 0         | 13.11                 | 13.17                 | 13.11                 | 0-1                          | 0        |
|                                       | 25      | 12        | 13.11                 | 13.19                 | 13.21                 |                              | 0        |
|                                       | 25      | 25        | 13.07                 | 13.25                 | 13.11                 |                              | 0        |
|                                       | 50      | 0         | 13.12                 | 13.21                 | 13.21                 |                              | 0        |
| 16QAM                                 | 1       | 0         | 13.31                 | 13.20                 | 13.22                 | 0-1                          | 0        |
|                                       | 1       | 25        | 13.17                 | 13.35                 | 13.30                 |                              | 0        |
|                                       | 1       | 49        | 13.28                 | 13.41                 | 13.30                 |                              | 0        |
|                                       | 25      | 0         | 12.90                 | 12.99                 | 12.90                 | 0-2                          | 0        |
|                                       | 25      | 12        | 12.91                 | 13.02                 | 13.01                 |                              | 0        |
|                                       | 25      | 25        | 12.91                 | 13.07                 | 12.95                 |                              | 0        |
|                                       | 50      | 0         | 12.93                 | 13.02                 | 13.00                 |                              | 0        |
| 64QAM                                 | 1       | 0         | 13.44                 | 13.28                 | 13.33                 | 0-2                          | 0        |
|                                       | 1       | 25        | 13.31                 | 13.43                 | 13.39                 |                              | 0        |
|                                       | 1       | 49        | 13.40                 | 13.50                 | 13.41                 |                              | 0        |
|                                       | 25      | 0         | 13.10                 | 13.15                 | 13.06                 | 0-3                          | 0        |
|                                       | 25      | 12        | 13.11                 | 13.21                 | 13.17                 |                              | 0        |
|                                       | 25      | 25        | 13.07                 | 13.26                 | 13.16                 |                              | 0        |
|                                       | 50      | 0         | 13.12                 | 13.19                 | 13.18                 |                              | 0        |

**Table 8-60**  
**LTE Band 25 (PCS) Reduced Conducted Powers - 5 MHz Bandwidth- Antenna WF3**

| LTE Band 25 (PCS)<br>5 MHz Bandwidth |         |           |                       |                       |                       |                              |          |
|--------------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                           | RB Size | RB Offset | Low Channel           | Mid Channel           | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                      |         |           | 26065<br>(1852.5 MHz) | 26365<br>(1882.5 MHz) | 26665<br>(1912.5 MHz) |                              |          |
|                                      |         |           | Conducted Power [dBm] |                       |                       |                              |          |
| QPSK                                 | 1       | 0         | 13.22                 | 13.20                 | 13.26                 | 0                            | 0        |
|                                      | 1       | 12        | 13.09                 | 13.25                 | 13.16                 |                              | 0        |
|                                      | 1       | 24        | 13.11                 | 13.32                 | 13.23                 |                              | 0        |
|                                      | 12      | 0         | 13.12                 | 13.18                 | 13.16                 | 0-1                          | 0        |
|                                      | 12      | 6         | 13.07                 | 13.20                 | 13.12                 |                              | 0        |
|                                      | 12      | 13        | 13.09                 | 13.24                 | 13.14                 |                              | 0        |
|                                      | 25      | 0         | 13.09                 | 13.21                 | 13.16                 |                              | 0        |
| 16QAM                                | 1       | 0         | 13.30                 | 13.39                 | 13.37                 | 0-1                          | 0        |
|                                      | 1       | 12        | 13.24                 | 13.33                 | 13.33                 |                              | 0        |
|                                      | 1       | 24        | 13.22                 | 13.36                 | 13.27                 |                              | 0        |
|                                      | 12      | 0         | 12.95                 | 13.00                 | 12.97                 | 0-2                          | 0        |
|                                      | 12      | 6         | 12.91                 | 12.98                 | 12.97                 |                              | 0        |
|                                      | 12      | 13        | 12.91                 | 12.95                 | 12.94                 |                              | 0        |
|                                      | 25      | 0         | 12.92                 | 12.99                 | 12.96                 |                              | 0        |
| 64QAM                                | 1       | 0         | 13.46                 | 13.42                 | 13.47                 | 0-2                          | 0        |
|                                      | 1       | 12        | 13.33                 | 13.47                 | 13.38                 |                              | 0        |
|                                      | 1       | 24        | 13.38                 | 13.48                 | 13.46                 |                              | 0        |
|                                      | 12      | 0         | 13.11                 | 13.21                 | 13.20                 | 0-3                          | 0        |
|                                      | 12      | 6         | 13.08                 | 13.24                 | 13.11                 |                              | 0        |
|                                      | 12      | 13        | 13.11                 | 13.27                 | 13.13                 |                              | 0        |
|                                      | 25      | 0         | 13.08                 | 13.17                 | 13.12                 |                              | 0        |

|                                         |                                                                                     |                              |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 58 of 120                  |

**Table 8-61**  
**LTE Band 25 (PCS) Reduced Conducted Powers - 3 MHz Bandwidth- Antenna WF3**

| LTE Band 25 (PCS)<br>3 MHz Bandwidth |         |           |                       |                       |                       |                              |          |
|--------------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                           | RB Size | RB Offset | Low Channel           | Mid Channel           | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                      |         |           | 26055<br>(1851.5 MHz) | 26365<br>(1882.5 MHz) | 26675<br>(1913.5 MHz) |                              |          |
|                                      |         |           | Conducted Power [dBm] |                       |                       |                              |          |
| QPSK                                 | 1       | 0         | 13.19                 | 13.17                 | 13.16                 | 0                            | 0        |
|                                      | 1       | 7         | 13.21                 | 13.26                 | 13.22                 |                              | 0        |
|                                      | 1       | 14        | 13.12                 | 13.23                 | 13.20                 |                              | 0        |
|                                      | 8       | 0         | 13.21                 | 13.21                 | 13.19                 | 0-1                          | 0        |
|                                      | 8       | 4         | 13.14                 | 13.23                 | 13.17                 |                              | 0        |
|                                      | 8       | 7         | 13.11                 | 13.24                 | 13.20                 |                              | 0        |
|                                      | 15      | 0         | 13.14                 | 13.22                 | 13.17                 |                              | 0        |
| 16QAM                                | 1       | 0         | 13.28                 | 13.33                 | 13.30                 | 0-1                          | 0        |
|                                      | 1       | 7         | 13.26                 | 13.40                 | 13.31                 |                              | 0        |
|                                      | 1       | 14        | 13.22                 | 13.39                 | 13.27                 |                              | 0        |
|                                      | 8       | 0         | 13.07                 | 13.07                 | 13.03                 | 0-2                          | 0        |
|                                      | 8       | 4         | 12.93                 | 13.08                 | 12.96                 |                              | 0        |
|                                      | 8       | 7         | 12.95                 | 13.10                 | 12.99                 |                              | 0        |
|                                      | 15      | 0         | 12.96                 | 13.06                 | 12.94                 |                              | 0        |
| 64QAM                                | 1       | 0         | 13.34                 | 13.38                 | 13.42                 | 0-2                          | 0        |
|                                      | 1       | 7         | 13.34                 | 13.44                 | 13.41                 |                              | 0        |
|                                      | 1       | 14        | 13.22                 | 13.41                 | 13.42                 |                              | 0        |
|                                      | 8       | 0         | 13.16                 | 13.20                 | 13.23                 | 0-3                          | 0        |
|                                      | 8       | 4         | 13.08                 | 13.22                 | 13.20                 |                              | 0        |
|                                      | 8       | 7         | 13.04                 | 13.27                 | 13.19                 |                              | 0        |
|                                      | 15      | 0         | 13.08                 | 13.24                 | 13.17                 |                              | 0        |

**Table 8-62**  
**LTE Band 25 (PCS) Reduced Conducted Powers -1.4 MHz Bandwidth- Antenna WF3**

| LTE Band 25 (PCS)<br>1.4 MHz Bandwidth |         |           |                       |                       |                       |                              |          |
|----------------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                             | RB Size | RB Offset | Low Channel           | Mid Channel           | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                        |         |           | 26047<br>(1850.7 MHz) | 26365<br>(1882.5 MHz) | 26683<br>(1914.3 MHz) |                              |          |
|                                        |         |           | Conducted Power [dBm] |                       |                       |                              |          |
| QPSK                                   | 1       | 0         | 13.22                 | 13.30                 | 13.21                 | 0                            | 0        |
|                                        | 1       | 2         | 13.20                 | 13.31                 | 13.19                 |                              | 0        |
|                                        | 1       | 5         | 13.16                 | 13.31                 | 13.21                 |                              | 0        |
|                                        | 3       | 0         | 13.22                 | 13.28                 | 13.18                 |                              | 0        |
|                                        | 3       | 2         | 13.21                 | 13.30                 | 13.19                 |                              | 0        |
|                                        | 3       | 3         | 13.23                 | 13.29                 | 13.20                 |                              | 0        |
|                                        | 6       | 0         | 13.19                 | 13.28                 | 13.17                 | 0-1                          | 0        |
| 16QAM                                  | 1       | 0         | 13.31                 | 13.37                 | 13.35                 | 0-1                          | 0        |
|                                        | 1       | 2         | 13.28                 | 13.33                 | 13.29                 |                              | 0        |
|                                        | 1       | 5         | 13.25                 | 13.37                 | 13.38                 |                              | 0        |
|                                        | 3       | 0         | 13.09                 | 13.11                 | 13.09                 |                              | 0        |
|                                        | 3       | 2         | 13.09                 | 13.12                 | 13.11                 |                              | 0        |
|                                        | 3       | 3         | 13.10                 | 13.12                 | 13.13                 |                              | 0        |
|                                        | 6       | 0         | 13.05                 | 13.09                 | 13.01                 | 0-2                          | 0        |
| 64QAM                                  | 1       | 0         | 13.44                 | 13.47                 | 13.43                 | 0-2                          | 0        |
|                                        | 1       | 2         | 13.41                 | 13.49                 | 13.42                 |                              | 0        |
|                                        | 1       | 5         | 13.38                 | 13.50                 | 13.47                 |                              | 0        |
|                                        | 3       | 0         | 13.30                 | 13.38                 | 13.25                 |                              | 0        |
|                                        | 3       | 2         | 13.29                 | 13.41                 | 13.29                 |                              | 0        |
|                                        | 3       | 3         | 13.31                 | 13.42                 | 13.28                 |                              | 0        |
|                                        | 6       | 0         | 13.19                 | 13.30                 | 13.18                 | 0-3                          | 0        |

|                                         |                                                                                     |                              |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 59 of 120                  |

**Table 8-63**  
**LTE Band 25 (PCS) Reduced Conducted Powers - 20 MHz Bandwidth- Antenna WF5**

| LTE Band 25 (PCS)<br>20 MHz Bandwidth |         |           |                       |                       |                       |                              |          |
|---------------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                            | RB Size | RB Offset | Low Channel           | Mid Channel           | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                       |         |           | 26140<br>(1860.0 MHz) | 26365<br>(1882.5 MHz) | 26590<br>(1905.0 MHz) |                              |          |
|                                       |         |           | Conducted Power [dBm] |                       |                       |                              |          |
| QPSK                                  | 1       | 0         | 14.29                 | 14.10                 | 13.89                 | 0                            | 0        |
|                                       | 1       | 50        | 14.00                 | 13.99                 | 13.73                 |                              | 0        |
|                                       | 1       | 99        | 14.01                 | 13.98                 | 14.00                 |                              | 0        |
|                                       | 50      | 0         | 14.21                 | 13.94                 | 13.74                 | 0-1                          | 0        |
|                                       | 50      | 25        | 14.04                 | 13.93                 | 13.78                 |                              | 0        |
|                                       | 50      | 50        | 14.02                 | 13.89                 | 13.84                 |                              | 0        |
|                                       | 100     | 0         | 14.14                 | 14.02                 | 13.95                 |                              | 0        |
| 16QAM                                 | 1       | 0         | 14.26                 | 13.92                 | 13.74                 | 0-1                          | 0        |
|                                       | 1       | 50        | 14.01                 | 13.86                 | 13.60                 |                              | 0        |
|                                       | 1       | 99        | 14.00                 | 13.82                 | 13.86                 |                              | 0        |
|                                       | 50      | 0         | 13.86                 | 13.57                 | 13.37                 | 0-2                          | 0        |
|                                       | 50      | 25        | 13.69                 | 13.58                 | 13.38                 |                              | 0        |
|                                       | 50      | 50        | 13.65                 | 13.52                 | 13.49                 |                              | 0        |
|                                       | 100     | 0         | 13.77                 | 13.64                 | 13.59                 |                              | 0        |
| 64QAM                                 | 1       | 0         | 14.23                 | 14.21                 | 14.19                 | 0-2                          | 0        |
|                                       | 1       | 50        | 14.24                 | 14.18                 | 13.95                 |                              | 0        |
|                                       | 1       | 99        | 14.20                 | 14.29                 | 14.17                 |                              | 0        |
|                                       | 50      | 0         | 13.90                 | 13.86                 | 13.70                 | 0-3                          | 0        |
|                                       | 50      | 25        | 13.90                 | 13.84                 | 13.76                 |                              | 0        |
|                                       | 50      | 50        | 13.91                 | 14.00                 | 13.93                 |                              | 0        |
|                                       | 100     | 0         | 13.97                 | 14.03                 | 13.92                 |                              | 0        |

**Table 8-64**  
**LTE Band 25 (PCS) Reduced Conducted Powers - 15 MHz Bandwidth- Antenna WF5**

| LTE Band 25 (PCS)<br>15 MHz Bandwidth |         |           |                       |                       |                       |                              |          |
|---------------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                            | RB Size | RB Offset | Low Channel           | Mid Channel           | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                       |         |           | 26115<br>(1857.5 MHz) | 26365<br>(1882.5 MHz) | 26615<br>(1907.5 MHz) |                              |          |
|                                       |         |           | Conducted Power [dBm] |                       |                       |                              |          |
| QPSK                                  | 1       | 0         | 14.24                 | 14.15                 | 14.01                 | 0                            | 0        |
|                                       | 1       | 36        | 14.14                 | 14.25                 | 14.07                 |                              | 0        |
|                                       | 1       | 74        | 14.03                 | 14.30                 | 14.17                 |                              | 0        |
|                                       | 36      | 0         | 14.07                 | 14.05                 | 13.94                 | 0-1                          | 0        |
|                                       | 36      | 18        | 14.08                 | 14.22                 | 14.02                 |                              | 0        |
|                                       | 36      | 37        | 14.10                 | 14.28                 | 14.12                 |                              | 0        |
|                                       | 75      | 0         | 14.08                 | 14.24                 | 14.13                 |                              | 0        |
| 16QAM                                 | 1       | 0         | 14.25                 | 14.12                 | 14.00                 | 0-1                          | 0        |
|                                       | 1       | 36        | 14.05                 | 14.15                 | 13.94                 |                              | 0        |
|                                       | 1       | 74        | 13.93                 | 14.21                 | 14.04                 |                              | 0        |
|                                       | 36      | 0         | 13.72                 | 13.71                 | 13.61                 | 0-2                          | 0        |
|                                       | 36      | 18        | 13.74                 | 13.82                 | 13.62                 |                              | 0        |
|                                       | 36      | 37        | 13.76                 | 13.90                 | 13.72                 |                              | 0        |
|                                       | 75      | 0         | 13.71                 | 13.86                 | 13.73                 |                              | 0        |
| 64QAM                                 | 1       | 0         | 14.25                 | 14.19                 | 13.95                 | 0-2                          | 0        |
|                                       | 1       | 36        | 14.12                 | 14.21                 | 14.08                 |                              | 0        |
|                                       | 1       | 74        | 14.07                 | 14.28                 | 14.20                 |                              | 0        |
|                                       | 36      | 0         | 13.88                 | 13.88                 | 13.75                 | 0-3                          | 0        |
|                                       | 36      | 18        | 13.91                 | 13.98                 | 13.80                 |                              | 0        |
|                                       | 36      | 37        | 13.92                 | 14.04                 | 13.89                 |                              | 0        |
|                                       | 75      | 0         | 13.86                 | 14.03                 | 13.90                 |                              | 0        |

|                                         |                                                                                     |                              |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 60 of 120                  |

**Table 8-65**  
**LTE Band 25 (PCS) Reduced Conducted Powers - 10 MHz Bandwidth- Antenna WF5**

| LTE Band 25 (PCS)<br>10 MHz Bandwidth |         |           |                       |                       |                       |                              |          |
|---------------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                            | RB Size | RB Offset | Low Channel           | Mid Channel           | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                       |         |           | 26090<br>(1855.0 MHz) | 26365<br>(1882.5 MHz) | 26640<br>(1910.0 MHz) |                              |          |
|                                       |         |           | Conducted Power [dBm] |                       |                       |                              |          |
| QPSK                                  | 1       | 0         | 14.27                 | 14.11                 | 13.96                 | 0                            | 0        |
|                                       | 1       | 25        | 14.20                 | 14.19                 | 14.22                 |                              | 0        |
|                                       | 1       | 49        | 14.24                 | 14.27                 | 14.20                 |                              | 0        |
|                                       | 25      | 0         | 14.12                 | 14.14                 | 14.02                 | 0-1                          | 0        |
|                                       | 25      | 12        | 14.12                 | 14.16                 | 14.15                 |                              | 0        |
|                                       | 25      | 25        | 14.12                 | 14.24                 | 14.09                 |                              | 0        |
|                                       | 50      | 0         | 14.15                 | 14.20                 | 14.19                 |                              | 0        |
| 16QAM                                 | 1       | 0         | 14.21                 | 14.10                 | 13.94                 | 0-1                          | 0        |
|                                       | 1       | 25        | 14.05                 | 14.13                 | 14.14                 |                              | 0        |
|                                       | 1       | 49        | 14.07                 | 14.22                 | 14.10                 |                              | 0        |
|                                       | 25      | 0         | 13.71                 | 13.79                 | 13.59                 | 0-2                          | 0        |
|                                       | 25      | 12        | 13.64                 | 13.79                 | 13.75                 |                              | 0        |
|                                       | 25      | 25        | 13.70                 | 13.86                 | 13.71                 |                              | 0        |
|                                       | 50      | 0         | 13.72                 | 13.77                 | 13.71                 |                              | 0        |
| 64QAM                                 | 1       | 0         | 14.27                 | 14.14                 | 13.87                 | 0-2                          | 0        |
|                                       | 1       | 25        | 14.13                 | 14.25                 | 14.27                 |                              | 0        |
|                                       | 1       | 49        | 14.22                 | 14.30                 | 14.20                 |                              | 0        |
|                                       | 25      | 0         | 13.88                 | 13.96                 | 13.77                 | 0-3                          | 0        |
|                                       | 25      | 12        | 13.87                 | 13.97                 | 13.98                 |                              | 0        |
|                                       | 25      | 25        | 13.90                 | 14.03                 | 13.86                 |                              | 0        |
|                                       | 50      | 0         | 13.91                 | 13.97                 | 13.96                 |                              | 0        |

**Table 8-66**  
**LTE Band 25 (PCS) Reduced Conducted Powers - 5 MHz Bandwidth- Antenna WF5**

| LTE Band 25 (PCS)<br>5 MHz Bandwidth |         |           |                       |                       |                       |                              |          |
|--------------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                           | RB Size | RB Offset | Low Channel           | Mid Channel           | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                      |         |           | 26065<br>(1852.5 MHz) | 26365<br>(1882.5 MHz) | 26665<br>(1912.5 MHz) |                              |          |
|                                      |         |           | Conducted Power [dBm] |                       |                       |                              |          |
| QPSK                                 | 1       | 0         | 14.25                 | 14.19                 | 14.28                 | 0                            | 0        |
|                                      | 1       | 12        | 14.12                 | 14.18                 | 14.17                 |                              | 0        |
|                                      | 1       | 24        | 14.16                 | 14.19                 | 14.19                 |                              | 0        |
|                                      | 12      | 0         | 14.15                 | 14.13                 | 14.18                 | 0-1                          | 0        |
|                                      | 12      | 6         | 14.08                 | 14.11                 | 14.10                 |                              | 0        |
|                                      | 12      | 13        | 14.08                 | 14.12                 | 14.10                 |                              | 0        |
|                                      | 25      | 0         | 14.09                 | 14.15                 | 14.12                 |                              | 0        |
| 16QAM                                | 1       | 0         | 14.25                 | 14.15                 | 14.27                 | 0-1                          | 0        |
|                                      | 1       | 12        | 14.12                 | 14.16                 | 14.15                 |                              | 0        |
|                                      | 1       | 24        | 14.11                 | 14.21                 | 14.19                 |                              | 0        |
|                                      | 12      | 0         | 13.80                 | 14.14                 | 13.81                 | 0-2                          | 0        |
|                                      | 12      | 6         | 13.74                 | 13.81                 | 13.80                 |                              | 0        |
|                                      | 12      | 13        | 13.73                 | 13.83                 | 13.72                 |                              | 0        |
|                                      | 25      | 0         | 13.73                 | 13.80                 | 13.77                 |                              | 0        |
| 64QAM                                | 1       | 0         | 14.27                 | 14.23                 | 14.30                 | 0-2                          | 0        |
|                                      | 1       | 12        | 14.20                 | 14.22                 | 14.21                 |                              | 0        |
|                                      | 1       | 24        | 14.18                 | 14.29                 | 14.22                 |                              | 0        |
|                                      | 12      | 0         | 13.97                 | 13.99                 | 13.94                 | 0-3                          | 0        |
|                                      | 12      | 6         | 13.94                 | 13.97                 | 13.93                 |                              | 0        |
|                                      | 12      | 13        | 13.95                 | 14.00                 | 13.87                 |                              | 0        |
|                                      | 25      | 0         | 13.91                 | 13.97                 | 13.91                 |                              | 0        |

|                                         |                                                                                     |                              |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 61 of 120                  |

**Table 8-67**  
**LTE Band 25 (PCS) Reduced Conducted Powers - 3 MHz Bandwidth- Antenna WF5**

| LTE Band 25 (PCS)<br>3 MHz Bandwidth |         |           |                       |                       |                       |                              |          |
|--------------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                           | RB Size | RB Offset | Low Channel           | Mid Channel           | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                      |         |           | 26055<br>(1851.5 MHz) | 26365<br>(1882.5 MHz) | 26675<br>(1913.5 MHz) |                              |          |
|                                      |         |           | Conducted Power [dBm] |                       |                       |                              |          |
| QPSK                                 | 1       | 0         | 14.21                 | 14.16                 | 14.14                 | 0                            | 0        |
|                                      | 1       | 7         | 14.23                 | 14.22                 | 14.19                 |                              | 0        |
|                                      | 1       | 14        | 14.12                 | 14.22                 | 14.14                 |                              | 0        |
|                                      | 8       | 0         | 14.23                 | 14.18                 | 14.15                 | 0-1                          | 0        |
|                                      | 8       | 4         | 14.18                 | 14.19                 | 14.11                 |                              | 0        |
|                                      | 8       | 7         | 14.11                 | 14.20                 | 14.13                 |                              | 0        |
|                                      | 15      | 0         | 14.17                 | 14.19                 | 14.13                 |                              | 0        |
| 16QAM                                | 1       | 0         | 14.13                 | 14.11                 | 14.14                 | 0-1                          | 0        |
|                                      | 1       | 7         | 14.15                 | 14.15                 | 14.13                 |                              | 0        |
|                                      | 1       | 14        | 14.09                 | 14.10                 | 14.07                 |                              | 0        |
|                                      | 8       | 0         | 13.88                 | 13.79                 | 13.88                 | 0-2                          | 0        |
|                                      | 8       | 4         | 13.81                 | 13.80                 | 13.79                 |                              | 0        |
|                                      | 8       | 7         | 13.78                 | 13.83                 | 13.78                 |                              | 0        |
|                                      | 15      | 0         | 13.78                 | 13.78                 | 13.74                 |                              | 0        |
| 64QAM                                | 1       | 0         | 14.29                 | 14.13                 | 14.20                 | 0-2                          | 0        |
|                                      | 1       | 7         | 14.24                 | 14.18                 | 14.18                 |                              | 0        |
|                                      | 1       | 14        | 14.16                 | 14.20                 | 14.18                 |                              | 0        |
|                                      | 8       | 0         | 14.06                 | 13.97                 | 13.99                 | 0-3                          | 0        |
|                                      | 8       | 4         | 14.02                 | 13.99                 | 13.95                 |                              | 0        |
|                                      | 8       | 7         | 13.98                 | 14.01                 | 13.94                 |                              | 0        |
|                                      | 15      | 0         | 13.98                 | 13.97                 | 13.91                 |                              | 0        |

**Table 8-68**  
**LTE Band 25 (PCS) Reduced Conducted Powers -1.4 MHz Bandwidth- Antenna WF5**

| LTE Band 25 (PCS)<br>1.4 MHz Bandwidth |         |           |                       |                       |                       |                              |          |
|----------------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                             | RB Size | RB Offset | Low Channel           | Mid Channel           | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                        |         |           | 26047<br>(1850.7 MHz) | 26365<br>(1882.5 MHz) | 26683<br>(1914.3 MHz) |                              |          |
|                                        |         |           | Conducted Power [dBm] |                       |                       |                              |          |
| QPSK                                   | 1       | 0         | 14.27                 | 14.22                 | 14.20                 | 0                            | 0        |
|                                        | 1       | 2         | 14.26                 | 14.21                 | 14.19                 |                              | 0        |
|                                        | 1       | 5         | 14.22                 | 14.27                 | 14.21                 |                              | 0        |
|                                        | 3       | 0         | 14.23                 | 14.19                 | 14.16                 |                              | 0        |
|                                        | 3       | 2         | 14.23                 | 14.20                 | 14.16                 |                              | 0        |
|                                        | 3       | 3         | 14.25                 | 14.22                 | 14.15                 |                              | 0        |
|                                        | 6       | 0         | 14.23                 | 14.20                 | 14.13                 | 0-1                          | 0        |
| 16QAM                                  | 1       | 0         | 14.17                 | 14.14                 | 14.13                 | 0-1                          | 0        |
|                                        | 1       | 2         | 14.19                 | 14.15                 | 14.09                 |                              | 0        |
|                                        | 1       | 5         | 14.13                 | 14.14                 | 14.11                 |                              | 0        |
|                                        | 3       | 0         | 13.97                 | 13.93                 | 13.88                 |                              | 0        |
|                                        | 3       | 2         | 13.96                 | 13.91                 | 13.88                 |                              | 0        |
|                                        | 3       | 3         | 13.95                 | 13.93                 | 13.85                 |                              | 0        |
|                                        | 6       | 0         | 13.88                 | 13.85                 | 13.80                 | 0-2                          | 0        |
| 64QAM                                  | 1       | 0         | 14.30                 | 14.20                 | 14.21                 | 0-2                          | 0        |
|                                        | 1       | 2         | 14.25                 | 14.15                 | 14.18                 |                              | 0        |
|                                        | 1       | 5         | 14.22                 | 14.24                 | 14.21                 |                              | 0        |
|                                        | 3       | 0         | 14.14                 | 14.07                 | 14.08                 |                              | 0        |
|                                        | 3       | 2         | 14.17                 | 14.09                 | 14.07                 |                              | 0        |
|                                        | 3       | 3         | 14.15                 | 14.11                 | 14.06                 |                              | 0        |
|                                        | 6       | 0         | 14.05                 | 13.98                 | 13.95                 | 0-3                          | 0        |

|                                         |                                                                                     |                              |  |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|--|---------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> |  | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   |  | Page 62 of 120                  |

### 8.3.9 LTE Band 30

**Table 8-69**  
**LTE Band 30 Reduced Conducted Powers - 10 MHz Bandwidth- Antenna WF3**

| LTE Band 30<br>10 MHz Bandwidth |         |           |                                                   |                              |          |
|---------------------------------|---------|-----------|---------------------------------------------------|------------------------------|----------|
| Modulation                      | RB Size | RB Offset | Mid Channel                                       | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                 |         |           | 27710<br>(2310.0 MHz)<br>Conducted Power<br>[dBm] |                              |          |
| QPSK                            | 1       | 0         | 12.79                                             | 0                            | 0        |
|                                 | 1       | 25        | 12.95                                             |                              | 0        |
|                                 | 1       | 49        | 12.96                                             |                              | 0        |
|                                 | 25      | 0         | 12.90                                             | 0-1                          | 0        |
|                                 | 25      | 12        | 12.96                                             |                              | 0        |
|                                 | 25      | 25        | 12.94                                             |                              | 0        |
|                                 | 50      | 0         | 12.95                                             |                              | 0        |
| 16QAM                           | 1       | 0         | 12.72                                             | 0-1                          | 0        |
|                                 | 1       | 25        | 12.92                                             |                              | 0        |
|                                 | 1       | 49        | 12.98                                             |                              | 0        |
|                                 | 25      | 0         | 12.50                                             | 0-2                          | 0        |
|                                 | 25      | 12        | 12.57                                             |                              | 0        |
|                                 | 25      | 25        | 12.56                                             |                              | 0        |
|                                 | 50      | 0         | 12.59                                             |                              | 0        |
| 64QAM                           | 1       | 0         | 12.64                                             | 0-2                          | 0        |
|                                 | 1       | 25        | 12.68                                             |                              | 0        |
|                                 | 1       | 49        | 12.72                                             |                              | 0        |
|                                 | 25      | 0         | 12.53                                             | 0-3                          | 0        |
|                                 | 25      | 12        | 12.54                                             |                              | 0        |
|                                 | 25      | 25        | 12.52                                             |                              | 0        |
|                                 | 50      | 0         | 12.54                                             |                              | 0        |

**Table 8-70**  
**LTE Band 30 Reduced Conducted Powers - 5 MHz Bandwidth- Antenna WF3**

| LTE Band 30<br>5 MHz Bandwidth |         |           |                                                   |                              |          |
|--------------------------------|---------|-----------|---------------------------------------------------|------------------------------|----------|
| Modulation                     | RB Size | RB Offset | Mid Channel                                       | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                |         |           | 27710<br>(2310.0 MHz)<br>Conducted Power<br>[dBm] |                              |          |
| QPSK                           | 1       | 0         | 12.80                                             | 0                            | 0        |
|                                | 1       | 12        | 12.84                                             |                              | 0        |
|                                | 1       | 24        | 12.85                                             |                              | 0        |
|                                | 12      | 0         | 12.90                                             | 0-1                          | 0        |
|                                | 12      | 6         | 12.91                                             |                              | 0        |
|                                | 12      | 13        | 12.93                                             |                              | 0        |
|                                | 25      | 0         | 12.94                                             |                              | 0        |
| 16QAM                          | 1       | 0         | 12.79                                             | 0-1                          | 0        |
|                                | 1       | 12        | 12.75                                             |                              | 0        |
|                                | 1       | 24        | 12.83                                             |                              | 0        |
|                                | 12      | 0         | 12.54                                             | 0-2                          | 0        |
|                                | 12      | 6         | 12.55                                             |                              | 0        |
|                                | 12      | 13        | 12.55                                             |                              | 0        |
|                                | 25      | 0         | 12.50                                             |                              | 0        |
| 64QAM                          | 1       | 0         | 12.65                                             | 0-2                          | 0        |
|                                | 1       | 12        | 12.72                                             |                              | 0        |
|                                | 1       | 24        | 12.75                                             |                              | 0        |
|                                | 12      | 0         | 12.44                                             | 0-3                          | 0        |
|                                | 12      | 6         | 12.47                                             |                              | 0        |
|                                | 12      | 13        | 12.49                                             |                              | 0        |
|                                | 25      | 0         | 12.51                                             |                              | 0        |

Note: LTE Band 30 at 5 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

|                                         |                                                                                                                  |                            |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  <b>SAR EVALUATION REPORT</b> |                            | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device | Page 63 of 120                  |

**Table 8-71**  
**LTE Band 30 Reduced Conducted Powers - 10 MHz Bandwidth- Antenna WF5**

| LTE Band 30<br>10 MHz Bandwidth |         |           |                          |                              |          |
|---------------------------------|---------|-----------|--------------------------|------------------------------|----------|
| Modulation                      | RB Size | RB Offset | Mid Channel              | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                 |         |           | 27710<br>(2310.0 MHz)    |                              |          |
|                                 |         |           | Conducted Power<br>[dBm] |                              |          |
| QPSK                            | 1       | 0         | 12.09                    | 0                            | 0        |
|                                 | 1       | 25        | 12.12                    |                              | 0        |
|                                 | 1       | 49        | <b>12.20</b>             |                              | 0        |
|                                 | 25      | 0         | 12.11                    | 0-1                          | 0        |
|                                 | 25      | 12        | 12.10                    |                              | 0        |
|                                 | 25      | 25        | <b>12.14</b>             |                              | 0        |
|                                 | 50      | 0         | 12.13                    |                              | 0        |
| 16QAM                           | 1       | 0         | 12.09                    | 0-1                          | 0        |
|                                 | 1       | 25        | 12.17                    |                              | 0        |
|                                 | 1       | 49        | 12.20                    |                              | 0        |
|                                 | 25      | 0         | 11.81                    | 0-2                          | 0        |
|                                 | 25      | 12        | 11.83                    |                              | 0        |
|                                 | 25      | 25        | 11.87                    |                              | 0        |
|                                 | 50      | 0         | 11.84                    |                              | 0        |
| 64QAM                           | 1       | 0         | 11.97                    | 0-2                          | 0        |
|                                 | 1       | 25        | 11.89                    |                              | 0        |
|                                 | 1       | 49        | 12.01                    |                              | 0        |
|                                 | 25      | 0         | 11.66                    | 0-3                          | 0        |
|                                 | 25      | 12        | 11.65                    |                              | 0        |
|                                 | 25      | 25        | 11.67                    |                              | 0        |
|                                 | 50      | 0         | 11.68                    |                              | 0        |

**Table 8-72**  
**LTE Band 30 Reduced Conducted Powers - 5 MHz Bandwidth- Antenna WF5**

| LTE Band 30<br>5 MHz Bandwidth |         |           |                          |                              |          |
|--------------------------------|---------|-----------|--------------------------|------------------------------|----------|
| Modulation                     | RB Size | RB Offset | Mid Channel              | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                |         |           | 27710<br>(2310.0 MHz)    |                              |          |
|                                |         |           | Conducted Power<br>[dBm] |                              |          |
| QPSK                           | 1       | 0         | 11.80                    | 0                            | 0        |
|                                | 1       | 12        | 11.88                    |                              | 0        |
|                                | 1       | 24        | 11.86                    |                              | 0        |
|                                | 12      | 0         | 11.96                    | 0-1                          | 0        |
|                                | 12      | 6         | 11.87                    |                              | 0        |
|                                | 12      | 13        | 11.91                    |                              | 0        |
|                                | 25      | 0         | 11.98                    |                              | 0        |
| 16QAM                          | 1       | 0         | 11.82                    | 0-1                          | 0        |
|                                | 1       | 12        | 12.02                    |                              | 0        |
|                                | 1       | 24        | 11.95                    |                              | 0        |
|                                | 12      | 0         | 11.70                    | 0-2                          | 0        |
|                                | 12      | 6         | 11.64                    |                              | 0        |
|                                | 12      | 13        | 11.69                    |                              | 0        |
|                                | 25      | 0         | 11.60                    |                              | 0        |
| 64QAM                          | 1       | 0         | 11.90                    | 0-2                          | 0        |
|                                | 1       | 12        | 11.91                    |                              | 0        |
|                                | 1       | 24        | 11.90                    |                              | 0        |
|                                | 12      | 0         | 11.69                    | 0-3                          | 0        |
|                                | 12      | 6         | 11.68                    |                              | 0        |
|                                | 12      | 13        | 11.67                    |                              | 0        |
|                                | 25      | 0         | 11.68                    |                              | 0        |

Note: LTE Band 30 at 5 MHz bandwidth does not support three non-overlapping channels. Per KDB Publication 941225 D05v02, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

|                                         |                                                                                     |                              |                                 |
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| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 64 of 120                  |

### 8.3.10 LTE Band 7

**Table 8-73**  
**LTE Band 7 Reduced Conducted Powers - 20 MHz Bandwidth- Antenna WF3**

| LTE Band 7<br>20 MHz Bandwidth |         |           |                       |                       |                       |                              |          |
|--------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                     | RB Size | RB Offset | Low Channel           | Mid Channel           | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                |         |           | 20850<br>(2510.0 MHz) | 21100<br>(2535.0 MHz) | 21350<br>(2560.0 MHz) |                              |          |
|                                |         |           | Conducted Power [dBm] |                       |                       |                              |          |
| QPSK                           | 1       | 0         | 11.48                 | 11.16                 | 11.17                 | 0                            | 0        |
|                                | 1       | 50        | 11.35                 | 11.02                 | 11.10                 |                              | 0        |
|                                | 1       | 99        | 11.37                 | 11.21                 | 11.28                 |                              | 0        |
|                                | 50      | 0         | 11.28                 | 11.18                 | 11.32                 | 0-1                          | 0        |
|                                | 50      | 25        | 11.29                 | 11.13                 | 11.12                 |                              | 0        |
|                                | 50      | 50        | 11.37                 | 11.22                 | 11.26                 |                              | 0        |
|                                | 100     | 0         | 11.36                 | 11.15                 | 11.27                 |                              | 0        |
| 16QAM                          | 1       | 0         | 11.46                 | 11.26                 | 11.27                 | 0-1                          | 0        |
|                                | 1       | 50        | 11.23                 | 11.15                 | 11.07                 |                              | 0        |
|                                | 1       | 99        | 11.38                 | 11.27                 | 11.26                 |                              | 0        |
|                                | 50      | 0         | 11.05                 | 10.93                 | 11.00                 | 0-2                          | 0        |
|                                | 50      | 25        | 11.09                 | 10.92                 | 10.99                 |                              | 0        |
|                                | 50      | 50        | 11.17                 | 11.03                 | 11.09                 |                              | 0        |
|                                | 100     | 0         | 11.16                 | 10.97                 | 11.07                 |                              | 0        |
| 64QAM                          | 1       | 0         | 11.41                 | 11.00                 | 11.27                 | 0-2                          | 0        |
|                                | 1       | 50        | 11.35                 | 10.90                 | 11.18                 |                              | 0        |
|                                | 1       | 99        | 11.31                 | 11.10                 | 11.35                 |                              | 0        |
|                                | 50      | 0         | 11.04                 | 10.84                 | 11.00                 | 0-3                          | 0        |
|                                | 50      | 25        | 11.00                 | 10.80                 | 10.90                 |                              | 0        |
|                                | 50      | 50        | 11.03                 | 10.94                 | 11.00                 |                              | 0        |
|                                | 100     | 0         | 11.05                 | 10.89                 | 11.00                 |                              | 0        |

**Table 8-74**  
**LTE Band 7 Reduced Conducted Powers - 15 MHz Bandwidth- Antenna WF3**

| LTE Band 7<br>15 MHz Bandwidth |         |           |                       |                       |                       |                              |          |
|--------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                     | RB Size | RB Offset | Low Channel           | Mid Channel           | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                |         |           | 20825<br>(2507.5 MHz) | 21100<br>(2535.0 MHz) | 21375<br>(2562.5 MHz) |                              |          |
|                                |         |           | Conducted Power [dBm] |                       |                       |                              |          |
| QPSK                           | 1       | 0         | 11.08                 | 10.81                 | 10.73                 | 0                            | 0        |
|                                | 1       | 36        | 10.90                 | 10.70                 | 10.70                 |                              | 0        |
|                                | 1       | 74        | 11.00                 | 10.72                 | 10.73                 |                              | 0        |
|                                | 36      | 0         | 10.82                 | 10.85                 | 10.71                 | 0-1                          | 0        |
|                                | 36      | 18        | 10.83                 | 10.82                 | 10.70                 |                              | 0        |
|                                | 36      | 37        | 10.81                 | 10.81                 | 10.75                 |                              | 0        |
|                                | 75      | 0         | 10.88                 | 10.83                 | 10.81                 |                              | 0        |
| 16QAM                          | 1       | 0         | 11.07                 | 11.19                 | 11.14                 | 0-1                          | 0        |
|                                | 1       | 36        | 10.93                 | 11.15                 | 11.19                 |                              | 0        |
|                                | 1       | 74        | 11.08                 | 11.26                 | 11.23                 |                              | 0        |
|                                | 36      | 0         | 11.20                 | 11.20                 | 10.86                 | 0-2                          | 0        |
|                                | 36      | 18        | 10.98                 | 11.16                 | 10.93                 |                              | 0        |
|                                | 36      | 37        | 11.06                 | 11.03                 | 10.93                 |                              | 0        |
|                                | 75      | 0         | 11.09                 | 11.06                 | 10.99                 |                              | 0        |
| 64QAM                          | 1       | 0         | 11.38                 | 11.10                 | 10.90                 | 0-2                          | 0        |
|                                | 1       | 36        | 11.22                 | 11.02                 | 10.98                 |                              | 0        |
|                                | 1       | 74        | 11.35                 | 11.06                 | 11.08                 |                              | 0        |
|                                | 36      | 0         | 11.00                 | 10.91                 | 10.91                 | 0-3                          | 0        |
|                                | 36      | 18        | 10.95                 | 10.90                 | 10.87                 |                              | 0        |
|                                | 36      | 37        | 10.93                 | 10.93                 | 10.92                 |                              | 0        |
|                                | 75      | 0         | 10.90                 | 10.90                 | 11.00                 |                              | 0        |

|                                         |                                                                                                                  |                            |  |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|--|---------------------------------|
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| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device |  | Page 65 of 120                  |

**Table 8-75**  
**LTE Band 7 Reduced Conducted Powers - 10 MHz Bandwidth- Antenna WF3**

| LTE Band 7<br>10 MHz Bandwidth |         |           |                       |                       |                       |                              |          |
|--------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                     | RB Size | RB Offset | Low Channel           | Mid Channel           | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                |         |           | 20800<br>(2505.0 MHz) | 21100<br>(2535.0 MHz) | 21400<br>(2565.0 MHz) |                              |          |
|                                |         |           | Conducted Power [dBm] |                       |                       |                              |          |
| QPSK                           | 1       | 0         | 11.20                 | 10.89                 | 10.95                 | 0                            | 0        |
|                                | 1       | 25        | 11.00                 | 10.78                 | 10.95                 |                              | 0        |
|                                | 1       | 49        | 10.92                 | 10.86                 | 10.99                 |                              | 0        |
|                                | 25      | 0         | 10.94                 | 10.96                 | 10.97                 | 0-1                          | 0        |
|                                | 25      | 12        | 10.80                 | 10.98                 | 10.99                 |                              | 0        |
|                                | 25      | 25        | 11.01                 | 11.08                 | 11.01                 |                              | 0        |
|                                | 50      | 0         | 10.86                 | 10.93                 | 11.03                 |                              | 0        |
| 16QAM                          | 1       | 0         | 11.28                 | 11.09                 | 10.93                 | 0-1                          | 0        |
|                                | 1       | 25        | 11.16                 | 11.01                 | 11.03                 |                              | 0        |
|                                | 1       | 49        | 11.16                 | 10.99                 | 10.93                 |                              | 0        |
|                                | 25      | 0         | 10.94                 | 10.81                 | 10.91                 | 0-2                          | 0        |
|                                | 25      | 12        | 10.91                 | 10.77                 | 10.85                 |                              | 0        |
|                                | 25      | 25        | 10.97                 | 10.82                 | 10.87                 |                              | 0        |
|                                | 50      | 0         | 10.96                 | 10.83                 | 10.91                 |                              | 0        |
| 64QAM                          | 1       | 0         | 11.34                 | 11.03                 | 11.03                 | 0-2                          | 0        |
|                                | 1       | 25        | 11.36                 | 10.93                 | 11.05                 |                              | 0        |
|                                | 1       | 49        | 11.23                 | 11.10                 | 11.15                 |                              | 0        |
|                                | 25      | 0         | 11.03                 | 10.85                 | 11.01                 | 0-3                          | 0        |
|                                | 25      | 12        | 11.01                 | 10.82                 | 10.98                 |                              | 0        |
|                                | 25      | 25        | 10.95                 | 10.85                 | 11.02                 |                              | 0        |
|                                | 50      | 0         | 10.98                 | 10.86                 | 11.03                 |                              | 0        |

**Table 8-76**  
**LTE Band 7 Reduced Conducted Powers - 5 MHz Bandwidth- Antenna WF3**

| LTE Band 7<br>5 MHz Bandwidth |         |           |                       |                       |                       |                              |          |
|-------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                    | RB Size | RB Offset | Low Channel           | Mid Channel           | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                               |         |           | 20775<br>(2502.5 MHz) | 21100<br>(2535.0 MHz) | 21425<br>(2567.5 MHz) |                              |          |
|                               |         |           | Conducted Power [dBm] |                       |                       |                              |          |
| QPSK                          | 1       | 0         | 11.31                 | 11.10                 | 11.11                 | 0                            | 0        |
|                               | 1       | 12        | 11.25                 | 11.04                 | 11.09                 |                              | 0        |
|                               | 1       | 24        | 11.29                 | 11.17                 | 11.12                 |                              | 0        |
|                               | 12      | 0         | 11.14                 | 10.95                 | 10.96                 | 0-1                          | 0        |
|                               | 12      | 6         | 11.11                 | 10.95                 | 10.89                 |                              | 0        |
|                               | 12      | 13        | 11.08                 | 10.98                 | 10.90                 |                              | 0        |
|                               | 25      | 0         | 11.05                 | 10.92                 | 10.99                 |                              | 0        |
| 16QAM                         | 1       | 0         | 10.93                 | 11.10                 | 11.26                 | 0-1                          | 0        |
|                               | 1       | 12        | 10.89                 | 11.13                 | 11.21                 |                              | 0        |
|                               | 1       | 24        | 10.95                 | 11.16                 | 11.17                 |                              | 0        |
|                               | 12      | 0         | 10.75                 | 10.94                 | 10.97                 | 0-2                          | 0        |
|                               | 12      | 6         | 10.73                 | 10.97                 | 10.96                 |                              | 0        |
|                               | 12      | 13        | 10.81                 | 11.01                 | 10.93                 |                              | 0        |
|                               | 25      | 0         | 10.84                 | 10.94                 | 10.96                 |                              | 0        |
| 64QAM                         | 1       | 0         | 11.25                 | 11.03                 | 11.16                 | 0-2                          | 0        |
|                               | 1       | 12        | 11.13                 | 11.09                 | 11.14                 |                              | 0        |
|                               | 1       | 24        | 11.16                 | 11.10                 | 11.15                 |                              | 0        |
|                               | 12      | 0         | 11.08                 | 10.88                 | 10.98                 | 0-3                          | 0        |
|                               | 12      | 6         | 11.03                 | 10.85                 | 10.92                 |                              | 0        |
|                               | 12      | 13        | 11.00                 | 10.90                 | 11.00                 |                              | 0        |
|                               | 25      | 0         | 11.03                 | 10.87                 | 11.00                 |                              | 0        |

|                                         |                                                                                                                  |                            |  |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|--|---------------------------------|
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| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device |  | Page 66 of 120                  |

**Table 8-77**  
**LTE Band 7 Reduced Conducted Powers - 20 MHz Bandwidth- Antenna WF5**

| LTE Band 7<br>20 MHz Bandwidth |         |           |                       |                       |                       |                              |          |
|--------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                     | RB Size | RB Offset | Low Channel           | Mid Channel           | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                |         |           | 20850<br>(2510.0 MHz) | 21100<br>(2535.0 MHz) | 21350<br>(2560.0 MHz) |                              |          |
|                                |         |           | Conducted Power [dBm] |                       |                       |                              |          |
| QPSK                           | 1       | 0         | 11.86                 | 11.43                 | 11.46                 | 0                            | 0        |
|                                | 1       | 50        | 11.75                 | 11.42                 | 11.37                 |                              | 0        |
|                                | 1       | 99        | 11.76                 | 11.40                 | 11.44                 |                              | 0        |
|                                | 50      | 0         | 11.63                 | 11.54                 | 11.37                 | 0-1                          | 0        |
|                                | 50      | 25        | 11.70                 | 11.53                 | 11.40                 |                              | 0        |
|                                | 50      | 50        | 11.66                 | 11.48                 | 11.46                 |                              | 0        |
|                                | 100     | 0         | 11.69                 | 11.54                 | 11.48                 |                              | 0        |
| 16QAM                          | 1       | 0         | 11.90                 | 11.67                 | 11.47                 | 0-1                          | 0        |
|                                | 1       | 50        | 11.77                 | 11.58                 | 11.46                 |                              | 0        |
|                                | 1       | 99        | 11.88                 | 11.56                 | 11.55                 |                              | 0        |
|                                | 50      | 0         | 11.52                 | 11.41                 | 11.30                 | 0-2                          | 0        |
|                                | 50      | 25        | 11.59                 | 11.35                 | 11.29                 |                              | 0        |
|                                | 50      | 50        | 11.60                 | 11.38                 | 11.39                 |                              | 0        |
|                                | 100     | 0         | 11.65                 | 11.41                 | 11.38                 |                              | 0        |
| 64QAM                          | 1       | 0         | 11.81                 | 11.54                 | 11.44                 | 0-2                          | 0        |
|                                | 1       | 50        | 11.49                 | 11.59                 | 11.56                 |                              | 0        |
|                                | 1       | 99        | 11.59                 | 11.65                 | 11.48                 |                              | 0        |
|                                | 50      | 0         | 11.14                 | 11.18                 | 10.93                 | 0-3                          | 0        |
|                                | 50      | 25        | 11.18                 | 11.00                 | 10.93                 |                              | 0        |
|                                | 50      | 50        | 11.27                 | 11.12                 | 11.05                 |                              | 0        |
|                                | 100     | 0         | 11.28                 | 11.10                 | 10.97                 |                              | 0        |

**Table 8-78**  
**LTE Band 7 Reduced Conducted Powers - 15 MHz Bandwidth- Antenna WF5**

| LTE Band 7<br>15 MHz Bandwidth |         |           |                       |                       |                       |                              |          |
|--------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                     | RB Size | RB Offset | Low Channel           | Mid Channel           | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                |         |           | 20825<br>(2507.5 MHz) | 21100<br>(2535.0 MHz) | 21375<br>(2562.5 MHz) |                              |          |
|                                |         |           | Conducted Power [dBm] |                       |                       |                              |          |
| QPSK                           | 1       | 0         | 11.42                 | 11.61                 | 11.32                 | 0                            | 0        |
|                                | 1       | 36        | 11.36                 | 11.62                 | 11.42                 |                              | 0        |
|                                | 1       | 74        | 11.47                 | 11.63                 | 11.48                 |                              | 0        |
|                                | 36      | 0         | 11.47                 | 11.51                 | 11.36                 | 0-1                          | 0        |
|                                | 36      | 18        | 11.47                 | 11.52                 | 11.48                 |                              | 0        |
|                                | 36      | 37        | 11.53                 | 11.55                 | 11.53                 |                              | 0        |
|                                | 75      | 0         | 11.52                 | 11.55                 | 11.53                 |                              | 0        |
| 16QAM                          | 1       | 0         | 11.85                 | 11.72                 | 11.56                 | 0-1                          | 0        |
|                                | 1       | 36        | 11.79                 | 11.70                 | 11.60                 |                              | 0        |
|                                | 1       | 74        | 11.85                 | 11.81                 | 11.72                 |                              | 0        |
|                                | 36      | 0         | 11.41                 | 11.43                 | 11.25                 | 0-2                          | 0        |
|                                | 36      | 18        | 11.47                 | 11.45                 | 11.34                 |                              | 0        |
|                                | 36      | 37        | 11.43                 | 11.48                 | 11.44                 |                              | 0        |
|                                | 75      | 0         | 11.53                 | 11.46                 | 11.39                 |                              | 0        |
| 64QAM                          | 1       | 0         | 11.65                 | 11.50                 | 11.31                 | 0-2                          | 0        |
|                                | 1       | 36        | 11.75                 | 11.57                 | 11.28                 |                              | 0        |
|                                | 1       | 74        | 11.69                 | 11.45                 | 11.50                 |                              | 0        |
|                                | 36      | 0         | 11.13                 | 11.04                 | 10.92                 | 0-3                          | 0        |
|                                | 36      | 18        | 11.22                 | 10.98                 | 10.98                 |                              | 0        |
|                                | 36      | 37        | 11.17                 | 11.07                 | 10.90                 |                              | 0        |
|                                | 75      | 0         | 11.18                 | 10.96                 | 11.07                 |                              | 0        |

|                                         |                                                                                                                  |                            |  |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|--|---------------------------------|
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| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device |  | Page 67 of 120                  |

**Table 8-79**  
**LTE Band 7 Reduced Conducted Powers - 10 MHz Bandwidth- Antenna WF5**

| LTE Band 7<br>10 MHz Bandwidth |         |           |                       |                       |                       |                              |          |
|--------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                     | RB Size | RB Offset | Low Channel           | Mid Channel           | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                |         |           | 20800<br>(2505.0 MHz) | 21100<br>(2535.0 MHz) | 21400<br>(2565.0 MHz) |                              |          |
|                                |         |           | Conducted Power [dBm] |                       |                       |                              |          |
| QPSK                           | 1       | 0         | 11.49                 | 11.26                 | 11.16                 | 0                            | 0        |
|                                | 1       | 25        | 11.33                 | 11.24                 | 11.26                 |                              | 0        |
|                                | 1       | 49        | 11.34                 | 11.32                 | 11.29                 |                              | 0        |
|                                | 25      | 0         | 11.40                 | 11.31                 | 11.26                 | 0-1                          | 0        |
|                                | 25      | 12        | 11.36                 | 11.29                 | 11.31                 |                              | 0        |
|                                | 25      | 25        | 11.37                 | 11.33                 | 11.35                 |                              | 0        |
|                                | 50      | 0         | 11.40                 | 11.31                 | 11.34                 |                              | 0        |
| 16QAM                          | 1       | 0         | 11.38                 | 11.41                 | 11.30                 | 0-1                          | 0        |
|                                | 1       | 25        | 11.18                 | 11.43                 | 11.38                 |                              | 0        |
|                                | 1       | 49        | 11.25                 | 11.52                 | 11.46                 |                              | 0        |
|                                | 25      | 0         | 11.28                 | 11.16                 | 11.13                 | 0-2                          | 0        |
|                                | 25      | 12        | 11.23                 | 11.15                 | 11.17                 |                              | 0        |
|                                | 25      | 25        | 11.28                 | 11.19                 | 11.25                 |                              | 0        |
|                                | 50      | 0         | 11.27                 | 11.17                 | 11.22                 |                              | 0        |
| 64QAM                          | 1       | 0         | 11.68                 | 11.65                 | 11.66                 | 0-2                          | 0        |
|                                | 1       | 25        | 11.29                 | 11.45                 | 11.59                 |                              | 0        |
|                                | 1       | 49        | 11.41                 | 11.42                 | 11.55                 |                              | 0        |
|                                | 25      | 0         | 11.18                 | 11.01                 | 11.06                 | 0-3                          | 0        |
|                                | 25      | 12        | 11.11                 | 11.00                 | 11.08                 |                              | 0        |
|                                | 25      | 25        | 11.17                 | 11.03                 | 11.08                 |                              | 0        |
|                                | 50      | 0         | 11.10                 | 11.00                 | 11.11                 |                              | 0        |

**Table 8-80**  
**LTE Band 7 Reduced Conducted Powers - 5 MHz Bandwidth- Antenna WF5**

| LTE Band 7<br>5 MHz Bandwidth |         |           |                       |                       |                       |                              |          |
|-------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                    | RB Size | RB Offset | Low Channel           | Mid Channel           | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                               |         |           | 20775<br>(2502.5 MHz) | 21100<br>(2535.0 MHz) | 21425<br>(2567.5 MHz) |                              |          |
|                               |         |           | Conducted Power [dBm] |                       |                       |                              |          |
| QPSK                          | 1       | 0         | 11.31                 | 11.14                 | 11.31                 | 0                            | 0        |
|                               | 1       | 12        | 11.19                 | 11.10                 | 11.32                 |                              | 0        |
|                               | 1       | 24        | 11.17                 | 11.16                 | 11.37                 |                              | 0        |
|                               | 12      | 0         | 11.35                 | 11.15                 | 11.24                 | 0-1                          | 0        |
|                               | 12      | 6         | 11.28                 | 11.14                 | 11.25                 |                              | 0        |
|                               | 12      | 13        | 11.27                 | 11.17                 | 11.25                 |                              | 0        |
|                               | 25      | 0         | 11.29                 | 11.14                 | 11.27                 | 0                            |          |
| 16QAM                         | 1       | 0         | 11.60                 | 11.29                 | 11.51                 | 0-1                          | 0        |
|                               | 1       | 12        | 11.42                 | 11.26                 | 11.48                 |                              | 0        |
|                               | 1       | 24        | 11.41                 | 11.30                 | 11.50                 |                              | 0        |
|                               | 12      | 0         | 11.28                 | 11.11                 | 11.20                 | 0-2                          | 0        |
|                               | 12      | 6         | 11.19                 | 11.05                 | 11.22                 |                              | 0        |
|                               | 12      | 13        | 11.13                 | 11.09                 | 11.18                 |                              | 0        |
|                               | 25      | 0         | 11.15                 | 11.04                 | 11.19                 | 0                            |          |
| 64QAM                         | 1       | 0         | 11.61                 | 11.56                 | 11.49                 | 0-2                          | 0        |
|                               | 1       | 12        | 11.72                 | 11.31                 | 11.27                 |                              | 0        |
|                               | 1       | 24        | 11.57                 | 11.39                 | 11.47                 |                              | 0        |
|                               | 12      | 0         | 11.23                 | 11.12                 | 11.15                 | 0-3                          | 0        |
|                               | 12      | 6         | 11.23                 | 11.14                 | 11.12                 |                              | 0        |
|                               | 12      | 13        | 11.25                 | 11.12                 | 11.15                 |                              | 0        |
|                               | 25      | 0         | 11.16                 | 11.03                 | 11.07                 | 0                            |          |

|                                         |                                                                                     |                              |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 68 of 120                  |

### 8.3.11 LTE Band 41

**Table 8-81**  
**LTE Band 41 PC3 Reduced Conducted Powers - 20 MHz Bandwidth- Antenna WF3**

| LTE Band 41<br>20 MHz Bandwidth |         |           |                       |                       |                       |                       |                       |                              |          |   |
|---------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------|----------|---|
| Modulation                      | RB Size | RB Offset | Low Channel           | Low-Mid Channel       | Mid Channel           | Mid-High Channel      | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |   |
|                                 |         |           | 39750<br>(2506.0 MHz) | 40185<br>(2549.5 MHz) | 40620<br>(2593.0 MHz) | 41055<br>(2636.5 MHz) | 41490<br>(2680.0 MHz) |                              |          |   |
|                                 |         |           | Conducted Power [dBm] |                       |                       |                       |                       |                              |          |   |
| QPSK                            | 1       | 0         | 13.96                 | 13.70                 | 13.72                 | 13.82                 | 13.85                 | 0                            | 0        |   |
|                                 | 1       | 50        | 13.77                 | 13.66                 | 13.70                 | 13.74                 | 13.82                 |                              | 0-1      | 0 |
|                                 | 1       | 99        | 13.84                 | 13.75                 | 13.71                 | 13.76                 | 13.81                 |                              |          | 0 |
|                                 | 50      | 0         | 13.95                 | 13.61                 | 13.66                 | 13.73                 | 13.77                 | 0                            |          |   |
|                                 | 50      | 25        | 13.72                 | 13.62                 | 13.64                 | 13.70                 | 13.76                 | 0                            |          | 0 |
|                                 | 50      | 50        | 13.71                 | 13.64                 | 13.63                 | 13.71                 | 13.76                 |                              | 0        |   |
|                                 | 100     | 0         | 13.72                 | 13.67                 | 13.68                 | 13.74                 | 13.77                 |                              | 0        |   |
| 16QAM                           | 1       | 0         | 13.95                 | 13.73                 | 13.66                 | 13.73                 | 13.84                 | 0-1                          | 0        |   |
|                                 | 1       | 50        | 13.81                 | 13.66                 | 13.64                 | 13.63                 | 13.80                 |                              | 0-2      | 0 |
|                                 | 1       | 99        | 13.85                 | 13.75                 | 13.69                 | 13.67                 | 13.87                 |                              |          | 0 |
|                                 | 50      | 0         | 13.81                 | 13.53                 | 13.53                 | 13.54                 | 13.64                 | 0                            |          | 0 |
|                                 | 50      | 25        | 13.61                 | 13.55                 | 13.54                 | 13.51                 | 13.65                 |                              |          | 0 |
|                                 | 50      | 50        | 13.60                 | 13.57                 | 13.55                 | 13.52                 | 13.63                 |                              | 0        |   |
|                                 | 100     | 0         | 13.63                 | 13.56                 | 13.54                 | 13.54                 | 13.66                 | 0                            |          |   |
| 64QAM                           | 1       | 0         | 13.99                 | 13.70                 | 13.85                 | 13.65                 | 13.83                 | 0-2                          | 0        |   |
|                                 | 1       | 50        | 13.85                 | 13.71                 | 13.68                 | 13.63                 | 13.80                 |                              | 0-3      | 0 |
|                                 | 1       | 99        | 13.83                 | 13.75                 | 13.65                 | 13.68                 | 13.78                 |                              |          | 0 |
|                                 | 50      | 0         | 13.78                 | 13.74                 | 13.60                 | 13.55                 | 13.68                 | 0                            |          |   |
|                                 | 50      | 25        | 13.77                 | 13.64                 | 13.62                 | 13.56                 | 13.61                 | 0                            |          | 0 |
|                                 | 50      | 50        | 13.73                 | 13.66                 | 13.59                 | 13.54                 | 13.60                 |                              | 0        |   |
|                                 | 100     | 0         | 13.75                 | 13.63                 | 13.64                 | 13.62                 | 13.61                 |                              | 0        |   |

**Table 8-82**  
**LTE Band 41 PC3 Reduced Conducted Powers - 15 MHz Bandwidth- Antenna WF3**

| LTE Band 41<br>15 MHz Bandwidth |         |           |                       |                       |                       |                       |                       |                              |          |   |
|---------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------|----------|---|
| Modulation                      | RB Size | RB Offset | Low Channel           | Low-Mid Channel       | Mid Channel           | Mid-High Channel      | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |   |
|                                 |         |           | 39750<br>(2506.0 MHz) | 40185<br>(2549.5 MHz) | 40620<br>(2593.0 MHz) | 41055<br>(2636.5 MHz) | 41490<br>(2680.0 MHz) |                              |          |   |
|                                 |         |           | Conducted Power [dBm] |                       |                       |                       |                       |                              |          |   |
| QPSK                            | 1       | 0         | 13.89                 | 13.66                 | 13.75                 | 13.64                 | 13.80                 | 0                            | 0        |   |
|                                 | 1       | 36        | 13.85                 | 13.62                 | 13.71                 | 13.68                 | 13.71                 |                              | 0-1      | 0 |
|                                 | 1       | 74        | 13.80                 | 13.61                 | 13.72                 | 13.60                 | 13.60                 |                              |          | 0 |
|                                 | 36      | 0         | 13.91                 | 13.72                 | 13.68                 | 13.64                 | 13.62                 | 0                            |          |   |
|                                 | 36      | 18        | 13.82                 | 13.65                 | 13.64                 | 13.63                 | 13.66                 | 0-1                          |          | 0 |
|                                 | 36      | 37        | 13.84                 | 13.67                 | 13.67                 | 13.67                 | 13.60                 |                              | 0        |   |
|                                 | 75      | 0         | 13.83                 | 13.75                 | 13.71                 | 13.69                 | 13.67                 |                              | 0        |   |
| 16QAM                           | 1       | 0         | 13.93                 | 13.79                 | 13.69                 | 13.73                 | 13.85                 | 0-1                          | 0        |   |
|                                 | 1       | 36        | 13.82                 | 13.68                 | 13.66                 | 13.61                 | 13.84                 |                              | 0-2      | 0 |
|                                 | 1       | 74        | 13.84                 | 13.75                 | 13.76                 | 13.69                 | 13.74                 |                              |          | 0 |
|                                 | 36      | 0         | 13.80                 | 13.59                 | 13.57                 | 13.58                 | 13.64                 | 0                            |          |   |
|                                 | 36      | 18        | 13.69                 | 13.57                 | 13.58                 | 13.55                 | 13.60                 | 0-2                          |          | 0 |
|                                 | 36      | 37        | 13.68                 | 13.59                 | 13.57                 | 13.53                 | 13.63                 |                              | 0        |   |
|                                 | 75      | 0         | 13.65                 | 13.64                 | 13.55                 | 13.59                 | 13.70                 |                              | 0        |   |
| 64QAM                           | 1       | 0         | 13.92                 | 13.72                 | 13.86                 | 13.76                 | 13.79                 | 0-2                          | 0        |   |
|                                 | 1       | 36        | 13.89                 | 13.70                 | 13.76                 | 13.72                 | 13.78                 |                              | 0-3      | 0 |
|                                 | 1       | 74        | 13.86                 | 13.70                 | 13.60                 | 13.65                 | 13.77                 |                              |          | 0 |
|                                 | 36      | 0         | 13.83                 | 13.68                 | 13.54                 | 13.56                 | 13.61                 | 0                            |          |   |
|                                 | 36      | 18        | 13.89                 | 13.71                 | 13.55                 | 13.55                 | 13.63                 | 0-3                          |          | 0 |
|                                 | 36      | 37        | 13.84                 | 13.68                 | 13.57                 | 13.52                 | 13.59                 |                              | 0        |   |
|                                 | 75      | 0         | 13.80                 | 13.67                 | 13.60                 | 13.59                 | 13.59                 |                              | 0        |   |

|                                         |                                                                                     |                              |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 69 of 120                  |

**Table 8-83**  
**LTE Band 41 PC3 Reduced Conducted Powers - 10 MHz Bandwidth- Antenna WF3**

| LTE Band 41<br>10 MHz Bandwidth |         |           |                       |                       |                       |                       |                       |                              |          |   |
|---------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------|----------|---|
| Modulation                      | RB Size | RB Offset | Low Channel           | Low-Mid Channel       | Mid Channel           | Mid-High Channel      | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |   |
|                                 |         |           | 39750<br>(2506.0 MHz) | 40185<br>(2549.5 MHz) | 40620<br>(2593.0 MHz) | 41055<br>(2636.5 MHz) | 41490<br>(2680.0 MHz) |                              |          |   |
|                                 |         |           | Conducted Power [dBm] |                       |                       |                       |                       |                              |          |   |
| QPSK                            | 1       | 0         | 13.83                 | 13.99                 | 13.71                 | 13.72                 | 13.60                 | 0                            | 0        |   |
|                                 | 1       | 25        | 13.74                 | 13.98                 | 13.74                 | 13.60                 | 13.59                 |                              | 0-1      | 0 |
|                                 | 1       | 49        | 13.70                 | 13.93                 | 13.70                 | 13.59                 | 13.57                 |                              |          | 0 |
|                                 | 25      | 0         | 13.80                 | 13.97                 | 13.73                 | 13.66                 | 13.49                 | 0                            |          |   |
|                                 | 25      | 12        | 13.84                 | 13.94                 | 13.71                 | 13.55                 | 13.44                 | 0                            |          | 0 |
|                                 | 25      | 25        | 13.75                 | 13.86                 | 13.69                 | 13.53                 | 13.56                 |                              | 0        |   |
|                                 | 50      | 0         | 13.73                 | 13.92                 | 13.72                 | 13.53                 | 13.53                 |                              | 0        |   |
| 16QAM                           | 1       | 0         | 13.91                 | 13.98                 | 13.74                 | 13.71                 | 13.61                 | 0-1                          | 0        |   |
|                                 | 1       | 25        | 13.82                 | 13.94                 | 13.73                 | 13.72                 | 13.52                 |                              | 0-2      | 0 |
|                                 | 1       | 49        | 13.87                 | 13.95                 | 13.70                 | 13.69                 | 13.51                 |                              |          | 0 |
|                                 | 25      | 0         | 13.70                 | 13.94                 | 13.63                 | 13.52                 | 13.40                 | 0                            |          |   |
|                                 | 25      | 12        | 13.67                 | 13.88                 | 13.62                 | 13.46                 | 13.36                 | 0                            |          | 0 |
|                                 | 25      | 25        | 13.60                 | 13.80                 | 13.60                 | 13.43                 | 13.39                 |                              | 0        |   |
|                                 | 50      | 0         | 13.61                 | 13.88                 | 13.60                 | 13.44                 | 13.39                 |                              | 0        |   |
| 64QAM                           | 1       | 0         | 13.97                 | 14.00                 | 13.88                 | 13.75                 | 13.74                 | 0-2                          | 0        |   |
|                                 | 1       | 25        | 13.90                 | 13.99                 | 13.81                 | 13.76                 | 13.67                 |                              | 0-3      | 0 |
|                                 | 1       | 49        | 13.89                 | 13.98                 | 13.89                 | 13.71                 | 13.68                 |                              |          | 0 |
|                                 | 25      | 0         | 13.77                 | 13.92                 | 13.72                 | 13.59                 | 13.46                 | 0                            |          |   |
|                                 | 25      | 12        | 13.75                 | 13.88                 | 13.70                 | 13.46                 | 13.41                 | 0                            |          | 0 |
|                                 | 25      | 25        | 13.69                 | 13.82                 | 13.67                 | 13.49                 | 13.47                 |                              | 0        |   |
|                                 | 50      | 0         | 13.74                 | 13.88                 | 13.63                 | 13.50                 | 13.43                 |                              | 0        |   |

**Table 8-84**  
**LTE Band 41 PC3 Reduced Conducted Powers - 5 MHz Bandwidth- Antenna WF3**

| LTE Band 41<br>5 MHz Bandwidth |         |           |                       |                       |                       |                       |                       |                              |          |   |
|--------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------|----------|---|
| Modulation                     | RB Size | RB Offset | Low Channel           | Low-Mid Channel       | Mid Channel           | Mid-High Channel      | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |   |
|                                |         |           | 39750<br>(2506.0 MHz) | 40185<br>(2549.5 MHz) | 40620<br>(2593.0 MHz) | 41055<br>(2636.5 MHz) | 41490<br>(2680.0 MHz) |                              |          |   |
|                                |         |           | Conducted Power [dBm] |                       |                       |                       |                       |                              |          |   |
| QPSK                           | 1       | 0         | 13.58                 | 13.55                 | 13.51                 | 13.53                 | 13.59                 | 0                            | 0        |   |
|                                | 1       | 12        | 13.45                 | 13.54                 | 13.45                 | 13.49                 | 13.55                 |                              | 0-1      | 0 |
|                                | 1       | 24        | 13.45                 | 13.57                 | 13.44                 | 13.50                 | 13.65                 |                              |          | 0 |
|                                | 12      | 0         | 13.47                 | 13.51                 | 13.46                 | 13.48                 | 13.52                 | 0                            |          |   |
|                                | 12      | 6         | 13.50                 | 13.48                 | 13.42                 | 13.45                 | 13.53                 | 0                            |          |   |
|                                | 12      | 13        | 13.44                 | 13.51                 | 13.42                 | 13.44                 | 13.58                 | 0                            |          |   |
|                                | 25      | 0         | 13.41                 | 13.50                 | 13.45                 | 13.46                 | 13.56                 | 0                            |          |   |
| 16QAM                          | 1       | 0         | 13.51                 | 13.58                 | 13.45                 | 13.38                 | 13.69                 | 0-1                          | 0        |   |
|                                | 1       | 12        | 13.38                 | 13.51                 | 13.43                 | 13.41                 | 13.50                 |                              | 0-2      | 0 |
|                                | 1       | 24        | 13.49                 | 13.59                 | 13.39                 | 13.35                 | 13.71                 |                              |          | 0 |
|                                | 12      | 0         | 13.33                 | 13.42                 | 13.32                 | 13.27                 | 13.43                 | 0                            |          |   |
|                                | 12      | 6         | 13.32                 | 13.38                 | 13.31                 | 13.26                 | 13.42                 | 0                            |          |   |
|                                | 12      | 13        | 13.29                 | 13.42                 | 13.30                 | 13.26                 | 13.46                 | 0                            |          |   |
|                                | 25      | 0         | 13.23                 | 13.42                 | 13.29                 | 13.25                 | 13.44                 | 0                            |          |   |
| 64QAM                          | 1       | 0         | 13.57                 | 13.58                 | 13.40                 | 13.51                 | 13.60                 | 0-2                          | 0        |   |
|                                | 1       | 12        | 13.48                 | 13.49                 | 13.45                 | 13.32                 | 13.56                 |                              | 0-3      | 0 |
|                                | 1       | 24        | 13.41                 | 13.58                 | 13.42                 | 13.38                 | 13.63                 |                              |          | 0 |
|                                | 12      | 0         | 13.42                 | 13.50                 | 13.38                 | 13.39                 | 13.51                 | 0                            |          |   |
|                                | 12      | 6         | 13.45                 | 13.48                 | 13.36                 | 13.38                 | 13.51                 | 0                            |          |   |
|                                | 12      | 13        | 13.35                 | 13.48                 | 13.44                 | 13.36                 | 13.50                 | 0                            |          |   |
|                                | 25      | 0         | 13.35                 | 13.46                 | 13.37                 | 13.38                 | 13.49                 | 0                            |          |   |

|                                         |                                                                                                                  |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device      |
| Page 70 of 120                          |                                                                                                                  |                                 |

**Table 8-85**  
**LTE Band 41 PC2 Reduced Conducted Powers - 20 MHz Bandwidth- Antenna WF3**

| LTE Band 41<br>20 MHz Bandwidth |         |           |                       |                       |                       |                       |                       |                              |          |
|---------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                      | RB Size | RB Offset | Low Channel           | Low-Mid Channel       | Mid Channel           | Mid-High Channel      | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                 |         |           | 39750<br>(2506.0 MHz) | 40185<br>(2549.5 MHz) | 40620<br>(2593.0 MHz) | 41055<br>(2636.5 MHz) | 41490<br>(2680.0 MHz) |                              |          |
|                                 |         |           | Conducted Power [dBm] |                       |                       |                       |                       |                              |          |
| QPSK                            | 1       | 0         | 13.92                 | 13.71                 | 13.64                 | 13.70                 | 13.72                 | 0                            | 0        |
|                                 | 1       | 50        | 13.73                 | 13.65                 | 13.65                 | 13.65                 | 13.67                 |                              | 0        |
|                                 | 1       | 99        | 13.80                 | 13.72                 | 13.68                 | 13.69                 | 13.71                 |                              | 0        |
|                                 | 50      | 0         | 13.90                 | 13.62                 | 13.61                 | 13.64                 | 13.63                 | 0-1                          | 0        |
|                                 | 50      | 25        | 13.68                 | 13.61                 | 13.60                 | 13.62                 | 13.62                 |                              | 0        |
|                                 | 50      | 50        | 13.69                 | 13.62                 | 13.60                 | 13.63                 | 13.64                 |                              | 0        |
|                                 | 100     | 0         | 13.70                 | 13.65                 | 13.63                 | 13.67                 | 13.67                 |                              | 0        |
| 16QAM                           | 1       | 0         | 13.94                 | 13.71                 | 13.62                 | 13.68                 | 13.70                 | 0-1                          | 0        |
|                                 | 1       | 50        | 13.78                 | 13.64                 | 13.57                 | 13.63                 | 13.66                 |                              | 0        |
|                                 | 1       | 99        | 13.79                 | 13.71                 | 13.60                 | 13.64                 | 13.74                 |                              | 0        |
|                                 | 50      | 0         | 13.74                 | 13.47                 | 13.46                 | 13.51                 | 13.52                 | 0-2                          | 0        |
|                                 | 50      | 25        | 13.53                 | 13.47                 | 13.49                 | 13.49                 | 13.53                 |                              | 0        |
|                                 | 50      | 50        | 13.55                 | 13.48                 | 13.48                 | 13.49                 | 13.52                 |                              | 0        |
|                                 | 100     | 0         | 13.56                 | 13.50                 | 13.51                 | 13.52                 | 13.53                 |                              | 0        |
| 64QAM                           | 1       | 0         | 13.80                 | 13.82                 | 13.61                 | 13.77                 | 13.88                 | 0-2                          | 0        |
|                                 | 1       | 50        | 13.82                 | 13.77                 | 13.63                 | 13.68                 | 13.78                 |                              | 0        |
|                                 | 1       | 99        | 13.66                 | 13.85                 | 13.62                 | 13.59                 | 13.90                 |                              | 0        |
|                                 | 50      | 0         | 13.46                 | 13.33                 | 13.32                 | 13.32                 | 13.40                 | 0-3                          | 0        |
|                                 | 50      | 25        | 13.39                 | 13.34                 | 13.29                 | 13.29                 | 13.38                 |                              | 0        |
|                                 | 50      | 50        | 13.29                 | 13.39                 | 13.28                 | 13.26                 | 13.37                 |                              | 0        |
|                                 | 100     | 0         | 13.30                 | 13.37                 | 13.30                 | 13.32                 | 13.41                 |                              | 0        |

**Table 8-86**  
**LTE Band 41 PC2 Reduced Conducted Powers - 15 MHz Bandwidth- Antenna WF3**

| LTE Band 41<br>15 MHz Bandwidth |         |           |                       |                       |                       |                       |                       |                              |          |
|---------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                      | RB Size | RB Offset | Low Channel           | Low-Mid Channel       | Mid Channel           | Mid-High Channel      | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                 |         |           | 39750<br>(2506.0 MHz) | 40185<br>(2549.5 MHz) | 40620<br>(2593.0 MHz) | 41055<br>(2636.5 MHz) | 41490<br>(2680.0 MHz) |                              |          |
|                                 |         |           | Conducted Power [dBm] |                       |                       |                       |                       |                              |          |
| QPSK                            | 1       | 0         | 13.61                 | 13.52                 | 13.44                 | 13.45                 | 13.65                 | 0                            | 0        |
|                                 | 1       | 36        | 13.50                 | 13.53                 | 13.46                 | 13.42                 | 13.63                 |                              | 0        |
|                                 | 1       | 74        | 13.42                 | 13.51                 | 13.38                 | 13.37                 | 13.62                 |                              | 0        |
|                                 | 36      | 0         | 13.49                 | 13.39                 | 13.36                 | 13.32                 | 13.48                 | 0-1                          | 0        |
|                                 | 36      | 18        | 13.35                 | 13.40                 | 13.34                 | 13.32                 | 13.49                 |                              | 0        |
|                                 | 36      | 37        | 13.27                 | 13.41                 | 13.31                 | 13.28                 | 13.47                 |                              | 0        |
|                                 | 75      | 0         | 13.29                 | 13.42                 | 13.35                 | 13.31                 | 13.49                 |                              | 0        |
| 16QAM                           | 1       | 0         | 13.80                 | 13.70                 | 13.70                 | 13.65                 | 13.75                 | 0-1                          | 0        |
|                                 | 1       | 36        | 13.75                 | 13.65                 | 13.63                 | 13.61                 | 13.75                 |                              | 0        |
|                                 | 1       | 74        | 13.69                 | 13.69                 | 13.60                 | 13.60                 | 13.74                 |                              | 0        |
|                                 | 36      | 0         | 13.33                 | 13.28                 | 13.29                 | 13.22                 | 13.30                 | 0-2                          | 0        |
|                                 | 36      | 18        | 13.23                 | 13.28                 | 13.27                 | 13.20                 | 13.32                 |                              | 0        |
|                                 | 36      | 37        | 13.18                 | 13.27                 | 13.24                 | 13.18                 | 13.31                 |                              | 0        |
|                                 | 75      | 0         | 13.21                 | 13.30                 | 13.30                 | 13.20                 | 13.31                 |                              | 0        |
| 64QAM                           | 1       | 0         | 13.83                 | 13.75                 | 13.68                 | 13.72                 | 13.89                 | 0-2                          | 0        |
|                                 | 1       | 36        | 13.76                 | 13.69                 | 13.67                 | 13.65                 | 13.92                 |                              | 0        |
|                                 | 1       | 74        | 13.59                 | 13.75                 | 13.62                 | 13.59                 | 13.89                 |                              | 0        |
|                                 | 36      | 0         | 13.41                 | 13.39                 | 13.38                 | 13.33                 | 13.49                 | 0-3                          | 0        |
|                                 | 36      | 18        | 13.35                 | 13.41                 | 13.29                 | 13.32                 | 13.48                 |                              | 0        |
|                                 | 36      | 37        | 13.20                 | 13.37                 | 13.29                 | 13.29                 | 13.52                 |                              | 0        |
|                                 | 75      | 0         | 13.23                 | 13.42                 | 13.27                 | 13.32                 | 13.51                 |                              | 0        |

|                                         |                                                                                     |                              |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 71 of 120                  |

**Table 8-87**  
**LTE Band 41 PC2 Reduced Conducted Powers - 10 MHz Bandwidth- Antenna WF3**

| LTE Band 41<br>10 MHz Bandwidth |         |           |                       |                       |                       |                       |                       |                              |          |   |
|---------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------|----------|---|
| Modulation                      | RB Size | RB Offset | Low Channel           | Low-Mid Channel       | Mid Channel           | Mid-High Channel      | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |   |
|                                 |         |           | 39750<br>(2506.0 MHz) | 40185<br>(2549.5 MHz) | 40620<br>(2593.0 MHz) | 41055<br>(2636.5 MHz) | 41490<br>(2680.0 MHz) |                              |          |   |
|                                 |         |           | Conducted Power [dBm] |                       |                       |                       |                       |                              |          |   |
| QPSK                            | 1       | 0         | 13.71                 | 13.65                 | 13.55                 | 13.59                 | 13.80                 | 0                            | 0        |   |
|                                 | 1       | 25        | 13.45                 | 13.62                 | 13.53                 | 13.49                 | 13.69                 |                              | 0-1      | 0 |
|                                 | 1       | 49        | 13.42                 | 13.65                 | 13.46                 | 13.50                 | 13.72                 |                              |          | 0 |
|                                 | 25      | 0         | 13.49                 | 13.50                 | 13.43                 | 13.42                 | 13.56                 | 0                            |          |   |
|                                 | 25      | 12        | 13.38                 | 13.50                 | 13.38                 | 13.38                 | 13.58                 | 0-1                          |          | 0 |
|                                 | 25      | 25        | 13.32                 | 13.51                 | 13.39                 | 13.37                 | 13.60                 |                              | 0        |   |
|                                 | 50      | 0         | 13.32                 | 13.51                 | 13.42                 | 13.40                 | 13.58                 |                              | 0        |   |
| 16QAM                           | 1       | 0         | 13.91                 | 13.83                 | 13.72                 | 13.64                 | 13.93                 | 0-1                          | 0        |   |
|                                 | 1       | 25        | 13.69                 | 13.78                 | 13.66                 | 13.58                 | 13.95                 |                              | 0-2      | 0 |
|                                 | 1       | 49        | 13.65                 | 13.83                 | 13.67                 | 13.54                 | 13.83                 |                              |          | 0 |
|                                 | 25      | 0         | 13.29                 | 13.38                 | 13.38                 | 13.26                 | 13.42                 | 0                            |          |   |
|                                 | 25      | 12        | 13.28                 | 13.37                 | 13.29                 | 13.27                 | 13.45                 | 0-2                          |          | 0 |
|                                 | 25      | 25        | 13.22                 | 13.40                 | 13.27                 | 13.22                 | 13.47                 |                              | 0        |   |
|                                 | 50      | 0         | 13.21                 | 13.36                 | 13.29                 | 13.22                 | 13.42                 |                              | 0        |   |
| 64QAM                           | 1       | 0         | 13.92                 | 13.88                 | 13.72                 | 13.79                 | 13.92                 | 0-2                          | 0        |   |
|                                 | 1       | 25        | 13.66                 | 13.80                 | 13.66                 | 13.81                 | 13.92                 |                              | 0-3      | 0 |
|                                 | 1       | 49        | 13.75                 | 13.88                 | 13.69                 | 13.76                 | 13.88                 |                              |          | 0 |
|                                 | 25      | 0         | 13.49                 | 13.49                 | 13.41                 | 13.41                 | 13.55                 | 0                            |          |   |
|                                 | 25      | 12        | 13.38                 | 13.48                 | 13.36                 | 13.39                 | 13.54                 | 0-3                          |          | 0 |
|                                 | 25      | 25        | 13.29                 | 13.49                 | 13.35                 | 13.37                 | 13.56                 |                              | 0        |   |
|                                 | 50      | 0         | 13.31                 | 13.47                 | 13.34                 | 13.37                 | 13.56                 |                              | 0        |   |

**Table 8-88**  
**LTE Band 41 PC2 Reduced Conducted Powers - 5 MHz Bandwidth- Antenna WF3**

| LTE Band 41<br>5 MHz Bandwidth |         |           |                       |                       |                       |                       |                       |                              |          |
|--------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                     | RB Size | RB Offset | Low Channel           | Low-Mid Channel       | Mid Channel           | Mid-High Channel      | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                |         |           | 39750<br>(2506.0 MHz) | 40185<br>(2549.5 MHz) | 40620<br>(2593.0 MHz) | 41055<br>(2636.5 MHz) | 41490<br>(2680.0 MHz) |                              |          |
|                                |         |           | Conducted Power [dBm] |                       |                       |                       |                       |                              |          |
| QPSK                           | 1       | 0         | 13.58                 | 13.55                 | 13.58                 | 13.46                 | 13.56                 | 0                            | 0        |
|                                | 1       | 12        | 13.41                 | 13.51                 | 13.44                 | 13.42                 | 13.55                 |                              | 0        |
|                                | 1       | 24        | 13.39                 | 13.59                 | 13.42                 | 13.46                 | 13.63                 |                              | 0        |
|                                | 12      | 0         | 13.35                 | 13.42                 | 13.40                 | 13.34                 | 13.44                 | 0-1                          | 0        |
|                                | 12      | 6         | 13.35                 | 13.41                 | 13.38                 | 13.33                 | 13.42                 |                              | 0        |
|                                | 12      | 13        | 13.29                 | 13.42                 | 13.37                 | 13.31                 | 13.46                 |                              | 0        |
|                                | 25      | 0         | 13.28                 | 13.42                 | 13.36                 | 13.33                 | 13.44                 |                              | 0        |
| 16QAM                          | 1       | 0         | 13.69                 | 13.78                 | 13.68                 | 13.66                 | 13.82                 | 0-1                          | 0        |
|                                | 1       | 12        | 13.70                 | 13.70                 | 13.63                 | 13.63                 | 13.83                 |                              | 0        |
|                                | 1       | 24        | 13.59                 | 13.85                 | 13.62                 | 13.58                 | 13.89                 |                              | 0        |
|                                | 12      | 0         | 13.31                 | 13.43                 | 13.38                 | 13.30                 | 13.48                 | 0-2                          | 0        |
|                                | 12      | 6         | 13.33                 | 13.42                 | 13.33                 | 13.27                 | 13.45                 |                              | 0        |
|                                | 12      | 13        | 13.31                 | 13.44                 | 13.32                 | 13.25                 | 13.46                 |                              | 0        |
|                                | 25      | 0         | 13.27                 | 13.40                 | 13.32                 | 13.28                 | 13.43                 |                              | 0        |
| 64QAM                          | 1       | 0         | 13.82                 | 13.88                 | 13.76                 | 13.77                 | 13.86                 | 0-2                          | 0        |
|                                | 1       | 12        | 13.72                 | 13.86                 | 13.71                 | 13.69                 | 13.83                 |                              | 0        |
|                                | 1       | 24        | 13.69                 | 13.84                 | 13.74                 | 13.66                 | 13.95                 |                              | 0        |
|                                | 12      | 0         | 13.44                 | 13.55                 | 13.44                 | 13.43                 | 13.59                 | 0-3                          | 0        |
|                                | 12      | 6         | 13.47                 | 13.55                 | 13.43                 | 13.38                 | 13.58                 |                              | 0        |
|                                | 12      | 13        | 13.40                 | 13.58                 | 13.39                 | 13.40                 | 13.60                 |                              | 0        |
|                                | 25      | 0         | 13.35                 | 13.52                 | 13.40                 | 13.38                 | 13.58                 |                              | 0        |

|                                         |                                                                                                                  |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device      |
| Page 72 of 120                          |                                                                                                                  |                                 |

**Table 8-89**  
**LTE Band 41 PC3 Reduced Conducted Powers - 20 MHz Bandwidth- Antenna WF5**

| LTE Band 41<br>20 MHz Bandwidth |         |           |                       |                       |                       |                       |                       |                              |          |
|---------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                      | RB Size | RB Offset | Low Channel           | Low-Mid Channel       | Mid Channel           | Mid-High Channel      | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                 |         |           | 39750<br>(2506.0 MHz) | 40185<br>(2549.5 MHz) | 40620<br>(2593.0 MHz) | 41055<br>(2636.5 MHz) | 41490<br>(2680.0 MHz) |                              |          |
|                                 |         |           | Conducted Power [dBm] |                       |                       |                       |                       |                              |          |
| QPSK                            | 1       | 0         | 14.38                 | 14.43                 | 14.49                 | 14.40                 | 14.26                 | 0                            | 0        |
|                                 | 1       | 50        | 14.33                 | 14.35                 | 14.31                 | 14.34                 | 14.24                 |                              | 0        |
|                                 | 1       | 99        | 14.31                 | 14.42                 | 14.30                 | 14.37                 | 14.25                 |                              | 0        |
|                                 | 50      | 0         | 14.33                 | 14.35                 | 14.39                 | 14.28                 | 14.24                 | 0-1                          | 0        |
|                                 | 50      | 25        | 14.28                 | 14.34                 | 14.33                 | 14.29                 | 14.21                 |                              | 0        |
|                                 | 50      | 50        | 14.30                 | 14.37                 | 14.30                 | 14.28                 | 14.20                 |                              | 0        |
|                                 | 100     | 0         | 14.33                 | 14.35                 | 14.37                 | 14.31                 | 14.21                 |                              | 0        |
| 16QAM                           | 1       | 0         | 14.24                 | 14.47                 | 14.46                 | 14.49                 | 14.36                 | 0-1                          | 0        |
|                                 | 1       | 50        | 14.19                 | 14.44                 | 14.34                 | 14.47                 | 14.35                 |                              | 0        |
|                                 | 1       | 99        | 14.20                 | 14.48                 | 14.38                 | 14.48                 | 14.37                 |                              | 0        |
|                                 | 50      | 0         | 14.18                 | 14.11                 | 14.01                 | 14.11                 | 14.03                 | 0-2                          | 0        |
|                                 | 50      | 25        | 14.19                 | 14.09                 | 14.08                 | 14.06                 | 14.02                 |                              | 0        |
|                                 | 50      | 50        | 14.17                 | 14.15                 | 14.00                 | 14.07                 | 14.01                 |                              | 0        |
|                                 | 100     | 0         | 14.23                 | 14.14                 | 14.07                 | 14.09                 | 13.98                 |                              | 0        |
| 64QAM                           | 1       | 0         | 14.10                 | 14.03                 | 14.23                 | 14.44                 | 14.34                 | 0-2                          | 0        |
|                                 | 1       | 50        | 14.17                 | 14.10                 | 14.17                 | 14.32                 | 14.32                 |                              | 0        |
|                                 | 1       | 99        | 14.16                 | 14.08                 | 14.29                 | 14.15                 | 14.40                 |                              | 0        |
|                                 | 50      | 0         | 13.82                 | 13.71                 | 13.86                 | 14.02                 | 14.04                 | 0-3                          | 0        |
|                                 | 50      | 25        | 13.80                 | 13.71                 | 13.89                 | 13.95                 | 14.03                 |                              | 0        |
|                                 | 50      | 50        | 13.82                 | 13.71                 | 13.85                 | 13.90                 | 14.05                 |                              | 0        |
|                                 | 100     | 0         | 13.83                 | 13.75                 | 13.88                 | 13.98                 | 14.05                 |                              | 0        |

**Table 8-90**  
**LTE Band 41 PC3 Reduced Conducted Powers - 15 MHz Bandwidth- Antenna WF5**

| LTE Band 41<br>15 MHz Bandwidth |         |           |                       |                       |                       |                       |                       |                              |          |   |
|---------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------|----------|---|
| Modulation                      | RB Size | RB Offset | Low Channel           | Low-Mid Channel       | Mid Channel           | Mid-High Channel      | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |   |
|                                 |         |           | 39750<br>(2506.0 MHz) | 40185<br>(2549.5 MHz) | 40620<br>(2593.0 MHz) | 41055<br>(2636.5 MHz) | 41490<br>(2680.0 MHz) |                              |          |   |
|                                 |         |           | Conducted Power [dBm] |                       |                       |                       |                       |                              |          |   |
| QPSK                            | 1       | 0         | 14.19                 | 14.04                 | 14.22                 | 14.42                 | 14.40                 | 0                            | 0        |   |
|                                 | 1       | 36        | 14.22                 | 14.09                 | 14.28                 | 14.34                 | 14.42                 |                              | 0-1      | 0 |
|                                 | 1       | 74        | 14.15                 | 14.08                 | 14.25                 | 14.21                 | 14.41                 |                              |          | 0 |
|                                 | 36      | 0         | 14.12                 | 13.98                 | 14.16                 | 14.28                 | 14.29                 | 0                            |          |   |
|                                 | 36      | 18        | 14.16                 | 14.00                 | 14.20                 | 14.23                 | 14.31                 | 0                            |          | 0 |
|                                 | 36      | 37        | 14.07                 | 14.01                 | 14.15                 | 14.17                 | 14.29                 |                              | 0        |   |
|                                 | 75      | 0         | 14.09                 | 13.99                 | 14.23                 | 14.23                 | 14.31                 |                              | 0        |   |
| 16QAM                           | 1       | 0         | 14.33                 | 14.32                 | 14.25                 | 14.47                 | 14.50                 | 0-1                          | 0        |   |
|                                 | 1       | 36        | 14.41                 | 14.35                 | 14.33                 | 14.41                 | 14.49                 |                              | 0-2      | 0 |
|                                 | 1       | 74        | 14.22                 | 14.32                 | 14.37                 | 14.34                 | 14.50                 |                              |          | 0 |
|                                 | 36      | 0         | 13.90                 | 13.89                 | 13.93                 | 14.07                 | 14.09                 | 0                            |          |   |
|                                 | 36      | 18        | 13.95                 | 13.92                 | 14.07                 | 14.03                 | 14.16                 | 0                            |          | 0 |
|                                 | 36      | 37        | 13.86                 | 13.93                 | 14.02                 | 13.97                 | 14.15                 |                              | 0        |   |
|                                 | 75      | 0         | 13.87                 | 13.91                 | 14.04                 | 14.04                 | 14.15                 |                              | 0        |   |
| 64QAM                           | 1       | 0         | 14.15                 | 14.05                 | 14.10                 | 14.30                 | 14.31                 | 0-2                          | 0        |   |
|                                 | 1       | 36        | 14.22                 | 14.04                 | 14.20                 | 14.20                 | 14.35                 |                              | 0-3      | 0 |
|                                 | 1       | 74        | 14.06                 | 14.10                 | 14.21                 | 14.10                 | 14.33                 |                              |          | 0 |
|                                 | 36      | 0         | 13.77                 | 13.78                 | 13.80                 | 13.84                 | 13.93                 | 0                            |          |   |
|                                 | 36      | 18        | 13.82                 | 13.80                 | 13.89                 | 13.83                 | 14.00                 | 0                            |          | 0 |
|                                 | 36      | 37        | 13.74                 | 13.81                 | 13.89                 | 13.77                 | 13.95                 |                              | 0        |   |
|                                 | 75      | 0         | 13.75                 | 13.80                 | 13.86                 | 13.83                 | 13.98                 |                              | 0        |   |

|                                         |                                                                                     |                              |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 73 of 120                  |

**Table 8-91**  
**LTE Band 41 PC3 Reduced Conducted Powers - 10 MHz Bandwidth- Antenna WF5**

| LTE Band 41<br>10 MHz Bandwidth |         |           |                       |                       |                       |                       |                       |                              |          |   |
|---------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------|----------|---|
| Modulation                      | RB Size | RB Offset | Low Channel           | Low-Mid Channel       | Mid Channel           | Mid-High Channel      | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |   |
|                                 |         |           | 39750<br>(2506.0 MHz) | 40185<br>(2549.5 MHz) | 40620<br>(2593.0 MHz) | 41055<br>(2636.5 MHz) | 41490<br>(2680.0 MHz) |                              |          |   |
|                                 |         |           | Conducted Power [dBm] |                       |                       |                       |                       |                              |          |   |
| QPSK                            | 1       | 0         | 14.27                 | 14.15                 | 14.29                 | 14.48                 | 14.43                 | 0                            | 0        |   |
|                                 | 1       | 25        | 14.22                 | 14.16                 | 14.30                 | 14.39                 | 14.41                 |                              | 0-1      | 0 |
|                                 | 1       | 49        | 14.27                 | 14.20                 | 14.28                 | 14.34                 | 14.43                 |                              |          | 0 |
|                                 | 25      | 0         | 14.20                 | 14.05                 | 14.25                 | 14.34                 | 14.31                 | 0                            |          |   |
|                                 | 25      | 12        | 14.21                 | 14.07                 | 14.21                 | 14.29                 | 14.31                 | 0-1                          |          | 0 |
|                                 | 25      | 25        | 14.16                 | 14.07                 | 14.23                 | 14.27                 | 14.32                 |                              | 0        |   |
|                                 | 50      | 0         | 14.15                 | 14.08                 | 14.24                 | 14.30                 | 14.33                 |                              | 0        |   |
| 16QAM                           | 1       | 0         | 14.34                 | 14.34                 | 14.33                 | 14.50                 | 14.41                 | 0-1                          | 0        |   |
|                                 | 1       | 25        | 14.35                 | 14.29                 | 14.40                 | 14.43                 | 14.44                 |                              | 0-2      | 0 |
|                                 | 1       | 49        | 14.41                 | 14.25                 | 14.33                 | 14.38                 | 14.50                 |                              |          | 0 |
|                                 | 25      | 0         | 14.01                 | 13.87                 | 14.05                 | 14.16                 | 14.18                 | 0                            |          |   |
|                                 | 25      | 12        | 14.00                 | 13.88                 | 14.03                 | 14.08                 | 14.17                 | 0-2                          |          | 0 |
|                                 | 25      | 25        | 13.95                 | 13.89                 | 14.05                 | 14.07                 | 14.18                 |                              | 0        |   |
|                                 | 50      | 0         | 13.95                 | 13.88                 | 14.01                 | 14.10                 | 14.16                 |                              | 0        |   |
| 64QAM                           | 1       | 0         | 14.21                 | 14.06                 | 14.20                 | 14.42                 | 14.47                 | 0-2                          | 0        |   |
|                                 | 1       | 25        | 14.16                 | 14.13                 | 14.24                 | 14.28                 | 14.32                 |                              | 0-3      | 0 |
|                                 | 1       | 49        | 14.18                 | 14.12                 | 14.10                 | 14.25                 | 14.45                 |                              |          | 0 |
|                                 | 25      | 0         | 13.85                 | 13.75                 | 13.91                 | 14.03                 | 14.05                 | 0                            |          |   |
|                                 | 25      | 12        | 13.88                 | 13.76                 | 13.88                 | 13.98                 | 14.04                 | 0-3                          |          | 0 |
|                                 | 25      | 25        | 13.83                 | 13.77                 | 13.88                 | 13.94                 | 14.07                 |                              | 0        |   |
|                                 | 50      | 0         | 13.82                 | 13.76                 | 13.90                 | 13.99                 | 14.07                 |                              | 0        |   |

**Table 8-92**  
**LTE Band 41 PC3 Reduced Conducted Powers - 5 MHz Bandwidth- Antenna WF5**

| LTE Band 41<br>5 MHz Bandwidth |         |           |                       |                       |                       |                       |                       |                              |          |
|--------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                     | RB Size | RB Offset | Low Channel           | Low-Mid Channel       | Mid Channel           | Mid-High Channel      | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                |         |           | 39750<br>(2506.0 MHz) | 40185<br>(2549.5 MHz) | 40620<br>(2593.0 MHz) | 41055<br>(2636.5 MHz) | 41490<br>(2680.0 MHz) |                              |          |
|                                |         |           | Conducted Power [dBm] |                       |                       |                       |                       |                              |          |
| QPSK                           | 1       | 0         | 14.25                 | 14.15                 | 14.32                 | 14.43                 | 14.42                 | 0                            | 0        |
|                                | 1       | 12        | 14.21                 | 14.15                 | 14.31                 | 14.40                 | 14.42                 |                              | 0        |
|                                | 1       | 24        | 14.23                 | 14.20                 | 14.33                 | 14.36                 | 14.47                 |                              | 0        |
|                                | 12      | 0         | 14.15                 | 14.07                 | 14.23                 | 14.32                 | 14.30                 | 0-1                          | 0        |
|                                | 12      | 6         | 14.18                 | 14.05                 | 14.24                 | 14.30                 | 14.32                 |                              | 0        |
|                                | 12      | 13        | 14.13                 | 14.06                 | 14.23                 | 14.28                 | 14.34                 |                              | 0        |
|                                | 25      | 0         | 14.10                 | 14.06                 | 14.24                 | 14.31                 | 14.32                 |                              | 0        |
| 16QAM                          | 1       | 0         | 14.44                 | 14.31                 | 14.32                 | 14.46                 | 14.48                 | 0-1                          | 0        |
|                                | 1       | 12        | 14.34                 | 14.30                 | 14.33                 | 14.48                 | 14.49                 |                              | 0        |
|                                | 1       | 24        | 14.32                 | 14.27                 | 14.40                 | 14.49                 | 14.50                 |                              | 0        |
|                                | 12      | 0         | 14.04                 | 13.95                 | 14.08                 | 14.15                 | 14.19                 | 0-2                          | 0        |
|                                | 12      | 6         | 14.04                 | 13.95                 | 14.06                 | 14.14                 | 14.24                 |                              | 0        |
|                                | 12      | 13        | 14.01                 | 13.96                 | 14.07                 | 14.13                 | 14.21                 |                              | 0        |
|                                | 25      | 0         | 13.95                 | 13.92                 | 14.03                 | 14.09                 | 14.17                 |                              | 0        |
| 64QAM                          | 1       | 0         | 14.14                 | 14.13                 | 14.23                 | 14.34                 | 14.41                 | 0-2                          | 0        |
|                                | 1       | 12        | 14.14                 | 14.07                 | 14.25                 | 14.30                 | 14.44                 |                              | 0        |
|                                | 1       | 24        | 14.07                 | 14.23                 | 14.30                 | 14.26                 | 14.49                 |                              | 0        |
|                                | 12      | 0         | 13.94                 | 13.82                 | 13.96                 | 14.04                 | 14.07                 | 0-3                          | 0        |
|                                | 12      | 6         | 13.92                 | 13.81                 | 13.95                 | 14.03                 | 14.11                 |                              | 0        |
|                                | 12      | 13        | 13.89                 | 13.84                 | 13.95                 | 13.97                 | 14.11                 |                              | 0        |
|                                | 25      | 0         | 13.82                 | 13.78                 | 13.93                 | 13.99                 | 14.06                 |                              | 0        |

|                                         |                                                                                                                  |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device      |
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**Table 8-93**  
**LTE Band 41 PC2 Reduced Conducted Powers - 20 MHz Bandwidth- Antenna WF5**

| LTE Band 41<br>20 MHz Bandwidth |         |           |                       |                       |                       |                       |                       |                              |          |
|---------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                      | RB Size | RB Offset | Low Channel           | Low-Mid Channel       | Mid Channel           | Mid-High Channel      | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                 |         |           | 39750<br>(2506.0 MHz) | 40185<br>(2549.5 MHz) | 40620<br>(2593.0 MHz) | 41055<br>(2636.5 MHz) | 41490<br>(2680.0 MHz) |                              |          |
|                                 |         |           | Conducted Power [dBm] |                       |                       |                       |                       |                              |          |
| QPSK                            | 1       | 0         | 14.13                 | 14.19                 | 14.37                 | 14.41                 | 14.40                 | 0                            | 0        |
|                                 | 1       | 50        | 14.04                 | 14.17                 | 14.34                 | 14.21                 | 14.38                 |                              | 0        |
|                                 | 1       | 99        | 14.12                 | 14.23                 | 14.40                 | 14.15                 | 14.36                 |                              | 0        |
|                                 | 50      | 0         | 14.06                 | 14.10                 | 14.22                 | 14.20                 | 14.27                 | 0-1                          | 0        |
|                                 | 50      | 25        | 14.02                 | 14.11                 | 14.24                 | 14.13                 | 14.33                 |                              | 0        |
|                                 | 50      | 50        | 14.02                 | 14.13                 | 14.24                 | 14.09                 | 14.27                 |                              | 0        |
|                                 | 100     | 0         | 14.03                 | 14.12                 | 14.28                 | 14.17                 | 14.32                 |                              | 0        |
| 16QAM                           | 1       | 0         | 14.10                 | 14.16                 | 14.29                 | 14.34                 | 14.42                 | 0-1                          | 0        |
|                                 | 1       | 50        | 14.01                 | 14.17                 | 14.22                 | 14.22                 | 14.45                 |                              | 0        |
|                                 | 1       | 99        | 14.15                 | 14.20                 | 14.28                 | 14.16                 | 14.40                 |                              | 0        |
|                                 | 50      | 0         | 13.70                 | 13.78                 | 13.87                 | 13.88                 | 13.94                 | 0-2                          | 0        |
|                                 | 50      | 25        | 13.69                 | 13.79                 | 13.92                 | 13.80                 | 13.95                 |                              | 0        |
|                                 | 50      | 50        | 13.70                 | 13.82                 | 13.89                 | 13.76                 | 13.95                 |                              | 0        |
|                                 | 100     | 0         | 13.71                 | 13.83                 | 13.93                 | 13.82                 | 13.99                 |                              | 0        |
| 64QAM                           | 1       | 0         | 14.11                 | 14.15                 | 14.26                 | 14.42                 | 14.41                 | 0-2                          | 0        |
|                                 | 1       | 50        | 14.15                 | 14.24                 | 14.26                 | 14.36                 | 14.37                 |                              | 0        |
|                                 | 1       | 99        | 14.11                 | 14.08                 | 14.30                 | 14.17                 | 14.40                 |                              | 0        |
|                                 | 50      | 0         | 13.77                 | 13.82                 | 13.93                 | 14.01                 | 14.07                 | 0-3                          | 0        |
|                                 | 50      | 25        | 13.76                 | 13.80                 | 13.96                 | 13.95                 | 14.02                 |                              | 0        |
|                                 | 50      | 50        | 13.77                 | 13.83                 | 13.93                 | 13.92                 | 14.09                 |                              | 0        |
|                                 | 100     | 0         | 13.79                 | 13.85                 | 13.97                 | 13.98                 | 14.07                 |                              | 0        |

**Table 8-94**  
**LTE Band 41 PC2 Reduced Conducted Powers - 15 MHz Bandwidth- Antenna WF5**

| LTE Band 41<br>15 MHz Bandwidth |         |           |                       |                       |                       |                       |                       |                              |          |
|---------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------|----------|
| Modulation                      | RB Size | RB Offset | Low Channel           | Low-Mid Channel       | Mid Channel           | Mid-High Channel      | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |
|                                 |         |           | 39750<br>(2506.0 MHz) | 40185<br>(2549.5 MHz) | 40620<br>(2593.0 MHz) | 41055<br>(2636.5 MHz) | 41490<br>(2680.0 MHz) |                              |          |
|                                 |         |           | Conducted Power [dBm] |                       |                       |                       |                       |                              |          |
| QPSK                            | 1       | 0         | 14.17                 | 14.19                 | 14.25                 | 14.39                 | 14.46                 | 0                            | 0        |
|                                 | 1       | 36        | 14.21                 | 14.22                 | 14.32                 | 14.33                 | 14.46                 |                              | 0        |
|                                 | 1       | 74        | 14.13                 | 14.21                 | 14.30                 | 14.22                 | 14.41                 |                              | 0        |
|                                 | 36      | 0         | 14.04                 | 14.10                 | 14.23                 | 14.27                 | 14.33                 | 0-1                          | 0        |
|                                 | 36      | 18        | 14.11                 | 14.12                 | 14.27                 | 14.23                 | 14.37                 |                              | 0        |
|                                 | 36      | 37        | 14.07                 | 14.12                 | 14.24                 | 14.18                 | 14.33                 |                              | 0        |
|                                 | 75      | 0         | 14.04                 | 14.12                 | 14.26                 | 14.23                 | 14.36                 |                              | 0        |
| 16QAM                           | 1       | 0         | 14.20                 | 14.17                 | 14.24                 | 14.38                 | 14.46                 | 0-1                          | 0        |
|                                 | 1       | 36        | 14.23                 | 14.15                 | 14.30                 | 14.26                 | 14.45                 |                              | 0        |
|                                 | 1       | 74        | 14.14                 | 14.12                 | 14.26                 | 14.26                 | 14.45                 |                              | 0        |
|                                 | 36      | 0         | 13.72                 | 13.74                 | 13.89                 | 13.96                 | 14.01                 | 0-2                          | 0        |
|                                 | 36      | 18        | 13.77                 | 13.78                 | 13.95                 | 13.94                 | 14.02                 |                              | 0        |
|                                 | 36      | 37        | 13.75                 | 13.78                 | 13.92                 | 13.88                 | 14.00                 |                              | 0        |
|                                 | 75      | 0         | 13.73                 | 13.77                 | 13.93                 | 13.93                 | 14.03                 |                              | 0        |
| 64QAM                           | 1       | 0         | 14.20                 | 14.28                 | 14.23                 | 14.41                 | 14.48                 | 0-2                          | 0        |
|                                 | 1       | 36        | 14.23                 | 14.20                 | 14.32                 | 14.34                 | 14.47                 |                              | 0        |
|                                 | 1       | 74        | 14.05                 | 14.21                 | 14.19                 | 14.26                 | 14.45                 |                              | 0        |
|                                 | 36      | 0         | 13.76                 | 13.83                 | 13.93                 | 14.03                 | 14.09                 | 0-3                          | 0        |
|                                 | 36      | 18        | 13.84                 | 13.86                 | 13.98                 | 14.01                 | 14.10                 |                              | 0        |
|                                 | 36      | 37        | 13.80                 | 13.87                 | 13.96                 | 13.93                 | 14.09                 |                              | 0        |
|                                 | 75      | 0         | 13.78                 | 13.86                 | 13.96                 | 14.00                 | 14.11                 |                              | 0        |

|                                         |                                                                                     |                              |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 75 of 120                  |

**Table 8-95**  
**LTE Band 41 PC2 Reduced Conducted Powers - 10 MHz Bandwidth- Antenna WF5**

| LTE Band 41<br>10 MHz Bandwidth |         |           |                       |                       |                       |                       |                       |                              |          |   |
|---------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------|----------|---|
| Modulation                      | RB Size | RB Offset | Low Channel           | Low-Mid Channel       | Mid Channel           | Mid-High Channel      | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |   |
|                                 |         |           | 39750<br>(2506.0 MHz) | 40185<br>(2549.5 MHz) | 40620<br>(2593.0 MHz) | 41055<br>(2636.5 MHz) | 41490<br>(2680.0 MHz) |                              |          |   |
|                                 |         |           | Conducted Power [dBm] |                       |                       |                       |                       |                              |          |   |
| QPSK                            | 1       | 0         | 14.13                 | 14.19                 | 14.33                 | 14.35                 | 14.43                 | 0                            | 0        |   |
|                                 | 1       | 25        | 14.10                 | 14.21                 | 14.32                 | 14.25                 | 14.37                 |                              | 0-1      | 0 |
|                                 | 1       | 49        | 14.15                 | 14.23                 | 14.31                 | 14.19                 | 14.41                 |                              |          | 0 |
|                                 | 25      | 0         | 14.07                 | 14.11                 | 14.28                 | 14.19                 | 14.28                 | 0                            |          |   |
|                                 | 25      | 12        | 14.08                 | 14.10                 | 14.27                 | 14.15                 | 14.25                 | 0                            |          |   |
|                                 | 25      | 25        | 14.03                 | 14.11                 | 14.27                 | 14.12                 | 14.27                 |                              | 0        |   |
|                                 | 50      | 0         | 14.02                 | 14.11                 | 14.29                 | 14.17                 | 14.29                 |                              | 0        |   |
| 16QAM                           | 1       | 0         | 14.07                 | 14.15                 | 14.24                 | 14.32                 | 14.40                 | 0-1                          | 0        |   |
|                                 | 1       | 25        | 14.08                 | 14.13                 | 14.32                 | 14.20                 | 14.41                 |                              | 0-2      | 0 |
|                                 | 1       | 49        | 14.11                 | 14.20                 | 14.19                 | 14.21                 | 14.50                 |                              |          | 0 |
|                                 | 25      | 0         | 13.67                 | 13.79                 | 13.94                 | 13.88                 | 13.99                 | 0                            |          |   |
|                                 | 25      | 12        | 13.68                 | 13.82                 | 13.93                 | 13.81                 | 13.97                 | 0                            |          |   |
|                                 | 25      | 25        | 13.65                 | 13.82                 | 13.92                 | 13.75                 | 13.97                 |                              | 0        |   |
|                                 | 50      | 0         | 13.66                 | 13.80                 | 13.94                 | 13.82                 | 13.99                 |                              | 0        |   |
| 64QAM                           | 1       | 0         | 13.96                 | 14.15                 | 14.39                 | 14.33                 | 14.50                 | 0-2                          | 0        |   |
|                                 | 1       | 25        | 13.94                 | 14.26                 | 14.38                 | 14.20                 | 14.46                 |                              | 0-3      | 0 |
|                                 | 1       | 49        | 14.00                 | 14.20                 | 14.37                 | 14.18                 | 14.46                 |                              |          | 0 |
|                                 | 25      | 0         | 13.72                 | 13.87                 | 14.05                 | 13.93                 | 14.07                 | 0                            |          |   |
|                                 | 25      | 12        | 13.73                 | 13.88                 | 14.03                 | 13.89                 | 14.02                 | 0                            |          |   |
|                                 | 25      | 25        | 13.70                 | 13.88                 | 14.04                 | 13.87                 | 14.05                 |                              | 0        |   |
|                                 | 50      | 0         | 13.68                 | 13.87                 | 14.05                 | 13.92                 | 14.04                 |                              | 0        |   |

**Table 8-96**  
**LTE Band 41 PC2 Reduced Conducted Powers - 5 MHz Bandwidth- Antenna WF5**

| LTE Band 41<br>5 MHz Bandwidth |         |           |                       |                       |                       |                       |                       |                              |          |   |
|--------------------------------|---------|-----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------------|----------|---|
| Modulation                     | RB Size | RB Offset | Low Channel           | Low-Mid Channel       | Mid Channel           | Mid-High Channel      | High Channel          | MPR Allowed per<br>3GPP [dB] | MPR [dB] |   |
|                                |         |           | 39750<br>(2506.0 MHz) | 40185<br>(2549.5 MHz) | 40620<br>(2593.0 MHz) | 41055<br>(2636.5 MHz) | 41490<br>(2680.0 MHz) |                              |          |   |
|                                |         |           | Conducted Power [dBm] |                       |                       |                       |                       |                              |          |   |
| QPSK                           | 1       | 0         | 14.28                 | 14.21                 | 14.29                 | 14.40                 | 14.43                 | 0                            | 0        |   |
|                                | 1       | 12        | 14.23                 | 14.22                 | 14.28                 | 14.36                 | 14.40                 |                              | 0-1      | 0 |
|                                | 1       | 24        | 14.24                 | 14.26                 | 14.35                 | 14.35                 | 14.43                 |                              |          | 0 |
|                                | 12      | 0         | 14.18                 | 14.13                 | 14.20                 | 14.29                 | 14.28                 | 0                            |          |   |
|                                | 12      | 6         | 14.19                 | 14.14                 | 14.18                 | 14.26                 | 14.30                 | 0                            |          |   |
|                                | 12      | 13        | 14.16                 | 14.15                 | 14.19                 | 14.25                 | 14.31                 | 0                            |          |   |
|                                | 25      | 0         | 14.15                 | 14.14                 | 14.20                 | 14.28                 | 14.31                 | 0                            |          |   |
| 16QAM                          | 1       | 0         | 14.12                 | 14.09                 | 14.12                 | 14.26                 | 14.38                 | 0-1                          | 0        |   |
|                                | 1       | 12        | 14.05                 | 14.08                 | 14.05                 | 14.22                 | 14.35                 |                              | 0-2      | 0 |
|                                | 1       | 24        | 14.13                 | 14.13                 | 13.99                 | 14.15                 | 14.40                 |                              |          | 0 |
|                                | 12      | 0         | 13.73                 | 13.76                 | 13.74                 | 13.87                 | 13.96                 | 0                            |          |   |
|                                | 12      | 6         | 13.75                 | 13.73                 | 13.77                 | 13.86                 | 14.00                 | 0                            |          |   |
|                                | 12      | 13        | 13.76                 | 13.77                 | 13.78                 | 13.85                 | 13.92                 | 0                            |          |   |
|                                | 25      | 0         | 13.70                 | 13.70                 | 13.74                 | 13.83                 | 13.98                 | 0                            |          |   |
| 64QAM                          | 1       | 0         | 14.06                 | 14.10                 | 14.20                 | 14.25                 | 14.41                 | 0-2                          | 0        |   |
|                                | 1       | 12        | 14.16                 | 14.09                 | 14.16                 | 14.18                 | 14.27                 |                              | 0-3      | 0 |
|                                | 1       | 24        | 14.09                 | 14.20                 | 14.12                 | 14.20                 | 14.29                 |                              |          | 0 |
|                                | 12      | 0         | 13.85                 | 13.85                 | 13.84                 | 13.93                 | 13.94                 | 0                            |          |   |
|                                | 12      | 6         | 13.84                 | 13.82                 | 13.83                 | 13.93                 | 14.02                 | 0                            |          |   |
|                                | 12      | 13        | 13.79                 | 13.83                 | 13.83                 | 13.96                 | 14.03                 | 0                            |          |   |
|                                | 25      | 0         | 13.78                 | 13.79                 | 13.80                 | 13.94                 | 14.01                 | 0                            |          |   |

|                                         |                                                                                     |                              |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 76 of 120                  |

### 8.3.12 LTE Uplink Carrier Aggregation Conducted Powers

**Table 8-97**  
**LTE Uplink Carrier Aggregation Reduced Conducted Powers – Antenna WF3**

|             | PCC      |                     |                     |                             |                |                        |                  |            |                     | SCC                 |                             |                |                        |                  |                                       |                                   |            | Power            |                                       |                                   |
|-------------|----------|---------------------|---------------------|-----------------------------|----------------|------------------------|------------------|------------|---------------------|---------------------|-----------------------------|----------------|------------------------|------------------|---------------------------------------|-----------------------------------|------------|------------------|---------------------------------------|-----------------------------------|
| Combination | PCC Band | PCC Bandwidth [MHz] | PCC UL Channel      | PCC UL Frequency [MHz]      | PCC DL Channel | PCC DL Frequency [MHz] | Modulation       | PCC UL# RB | PCC UL RB Offset    | SCC Band            | SCC Bandwidth [MHz]         | SCC UL Channel | SCC UL Frequency [MHz] | SCC DL Channel   | SCC DL Frequency [MHz]                | Modulation                        | SCC UL# RB | SCC UL RB Offset | LTE Tx.Power with UL CA Enabled (dBm) | LTE Single Carrier Tx Power (dBm) |
| CA_7C(1)    | LTE B7   | 20                  | 21350               | 2560.0                      | 3350           | 2680.0                 | QPSK             | 50         | 0                   | LTE B7              | 20                          | 21152          | 2540.2                 | 3152             | 2660.2                                | QPSK                              | 50         | 50               | 10.88                                 | 11.32                             |
|             | PCC      |                     |                     |                             |                |                        |                  |            |                     | SCC                 |                             |                |                        |                  |                                       |                                   |            | Power            |                                       |                                   |
| Combination | PCC Band | PCC Bandwidth [MHz] | PCC (UL/DL) Channel | PCC (UL/DL) Frequency [MHz] | Modulation     | PCC UL# RB             | PCC UL RB Offset | SCC Band   | SCC Bandwidth [MHz] | SCC (UL/DL) Channel | SCC (UL/DL) Frequency [MHz] | Modulation     | SCC UL# RB             | SCC UL RB Offset | LTE Tx.Power with UL CA Enabled (dBm) | LTE Single Carrier Tx Power (dBm) |            |                  |                                       |                                   |
| CA_41C(1)   | LTE B41  | 20                  | 41490               | 2680.0                      | QPSK           | 1                      | 0                | LTE B41    | 20                  | 41292               | 2660.2                      | QPSK           | 1                      | 99               | 13.74                                 | 13.85                             |            |                  |                                       |                                   |

**Table 8-98**  
**LTE Uplink Carrier Aggregation Reduced Conducted Powers – Antenna WF5**

|             | PCC      |                     |                     |                             |                |                        |                  |            |                     | SCC                 |                             |                |                        |                  |                                       |                                   |            |                  | Power                                 |                                   |
|-------------|----------|---------------------|---------------------|-----------------------------|----------------|------------------------|------------------|------------|---------------------|---------------------|-----------------------------|----------------|------------------------|------------------|---------------------------------------|-----------------------------------|------------|------------------|---------------------------------------|-----------------------------------|
| Combination | PCC Band | PCC Bandwidth [MHz] | PCC UL Channel      | PCC UL Frequency [MHz]      | PCC DL Channel | PCC DL Frequency [MHz] | Modulation       | PCC UL# RB | PCC UL RB Offset    | SCC Band            | SCC Bandwidth [MHz]         | SCC UL Channel | SCC UL Frequency [MHz] | SCC DL Channel   | SCC DL Frequency [MHz]                | Modulation                        | SCC UL# RB | SCC UL RB Offset | LTE Tx.Power with UL CA Enabled (dBm) | LTE Single Carrier Tx Power (dBm) |
| CA_7C(1)    | LTE B7   | 20                  | 21350               | 2560.0                      | 3350           | 2680.0                 | QPSK             | 1          | 0                   | LTE B7              | 20                          | 21152          | 2540.2                 | 3152             | 2660.2                                | QPSK                              | 1          | 99               | 10.84                                 | 11.46                             |
|             | PCC      |                     |                     |                             |                |                        |                  |            |                     | SCC                 |                             |                |                        |                  |                                       |                                   |            |                  | Power                                 |                                   |
| Combination | PCC Band | PCC Bandwidth [MHz] | PCC (UL/DL) Channel | PCC (UL/DL) Frequency [MHz] | Modulation     | PCC UL# RB             | PCC UL RB Offset | SCC Band   | SCC Bandwidth [MHz] | SCC (UL/DL) Channel | SCC (UL/DL) Frequency [MHz] | Modulation     | SCC UL# RB             | SCC UL RB Offset | LTE Tx.Power with UL CA Enabled (dBm) | LTE Single Carrier Tx Power (dBm) |            |                  |                                       |                                   |
| CA_41C(1)   | LTE B41  | 20                  | 41055               | 2636.5                      | QPSK           | 1                      | 0                | LTE B41    | 20                  | 40857               | 2616.7                      | QPSK           | 1                      | 99               | 14.29                                 | 14.40                             |            |                  |                                       |                                   |

**Notes:**

1. This device supports uplink carrier aggregation for LTE CA\_7C(1) and LTE CA\_41C(1) with a maximum of two 20 MHz component carriers. For intraband contiguous carrier aggregation scenarios, 3GPP 36.101 Table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when non-contiguous RB allocation is implemented. The conducted powers and MPR settings in this device are permanently implemented per the above 3GPP requirements.
2. Per FCC Guidance, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.
3. Uplink carrier aggregation is only possible when the device is operating with Power Class 3 for LTE Band 41.

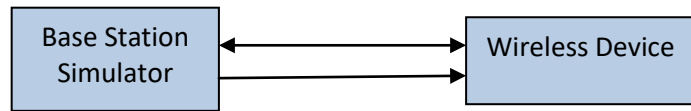


**Figure 8-3**  
**Power Measurement Setup**

|                                         |                                                                                                                  |                            |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  <b>SAR EVALUATION REPORT</b> |                            | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device | Page 77 of 120                  |

## 8.4 WLAN Maximum Conducted Powers

### 8.4.1 Variant 1

Table 8-99  
2.4 GHz WLAN Average RF Power – Ant WF1

| 2.4GHz Conducted Power [dBm] |         |                        |         |         |
|------------------------------|---------|------------------------|---------|---------|
| Freq [MHz]                   | Channel | IEEE Transmission Mode |         |         |
|                              |         | 802.11b                | 802.11g | 802.11n |
|                              |         | Average                | Average | Average |
| 2412                         | 1       | 19.49                  | 14.50   | 14.50   |
| 2427                         | 4       | N/A                    | 19.50   | 19.49   |
| 2437                         | 6       | 19.49                  | 19.50   | 19.49   |
| 2452                         | 9       | N/A                    | 19.50   | 19.45   |
| 2457                         | 10      | <b>19.50</b>           | 17.93   | 18.00   |
| 2462                         | 11      | 18.50                  | 14.00   | 14.00   |

Table 8-100  
2.4 GHz WLAN Average RF Power – Ant WF2

| 2.4GHz Conducted Power [dBm] |         |                        |         |         |
|------------------------------|---------|------------------------|---------|---------|
| Freq [MHz]                   | Channel | IEEE Transmission Mode |         |         |
|                              |         | 802.11b                | 802.11g | 802.11n |
|                              |         | Average                | Average | Average |
| 2412                         | 1       | 19.64                  | 14.48   | 14.49   |
| 2427                         | 4       | N/A                    | 19.50   | 19.50   |
| 2437                         | 6       | <b>19.75</b>           | 19.75   | 19.75   |
| 2452                         | 9       | N/A                    | 19.70   | 19.75   |
| 2457                         | 10      | 19.60                  | 17.93   | 18.00   |
| 2462                         | 11      | 18.45                  | 14.50   | 14.42   |

|                                         |                                                                                                                  |                            |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  <b>SAR EVALUATION REPORT</b> |                            | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device | Page 78 of 120                  |

**Table 8-101**  
**5 GHz WLAN Average RF Power – Ant WF1**

| 5GHz (40MHz) Conducted Power [dBm] |         |                              | 5GHz (80MHz) Conducted Power [dBm] |         |                              |
|------------------------------------|---------|------------------------------|------------------------------------|---------|------------------------------|
| Freq [MHz]                         | Channel | IEEE<br>Transmission<br>Mode | Freq [MHz]                         | Channel | IEEE<br>Transmission<br>Mode |
|                                    |         | 802.11n                      |                                    |         | 802.11ac                     |
|                                    |         | Average                      |                                    |         | Average                      |
| 5190                               | 38      | 14.50                        | 5530                               | 106     | 13.50                        |
| 5230                               | 46      | 15.73                        | 5610                               | 122     | 15.00                        |
| 5270                               | 54      | 16.25                        | 5690                               | 138     | 14.99                        |
| 5310                               | 62      | 13.95                        | 5775                               | 155     | 14.15                        |

**Table 8-102**  
**5 GHz WLAN Average RF Power – Ant WF2**

| 5GHz (40MHz) Conducted Power [dBm] |         |                              | 5GHz (80MHz) Conducted Power [dBm] |         |                              |
|------------------------------------|---------|------------------------------|------------------------------------|---------|------------------------------|
| Freq [MHz]                         | Channel | IEEE<br>Transmission<br>Mode | Freq [MHz]                         | Channel | IEEE<br>Transmission<br>Mode |
|                                    |         | 802.11n                      |                                    |         | 802.11ac                     |
|                                    |         | Average                      |                                    |         | Average                      |
| 5190                               | 38      | 14.50                        | 5530                               | 106     | 13.50                        |
| 5230                               | 46      | 16.91                        | 5610                               | 122     | 15.50                        |
| 5270                               | 54      | 15.96                        | 5690                               | 138     | 15.45                        |
| 5310                               | 62      | 14.00                        | 5775                               | 155     | 15.75                        |

|                                         |                                                                                                                                   |                              |  |                                 |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------|--|---------------------------------|
| FCC ID: BCGA2153                        |  <b>PCTEST</b><br>ENGINEERING LABORATORY, INC. | <b>SAR EVALUATION REPORT</b> |  | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                                  | DUT Type:<br>Tablet Device   |  | Page 79 of 120                  |

## 8.4.2 Variant 2

**Table 8-103**  
**2.4 GHz WLAN Average RF Power – Ant WF1**

| 2.4GHz Conducted Power [dBm] |         |                        |         |         |
|------------------------------|---------|------------------------|---------|---------|
| Freq [MHz]                   | Channel | IEEE Transmission Mode |         |         |
|                              |         | 802.11b                | 802.11g | 802.11n |
|                              |         | Average                | Average | Average |
| 2412                         | 1       | 19.50                  | 14.50   | 14.50   |
| 2427                         | 4       | N/A                    | 19.50   | 19.49   |
| 2437                         | 6       | 19.49                  | 19.48   | 19.50   |
| 2452                         | 9       | N/A                    | 19.50   | 19.49   |
| 2457                         | 10      | 19.47                  | 17.90   | 18.00   |
| 2462                         | 11      | 18.45                  | 14.00   | 14.00   |

**Table 8-104**  
**2.4 GHz WLAN Average RF Power – Ant WF2**

| 2.4GHz Conducted Power [dBm] |         |                        |         |         |
|------------------------------|---------|------------------------|---------|---------|
| Freq [MHz]                   | Channel | IEEE Transmission Mode |         |         |
|                              |         | 802.11b                | 802.11g | 802.11n |
|                              |         | Average                | Average | Average |
| 2412                         | 1       | 19.75                  | 14.48   | 14.49   |
| 2427                         | 4       | N/A                    | 19.50   | 19.50   |
| 2437                         | 6       | 19.72                  | 19.75   | 19.70   |
| 2452                         | 9       | N/A                    | 19.72   | 19.75   |
| 2457                         | 10      | 19.73                  | 17.95   | 17.98   |
| 2462                         | 11      | 18.50                  | 14.50   | 14.50   |

**Table 8-105**  
**5 GHz WLAN Average RF Power – Ant WF1**

| 5GHz (40MHz) Conducted Power [dBm] |         |                        | 5GHz (80MHz) Conducted Power [dBm] |         |                        |
|------------------------------------|---------|------------------------|------------------------------------|---------|------------------------|
| Freq [MHz]                         | Channel | IEEE Transmission Mode | Freq [MHz]                         | Channel | IEEE Transmission Mode |
|                                    |         | 802.11n                |                                    |         | 802.11ac               |
|                                    |         | Average                |                                    |         | Average                |
| 5190                               | 38      | 14.44                  | 5530                               | 106     | 13.50                  |
| 5230                               | 46      | 15.75                  | 5610                               | 122     | 14.84                  |
| 5270                               | 54      | 16.40                  | 5690                               | 138     | 15.00                  |
| 5310                               | 62      | 13.85                  | 5775                               | 155     | 14.10                  |

|                                         |                                                                                                                  |                            |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  <b>SAR EVALUATION REPORT</b> |                            | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device | Page 80 of 120                  |

**Table 8-106**  
**5 GHz WLAN Average RF Power – Ant WF2**

| 5GHz (40MHz) Conducted Power [dBm] |         |                              | 5GHz (80MHz) Conducted Power [dBm] |         |                              |
|------------------------------------|---------|------------------------------|------------------------------------|---------|------------------------------|
| Freq [MHz]                         | Channel | IEEE<br>Transmission<br>Mode | Freq [MHz]                         | Channel | IEEE<br>Transmission<br>Mode |
|                                    |         | 802.11n                      |                                    |         | 802.11ac                     |
|                                    |         | Average                      |                                    |         | Average                      |
| 5190                               | 38      | 14.45                        | 5530                               | 106     | 13.50                        |
| 5230                               | 46      | <b>17.25</b>                 | 5610                               | 122     | 15.40                        |
| 5270                               | 54      | 15.91                        | 5690                               | 138     | <b>15.41</b>                 |
| 5310                               | 62      | 13.90                        | 5775                               | 155     | <b>15.75</b>                 |

### 8.4.3 Notes for WLAN

Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02:

- Power measurements were performed for the transmission mode configuration with the highest maximum output power specified for production units.
- For transmission modes with the same maximum output power specification, powers were measured for the largest channel bandwidth, lowest order modulation and lowest data rate.
- For transmission modes with identical maximum specified output power, channel bandwidth, modulation and data rates, power measurements were required for all identical configurations.
- For each transmission mode configuration, powers were measured for the highest and lowest channels; and at the mid-band channel(s) when there were at least 3 channels supported. For configurations with multiple mid-band channels, due to an even number of channels, both channels were measured.
- The WLAN chipset in this device is produced by two different suppliers. The electrically identical modules are manufactured with the identical mechanical structure to meet the same specifications and functions. Two device variants are referenced as Variant 1 and Variant 2 in this report.
- WLAN SAR worst case configuration was spotchecked on Variant 1 and Variant 2. The Variant with the highest reported SAR value was evaluated for the remaining WLAN configurations.
- The bolded data rate and channel above were tested for SAR.
- Full power measurements were performed for Variant 1 and Variant 2 per FCC KDB Procedures 248227.

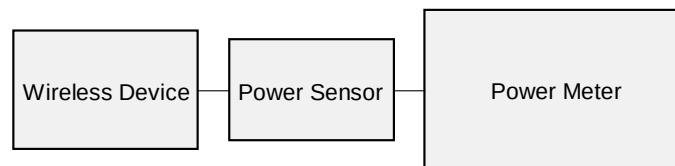


**Figure 8-4**  
**Power Measurement Setup**

|                                         |                                                                                     |                              |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 81 of 120                  |

## 8.5 Bluetooth Conducted Powers

**Table 8-107**  
**Maximum Bluetooth Average RF Power – Ant WF1 - Variant 1**

| Frequency [MHz] | Modulation | Data Rate [Mbps] | Channel No. | Avg Conducted Power |        |
|-----------------|------------|------------------|-------------|---------------------|--------|
|                 |            |                  |             | [dBm]               | [mW]   |
| 2402            | GFSK       | 1.0              | 0           | 19.70               | 93.325 |
| 2441            | GFSK       | 1.0              | 39          | <b>19.88</b>        | 97.275 |
| 2480            | GFSK       | 1.0              | 78          | 19.59               | 90.991 |

**Table 8-108**  
**Maximum Bluetooth Average RF Power – Ant WF2 - Variant 1**

| Frequency [MHz] | Modulation | Data Rate [Mbps] | Channel No. | Avg Conducted Power |        |
|-----------------|------------|------------------|-------------|---------------------|--------|
|                 |            |                  |             | [dBm]               | [mW]   |
| 2402            | GFSK       | 1.0              | 0           | <b>19.84</b>        | 96.383 |
| 2441            | GFSK       | 1.0              | 39          | 19.60               | 91.201 |
| 2480            | GFSK       | 1.0              | 78          | 19.74               | 94.189 |

**Table 8-109**  
**Maximum Bluetooth Average RF Power – Ant WF1 - Variant 2**

| Frequency [MHz] | Modulation | Data Rate [Mbps] | Channel No. | Avg Conducted Power |        |
|-----------------|------------|------------------|-------------|---------------------|--------|
|                 |            |                  |             | [dBm]               | [mW]   |
| 2402            | GFSK       | 1.0              | 0           | <b>19.85</b>        | 96.605 |
| 2441            | GFSK       | 1.0              | 39          | 19.55               | 90.157 |
| 2480            | GFSK       | 1.0              | 78          | 19.36               | 86.298 |

|                                         |                                                                                                                  |                            |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
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| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device | Page 82 of 120                  |

**Table 8-110**  
**Maximum Bluetooth Average RF Power – Ant WF2 - Variant 2**

| Frequency<br>[MHz] | Modulation | Data<br>Rate<br>[Mbps] | Channel<br>No. | Avg Conducted<br>Power |        |
|--------------------|------------|------------------------|----------------|------------------------|--------|
|                    |            |                        |                | [dBm]                  | [mW]   |
| 2402               | GFSK       | 1.0                    | 0              | 19.81                  | 95.719 |
| 2441               | GFSK       | 1.0                    | 39             | 19.59                  | 90.991 |
| 2480               | GFSK       | 1.0                    | 78             | <b>19.84</b>           | 96.383 |

**Table 8-111**  
**Reduced Bluetooth Average RF Power – Ant WF1 - Variant 1**

| Frequency<br>[MHz] | Modulation | Data<br>Rate<br>[Mbps] | Channel<br>No. | Avg Conducted<br>Power |        |
|--------------------|------------|------------------------|----------------|------------------------|--------|
|                    |            |                        |                | [dBm]                  | [mW]   |
| 2402               | GFSK       | 1.0                    | 0              | 12.72                  | 18.707 |
| 2441               | GFSK       | 1.0                    | 39             | <b>12.85</b>           | 19.275 |
| 2480               | GFSK       | 1.0                    | 78             | 12.82                  | 19.143 |

**Table 8-112**  
**Reduced Bluetooth Average RF Power – Ant WF2 - Variant 1**

| Frequency<br>[MHz] | Modulation | Data<br>Rate<br>[Mbps] | Channel<br>No. | Avg Conducted<br>Power |        |
|--------------------|------------|------------------------|----------------|------------------------|--------|
|                    |            |                        |                | [dBm]                  | [mW]   |
| 2402               | GFSK       | 1.0                    | 0              | <b>12.78</b>           | 18.967 |
| 2441               | GFSK       | 1.0                    | 39             | 12.77                  | 18.923 |
| 2480               | GFSK       | 1.0                    | 78             | 12.77                  | 18.923 |

|                                         |                                                                                                                                   |                              |  |                                 |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------|--|---------------------------------|
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| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                                  | DUT Type:<br>Tablet Device   |  | Page 83 of 120                  |

**Table 8-113**  
**Reduced Bluetooth Average RF Power – Ant WF1 - Variant 2**

| Frequency<br>[MHz] | Modulation | Data<br>Rate<br>[Mbps] | Channel<br>No. | Avg Conducted<br>Power |        |
|--------------------|------------|------------------------|----------------|------------------------|--------|
|                    |            |                        |                | [dBm]                  | [mW]   |
| 2402               | GFSK       | 1.0                    | 0              | 12.83                  | 19.187 |
| 2441               | GFSK       | 1.0                    | 39             | 12.71                  | 18.664 |
| 2480               | GFSK       | 1.0                    | 78             | 12.71                  | 18.664 |

**Table 8-114**  
**Reduced Bluetooth Average RF Power – Ant WF2 - Variant 2**

| Frequency<br>[MHz] | Modulation | Data<br>Rate<br>[Mbps] | Channel<br>No. | Avg Conducted<br>Power |        |
|--------------------|------------|------------------------|----------------|------------------------|--------|
|                    |            |                        |                | [dBm]                  | [mW]   |
| 2402               | GFSK       | 1.0                    | 0              | 12.69                  | 18.578 |
| 2441               | GFSK       | 1.0                    | 39             | 12.74                  | 18.793 |
| 2480               | GFSK       | 1.0                    | 78             | 12.49                  | 17.742 |

|                                         |                                                                                     |                            |  |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|----------------------------|--|---------------------------------|
| FCC ID: BCGA2153                        |  | SAR EVALUATION REPORT      |  | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device |  | Page 84 of 120                  |

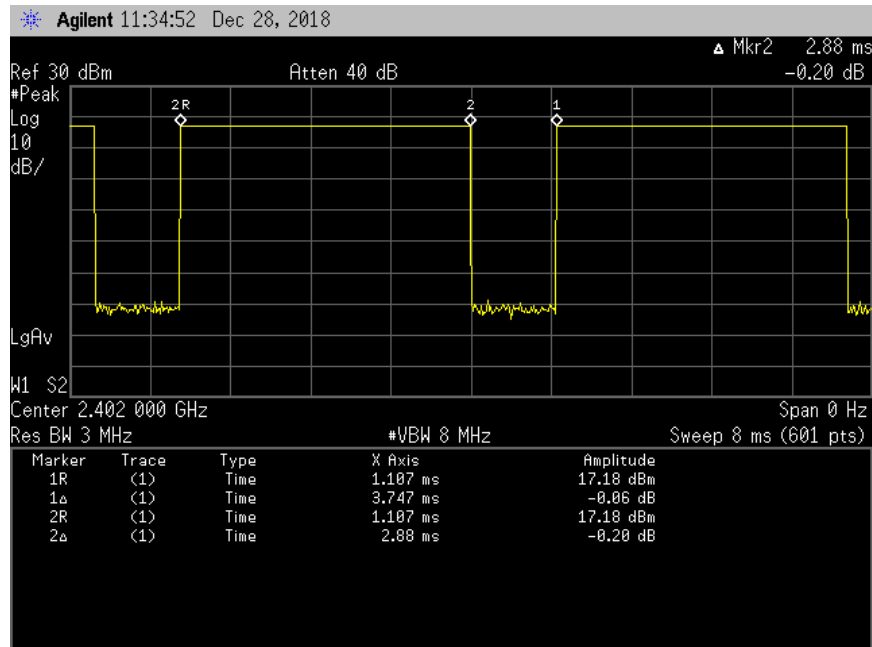


**Figure 8-5**  
Bluetooth Transmission Plot & Duty Cycle Calculation – Ant WF1 Variant 1

$$\text{Duty Cycle} = \frac{\text{Pulse Width}}{\text{Period}} * 100\% = \frac{2.880\text{ms}}{3.747\text{ms}} * 100\% = 76.9\%$$

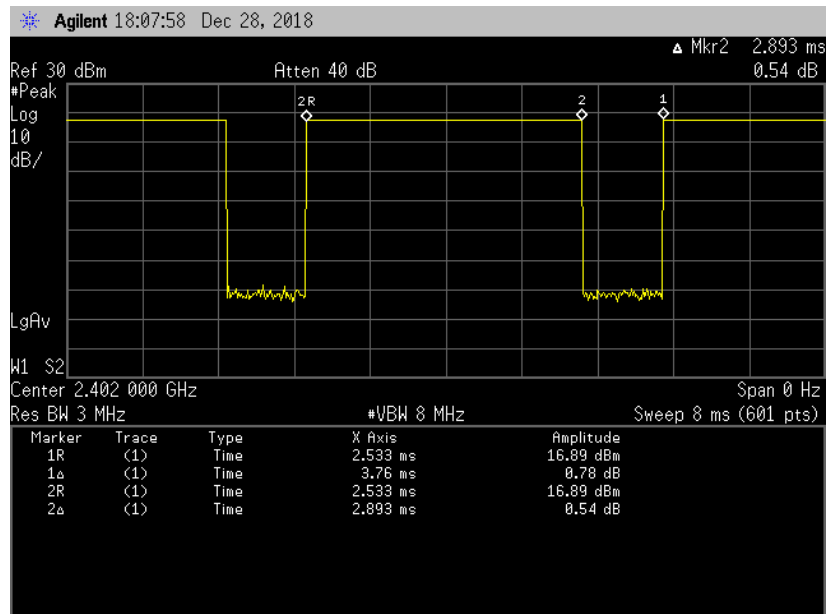


**Figure 8-6**  
Bluetooth Transmission Plot & Duty Cycle Calculation – Ant WF1 Variant 2

$$\text{Duty Cycle} = \frac{\text{Pulse Width}}{\text{Period}} * 100\% = \frac{2.893\text{ms}}{3.760\text{ms}} * 100\% = 76.9\%$$

|                                         |                                                                                                                  |                            |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  <b>SAR EVALUATION REPORT</b> |                            | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device | Page 85 of 120                  |

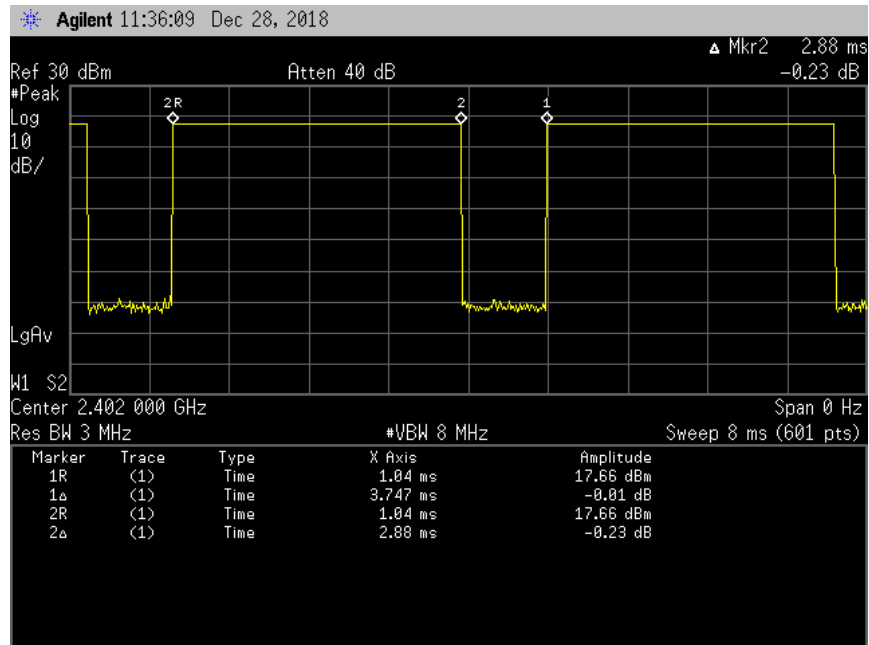


**Figure 8-7**  
Bluetooth Transmission Plot & Duty Cycle Calculation – Ant WF2 Variant 1

$$\text{Duty Cycle} = \frac{\text{Pulse Width}}{\text{Period}} * 100\% = \frac{2.880\text{ms}}{3.747\text{ms}} * 100\% = 76.9\%$$

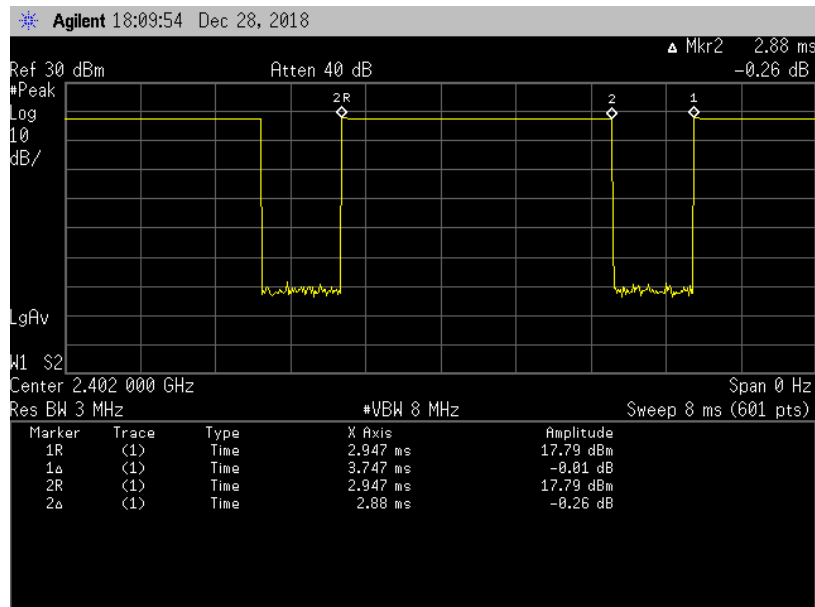


**Figure 8-8**  
Bluetooth Transmission Plot & Duty Cycle Calculation – Ant WF2 Variant 2

$$\text{Duty Cycle} = \frac{\text{Pulse Width}}{\text{Period}} * 100\% = \frac{2.880\text{ms}}{3.747\text{ms}} * 100\% = 76.9\%$$

|                                         |                                                                                                                  |                            |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  <b>SAR EVALUATION REPORT</b> |                            | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device | Page 86 of 120                  |

### 8.5.1 Bluetooth Power Reduction Verification Summary

| Antenna | Mode/Band         | Condition (s)               | Maximum Target Power [dBm] | Reduced Target Power [dBm] | Maximum Measured Power | Reduced Measured Power | Verdict |
|---------|-------------------|-----------------------------|----------------------------|----------------------------|------------------------|------------------------|---------|
|         |                   |                             | (Tolerance [dB])           | (Tolerance [dB])           | [dBm]                  | [dBm]                  |         |
| WF1     | 2.4 GHz Bluetooth | 5 GHz WLAN ON ANT WF1       | 18.5 (+1.5/-2.0)           | 11.5 (+1.5/-2.0)           | 18.55                  | 11.9                   | PASS    |
|         | 2.4 GHz Bluetooth | 5 GHz WLAN ON ANT WF2       | 18.5 (+1.5/-2.0)           | 11.5 (+1.5/-2.0)           | 18.54                  | 11.89                  | PASS    |
|         | 2.4 GHz Bluetooth | 5 GHz WLAN ON ANT WF1 & WF2 | 18.5 (+1.5/-2.0)           | 11.5 (+1.5/-2.0)           | 18.6                   | 11.97                  | PASS    |
| WF2     | 2.4 GHz Bluetooth | 5 GHz WLAN ON ANT WF1       | 18.5 (+1.5/-2.0)           | 11.5 (+1.5/-2.0)           | 18.91                  | 12.32                  | PASS    |
|         | 2.4 GHz Bluetooth | 5 GHz WLAN ON ANT WF2       | 18.5 (+1.5/-2.0)           | 11.5 (+1.5/-2.0)           | 18.92                  | 12.35                  | PASS    |
|         | 2.4 GHz Bluetooth | 5 GHz WLAN ON ANT WF1 & WF2 | 18.5 (+1.5/-2.0)           | 11.5 (+1.5/-2.0)           | 18.94                  | 12.36                  | PASS    |

Conducted powers were measured for each Mode/Band and applied condition. All conducted power measurements were verified to be within tolerance.

### 8.5.2 Notes for Bluetooth

- The Bluetooth chipset in this device is produced by two different suppliers. The electrically identical modules are manufactured with the identical mechanical structure to meet the same specifications and functions. Two device variants are referenced as Variant 1 and Variant 2 in this report.
- Bluetooth SAR worst case configuration was spotchecked on Variant 1 and Variant 2. The Variant with the highest reported SAR value was evaluated for the remaining Bluetooth configurations.
- Full power measurements were performed for Variant 1 and Variant 2 per FCC KDB Procedures 248227.

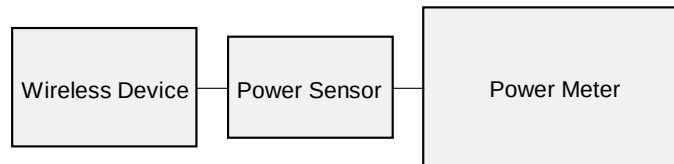


**Figure 8-9**  
**Power Measurement Setup**

|                                         |                                                                                                                  |                            |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  <b>SAR EVALUATION REPORT</b> |                            | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device | Page 87 of 120                  |

## 9 SYSTEM VERIFICATION

### 9.1 Tissue Verification

**Table 9-1**  
**Measured Tissue Properties**

| Calibrated for Tests Performed on: | Tissue Type | Tissue Temp During Calibration (°C) | Measured Frequency (MHz) | Measured Conductivity, $\sigma$ (S/m) | Measured Dielectric Constant, $\epsilon$ | TARGET Conductivity, $\sigma$ (S/m) | TARGET Dielectric Constant, $\epsilon$ | % dev $\sigma$ | % dev $\epsilon$ |
|------------------------------------|-------------|-------------------------------------|--------------------------|---------------------------------------|------------------------------------------|-------------------------------------|----------------------------------------|----------------|------------------|
| 1/4/2019                           | 750B        | 19.9                                | 700                      | 0.925                                 | 55.222                                   | 0.959                               | 55.726                                 | -3.55%         | -0.90%           |
|                                    |             |                                     | 710                      | 0.928                                 | 55.205                                   | 0.960                               | 55.687                                 | -3.33%         | -0.87%           |
|                                    |             |                                     | 740                      | 0.938                                 | 55.140                                   | 0.963                               | 55.570                                 | -2.60%         | -0.77%           |
|                                    |             |                                     | 755                      | 0.943                                 | 55.105                                   | 0.964                               | 55.512                                 | -2.18%         | -0.73%           |
| 1/7/2019                           | 750B        | 19.6                                | 680                      | 0.920                                 | 55.054                                   | 0.958                               | 55.804                                 | -3.97%         | -1.34%           |
|                                    |             |                                     | 695                      | 0.926                                 | 55.039                                   | 0.959                               | 55.745                                 | -3.44%         | -1.27%           |
|                                    |             |                                     | 700                      | 0.927                                 | 55.023                                   | 0.959                               | 55.726                                 | -3.34%         | -1.26%           |
|                                    |             |                                     | 710                      | 0.931                                 | 54.995                                   | 0.960                               | 55.687                                 | -3.02%         | -1.24%           |
|                                    |             |                                     | 740                      | 0.942                                 | 54.882                                   | 0.963                               | 55.570                                 | -2.18%         | -1.24%           |
|                                    |             |                                     | 755                      | 0.947                                 | 54.843                                   | 0.964                               | 55.512                                 | -1.76%         | -1.21%           |
|                                    |             |                                     | 770                      | 0.953                                 | 54.831                                   | 0.965                               | 55.453                                 | -1.24%         | -1.12%           |
|                                    |             |                                     | 785                      | 0.959                                 | 54.814                                   | 0.966                               | 55.395                                 | -0.72%         | -1.05%           |
|                                    |             |                                     | 800                      | 0.965                                 | 54.777                                   | 0.967                               | 55.336                                 | -0.21%         | -1.01%           |
|                                    |             |                                     | 815                      | 0.962                                 | 53.397                                   | 0.969                               | 55.278                                 | 1.39%          | -3.40%           |
| 1/7/2019                           | 835B        | 19.5                                | 820                      | 0.987                                 | 53.349                                   | 0.969                               | 55.258                                 | 1.86%          | -3.45%           |
|                                    |             |                                     | 835                      | 1.002                                 | 53.168                                   | 0.970                               | 55.200                                 | 3.30%          | -3.68%           |
|                                    |             |                                     | 850                      | 1.017                                 | 53.010                                   | 0.988                               | 55.154                                 | 2.94%          | -3.89%           |
|                                    |             |                                     | 820                      | 0.978                                 | 53.190                                   | 0.969                               | 55.258                                 | 0.93%          | -3.74%           |
| 1/9/2019                           | 835B        | 21.6                                | 835                      | 0.994                                 | 53.040                                   | 0.970                               | 55.200                                 | 2.47%          | -3.91%           |
|                                    |             |                                     | 850                      | 1.008                                 | 52.892                                   | 0.988                               | 55.154                                 | 2.02%          | -4.10%           |
|                                    |             |                                     | 1710                     | 1.482                                 | 51.975                                   | 1.463                               | 53.537                                 | 1.30%          | -2.92%           |
| 1/2/2019                           | 1750B       | 19.0                                | 1750                     | 1.523                                 | 51.868                                   | 1.488                               | 53.432                                 | 2.35%          | -2.93%           |
|                                    |             |                                     | 1790                     | 1.561                                 | 51.753                                   | 1.514                               | 53.326                                 | 3.10%          | -2.95%           |
|                                    |             |                                     | 1850                     | 1.545                                 | 53.504                                   | 1.520                               | 53.300                                 | 1.64%          | 0.38%            |
| 1/3/2019                           | 1900B       | 19.8                                | 1880                     | 1.566                                 | 53.471                                   | 1.520                               | 53.300                                 | 3.03%          | 0.32%            |
|                                    |             |                                     | 1910                     | 1.587                                 | 53.416                                   | 1.520                               | 53.300                                 | 4.41%          | 0.22%            |
|                                    |             |                                     | 1850                     | 1.546                                 | 50.996                                   | 1.520                               | 53.300                                 | 1.71%          | -4.32%           |
| 1/4/2019                           | 1900B       | 23.4                                | 1880                     | 1.573                                 | 50.896                                   | 1.520                               | 53.300                                 | 3.49%          | -4.51%           |
|                                    |             |                                     | 1910                     | 1.595                                 | 50.825                                   | 1.520                               | 53.300                                 | 4.93%          | -4.64%           |
|                                    |             |                                     | 2300                     | 1.854                                 | 51.833                                   | 1.809                               | 52.900                                 | 2.49%          | -2.02%           |
| 1/7/2019                           | 2300B       | 21.4                                | 2310                     | 1.866                                 | 51.801                                   | 1.816                               | 52.887                                 | 2.75%          | -2.05%           |
|                                    |             |                                     | 2320                     | 1.876                                 | 51.779                                   | 1.826                               | 52.873                                 | 2.74%          | -2.07%           |
|                                    |             |                                     | 2400                     | 1.974                                 | 51.046                                   | 1.902                               | 52.767                                 | 3.79%          | -3.26%           |
| 1/2/2019                           | 2400B       | 21.6                                | 2450                     | 2.030                                 | 50.906                                   | 1.950                               | 52.700                                 | 4.10%          | -3.40%           |
|                                    |             |                                     | 2500                     | 2.090                                 | 50.755                                   | 2.021                               | 52.636                                 | 3.41%          | -3.57%           |
|                                    |             |                                     | 2400                     | 1.994                                 | 52.159                                   | 1.902                               | 52.767                                 | 4.84%          | -1.15%           |
| 1/4/2019                           | 2400B       | 21.1                                | 2450                     | 2.040                                 | 52.106                                   | 1.950                               | 52.700                                 | 4.62%          | -1.13%           |
|                                    |             |                                     | 2500                     | 2.085                                 | 52.018                                   | 2.021                               | 52.636                                 | 3.17%          | -1.17%           |
|                                    |             |                                     | 2400                     | 1.988                                 | 51.645                                   | 1.902                               | 52.767                                 | 4.52%          | -2.13%           |
| 1/7/2019                           | 2400-2600B  | 22.0                                | 2450                     | 2.032                                 | 51.590                                   | 1.950                               | 52.700                                 | 4.21%          | -2.11%           |
|                                    |             |                                     | 2500                     | 2.076                                 | 51.526                                   | 2.021                               | 52.636                                 | 2.72%          | -2.11%           |
|                                    |             |                                     | 2550                     | 2.125                                 | 51.442                                   | 2.092                               | 52.573                                 | 1.58%          | -2.15%           |
|                                    |             |                                     | 2600                     | 2.173                                 | 51.382                                   | 2.163                               | 52.509                                 | 0.46%          | -2.15%           |
|                                    |             |                                     | 2650                     | 2.223                                 | 51.283                                   | 2.234                               | 52.445                                 | -0.49%         | -2.22%           |
|                                    |             |                                     | 2700                     | 2.272                                 | 51.214                                   | 2.305                               | 52.382                                 | -1.43%         | -2.23%           |
|                                    |             |                                     | 2400                     | 1.918                                 | 51.361                                   | 1.902                               | 52.767                                 | 0.84%          | -2.66%           |
|                                    |             |                                     | 2450                     | 1.986                                 | 51.159                                   | 1.950                               | 52.700                                 | 1.85%          | -2.92%           |
|                                    |             |                                     | 2500                     | 2.054                                 | 50.970                                   | 2.021                               | 52.636                                 | 1.63%          | -3.17%           |
|                                    |             |                                     | 2550                     | 2.123                                 | 50.764                                   | 2.092                               | 52.573                                 | 1.48%          | -3.44%           |
| 1/14/2019                          | 2400-2600B  | 22.2                                | 2600                     | 2.195                                 | 50.589                                   | 2.163                               | 52.509                                 | 1.48%          | -3.66%           |
|                                    |             |                                     | 2650                     | 2.264                                 | 50.379                                   | 2.234                               | 52.445                                 | 1.34%          | -3.94%           |
|                                    |             |                                     | 2700                     | 2.334                                 | 50.201                                   | 2.305                               | 52.382                                 | 1.26%          | -4.16%           |
|                                    |             |                                     | 5180                     | 5.423                                 | 47.951                                   | 5.276                               | 49.041                                 | 2.79%          | -2.22%           |
|                                    |             |                                     | 5200                     | 5.439                                 | 47.898                                   | 5.299                               | 49.014                                 | 2.64%          | -2.28%           |
|                                    |             |                                     | 5220                     | 5.472                                 | 47.888                                   | 5.323                               | 48.987                                 | 2.80%          | -2.24%           |
|                                    |             |                                     | 5240                     | 5.497                                 | 47.857                                   | 5.346                               | 48.960                                 | 2.82%          | -2.25%           |
|                                    |             |                                     | 5260                     | 5.528                                 | 47.828                                   | 5.369                               | 48.933                                 | 2.98%          | -2.26%           |
|                                    |             |                                     | 5280                     | 5.545                                 | 47.766                                   | 5.393                               | 48.906                                 | 2.82%          | -2.33%           |
|                                    |             |                                     | 5300                     | 5.569                                 | 47.745                                   | 5.416                               | 48.879                                 | 2.82%          | -2.32%           |
| 01/07/2019                         | 5200B-5800B | 22.8                                | 5320                     | 5.596                                 | 47.718                                   | 5.439                               | 48.851                                 | 2.89%          | -2.32%           |
|                                    |             |                                     | 5500                     | 5.834                                 | 47.375                                   | 5.650                               | 48.607                                 | 3.26%          | -2.53%           |
|                                    |             |                                     | 5520                     | 5.872                                 | 47.331                                   | 5.673                               | 48.580                                 | 3.51%          | -2.57%           |
|                                    |             |                                     | 5540                     | 5.895                                 | 47.323                                   | 5.696                               | 48.553                                 | 3.49%          | -2.53%           |
|                                    |             |                                     | 5560                     | 5.910                                 | 47.242                                   | 5.720                               | 48.526                                 | 3.32%          | -2.65%           |
|                                    |             |                                     | 5580                     | 5.945                                 | 47.222                                   | 5.743                               | 48.499                                 | 3.52%          | -2.63%           |
|                                    |             |                                     | 5600                     | 5.978                                 | 47.206                                   | 5.766                               | 48.471                                 | 3.68%          | -2.61%           |
|                                    |             |                                     | 5620                     | 5.994                                 | 47.174                                   | 5.790                               | 48.444                                 | 3.52%          | -2.62%           |
|                                    |             |                                     | 5640                     | 6.029                                 | 47.127                                   | 5.813                               | 48.417                                 | 3.72%          | -2.66%           |
|                                    |             |                                     | 5660                     | 6.053                                 | 47.093                                   | 5.837                               | 48.390                                 | 3.70%          | -2.68%           |
|                                    |             |                                     | 5680                     | 6.100                                 | 47.051                                   | 5.860                               | 48.363                                 | 4.10%          | -2.71%           |
|                                    |             |                                     | 5700                     | 6.115                                 | 47.037                                   | 5.883                               | 48.336                                 | 3.94%          | -2.69%           |
|                                    |             |                                     | 5745                     | 6.173                                 | 46.990                                   | 5.936                               | 48.275                                 | 3.99%          | -2.66%           |
|                                    |             |                                     | 5765                     | 6.208                                 | 46.951                                   | 5.959                               | 48.248                                 | 4.18%          | -2.69%           |
|                                    |             |                                     | 5785                     | 6.241                                 | 46.871                                   | 5.982                               | 48.220                                 | 4.33%          | -2.80%           |

The above measured tissue parameters were used in the DASY software. The DASY software was used to perform interpolation to determine the dielectric parameters at the SAR test device frequencies (per KDB Publication 865664 D01v01r04 and IEEE 1528-2013 6.6.1.2). The tissue parameters listed in the SAR test plots may slightly differ from the table above due to significant digit rounding in the software.

|                                         |                                                                                                                  |                            |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  <b>SAR EVALUATION REPORT</b> |                            | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device | Page 88 of 120                  |

## 9.2 Test System Verification

Prior to SAR assessment, the system is verified to  $\pm 10\%$  of the SAR measurement on the reference dipole at the time of calibration by the calibration facility. Full system validation status and result summary can be found in Appendix E.

**Table 9-2**  
**System Verification Results**

| System Verification<br>TARGET & MEASURED |                        |             |            |                |                  |                 |           |          |                                   |                                     |                                         |                             |
|------------------------------------------|------------------------|-------------|------------|----------------|------------------|-----------------|-----------|----------|-----------------------------------|-------------------------------------|-----------------------------------------|-----------------------------|
| SAR System #                             | Tissue Frequency (MHz) | Tissue Type | Date       | Amb. Temp (°C) | Liquid Temp (°C) | Input Power (W) | Source SN | Probe SN | Measured SAR <sub>1g</sub> (W/kg) | 1 W Target SAR <sub>1g</sub> (W/kg) | 1 W Normalized SAR <sub>1g</sub> (W/kg) | Deviation <sub>1g</sub> (%) |
| AM1                                      | 750                    | BODY        | 01/04/2019 | 22.3           | 20.0             | 0.200           | 1057      | 3275     | 1.750                             | 8.790                               | 8.750                                   | -0.46%                      |
| AM1                                      | 750                    | BODY        | 01/07/2019 | 21.4           | 19.6             | 0.200           | 1097      | 3275     | 1.760                             | 8.560                               | 8.800                                   | 2.80%                       |
| AM6                                      | 835                    | BODY        | 01/07/2019 | 21.1           | 19.7             | 0.200           | 4d180     | 3131     | 2.020                             | 9.590                               | 10.100                                  | 5.32%                       |
| AM6                                      | 835                    | BODY        | 01/09/2019 | 23.4           | 21.5             | 0.200           | 4d180     | 3131     | 2.050                             | 9.590                               | 10.250                                  | 6.88%                       |
| AM7                                      | 1750                   | BODY        | 01/02/2019 | 22.2           | 19.0             | 0.100           | 1092      | 3329     | 3.880                             | 36.400                              | 38.800                                  | 6.59%                       |
| AM3                                      | 1900                   | BODY        | 01/03/2019 | 21.9           | 20.1             | 0.100           | 5d026     | 7420     | 4.130                             | 39.900                              | 41.300                                  | 3.51%                       |
| AM7                                      | 1900                   | BODY        | 01/04/2019 | 23.5           | 23.4             | 0.100           | 5d180     | 3329     | 4.200                             | 39.500                              | 42.000                                  | 6.33%                       |
| AM4                                      | 2300                   | BODY        | 01/07/2019 | 24.9           | 20.8             | 0.100           | 1038      | 3119     | 4.520                             | 46.700                              | 45.200                                  | -3.21%                      |
| AM4                                      | 2450                   | BODY        | 01/02/2019 | 21.7           | 21.6             | 0.100           | 750       | 3119     | 5.450                             | 51.200                              | 54.500                                  | 6.45%                       |
| AM2                                      | 2450                   | BODY        | 01/04/2019 | 21.5           | 19.8             | 0.100           | 921       | 7416     | 5.420                             | 50.800                              | 54.200                                  | 6.69%                       |
| AM2                                      | 2450                   | BODY        | 01/07/2019 | 21.5           | 20.0             | 0.100           | 945       | 7416     | 5.250                             | 49.400                              | 52.500                                  | 6.28%                       |
| AM3                                      | 2450                   | BODY        | 01/14/2019 | 23.0           | 21.5             | 0.100           | 750       | 7420     | 5.370                             | 51.200                              | 53.700                                  | 4.88%                       |
| AM2                                      | 2600                   | BODY        | 01/07/2019 | 21.5           | 20.0             | 0.100           | 1069      | 7416     | 5.750                             | 55.300                              | 57.500                                  | 3.98%                       |
| AM3                                      | 2600                   | BODY        | 01/14/2019 | 23.0           | 21.5             | 0.100           | 1042      | 7420     | 5.770                             | 55.100                              | 57.700                                  | 4.72%                       |
| AM8                                      | 5250                   | BODY        | 01/07/2019 | 22.9           | 21.0             | 0.050           | 1163      | 7491     | 3.600                             | 77.700                              | 72.000                                  | -7.34%                      |
| AM8                                      | 5600                   | BODY        | 01/07/2019 | 22.9           | 21.0             | 0.050           | 1163      | 7491     | 3.860                             | 80.100                              | 77.200                                  | -3.62%                      |
| AM8                                      | 5750                   | BODY        | 01/07/2019 | 22.9           | 21.0             | 0.050           | 1163      | 7491     | 3.590                             | 77.800                              | 71.800                                  | -7.71%                      |

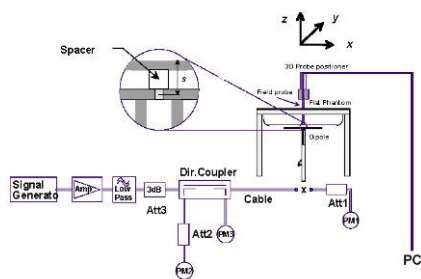


**Figure 9-1**  
**System Verification Setup Diagram**



**Figure 9-2**  
**System Verification Setup Photo**

|                                         |                                                                                                                  |                            |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  <b>SAR EVALUATION REPORT</b> |                            | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device | Page 89 of 120                  |

# 10 SAR DATA SUMMARY

## 10.1 Standalone Body SAR Data

**Table 10-1**  
**UMTS 850 Body SAR – Ant WF3**

| MEASUREMENT RESULTS                                                                               |      |          |         |                             |                       |                  |                                                 |                 |                      |            |        |          |                |                   |           |                    |        |
|---------------------------------------------------------------------------------------------------|------|----------|---------|-----------------------------|-----------------------|------------------|-------------------------------------------------|-----------------|----------------------|------------|--------|----------|----------------|-------------------|-----------|--------------------|--------|
| FREQUENCY                                                                                         |      | Mode     | Service | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | Spacing                                         | Antenna Config. | Device Serial Number | Duty Cycle | Side   | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |
| MHz                                                                                               | Ch.  |          |         |                             |                       |                  |                                                 |                 |                      |            |        | (W/kg)   |                | (W/kg)            | (W/kg)    | (W/kg)             |        |
| 826.40                                                                                            | 4132 | UMTS 850 | RMC     | 18.7                        | 18.64                 | 0.02             | 0 mm                                            | WF3             | DLXXT00PLT65         | 1:1        | back   | 1.110    | 1.014          | 1.126             | 0.484     | 0.491              | A1     |
| 836.60                                                                                            | 4183 | UMTS 850 | RMC     | 18.7                        | 18.41                 | 0.01             | 0 mm                                            | WF3             | DLXXT00PLT65         | 1:1        | back   | 1.060    | 1.069          | 1.133             | 0.475     | 0.508              |        |
| 846.60                                                                                            | 4233 | UMTS 850 | RMC     | 18.7                        | 18.37                 | -0.01            | 0 mm                                            | WF3             | DLXXT00PLT65         | 1:1        | back   | 1.000    | 1.079          | 1.079             | 0.433     | 0.467              |        |
| 826.40                                                                                            | 4132 | UMTS 850 | RMC     | 18.7                        | 18.64                 | -0.06            | 0 mm                                            | WF3             | DLXXT00PLT65         | 1:1        | top    | 0.774    | 1.014          | 0.785             | 0.389     | 0.394              |        |
| 836.60                                                                                            | 4183 | UMTS 850 | RMC     | 18.7                        | 18.41                 | -0.06            | 0 mm                                            | WF3             | DLXXT00PLT65         | 1:1        | top    | 0.785    | 1.069          | 0.839             | 0.398     | 0.425              |        |
| 846.60                                                                                            | 4233 | UMTS 850 | RMC     | 18.7                        | 18.37                 | -0.06            | 0 mm                                            | WF3             | DLXXT00PLT65         | 1:1        | top    | 0.808    | 1.079          | 0.872             | 0.409     | 0.441              |        |
| 836.60                                                                                            | 4183 | UMTS 850 | RMC     | 18.7                        | 18.41                 | 0.02             | 0 mm                                            | WF3             | DLXXT00PLT65         | 1:1        | bottom | 0.015    | 1.069          | 0.016             | 0.008     | 0.009              |        |
| 836.60                                                                                            | 4183 | UMTS 850 | RMC     | 18.7                        | 18.41                 | -0.06            | 0 mm                                            | WF3             | DLXXT00PLT65         | 1:1        | right  | 0.075    | 1.069          | 0.080             | 0.040     | 0.043              |        |
| 836.60                                                                                            | 4183 | UMTS 850 | RMC     | 18.7                        | 18.41                 | -0.07            | 0 mm                                            | WF3             | DLXXT00PLT65         | 1:1        | left   | 0.016    | 1.069          | 0.017             | 0.008     | 0.009              |        |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |      |          |         |                             |                       |                  | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                 |                      |            |        |          |                |                   |           |                    |        |

**Table 10-2**  
**UMTS 850 Body SAR – Ant WF5**

| MEASUREMENT RESULTS                                                                               |      |          |         |                             |                       |                  |                                                 |                 |                      |            |        |          |                |                   |           |                    |        |
|---------------------------------------------------------------------------------------------------|------|----------|---------|-----------------------------|-----------------------|------------------|-------------------------------------------------|-----------------|----------------------|------------|--------|----------|----------------|-------------------|-----------|--------------------|--------|
| FREQUENCY                                                                                         |      | Mode     | Service | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | Spacing                                         | Antenna Config. | Device Serial Number | Duty Cycle | Side   | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |
| MHz                                                                                               | Ch.  |          |         |                             |                       |                  |                                                 |                 |                      |            |        | (W/kg)   |                | (W/kg)            | (W/kg)    |                    |        |
| 826.40                                                                                            | 4132 | UMTS 850 | RMC     | 20.0                        | 19.86                 | 0.01             | 0 mm                                            | WF5             | DLXXT00PLT65         | 1:1        | back   | 0.918    | 1.033          | 0.948             | 0.403     | 0.416              |        |
| 836.60                                                                                            | 4183 | UMTS 850 | RMC     | 20.0                        | 19.91                 | 0.02             | 0 mm                                            | WF5             | DLXXT00PLT65         | 1:1        | back   | 0.842    | 1.021          | 0.860             | 0.371     | 0.379              |        |
| 846.60                                                                                            | 4233 | UMTS 850 | RMC     | 20.0                        | 19.96                 | 0.00             | 0 mm                                            | WF5             | DLXXT00PLT65         | 1:1        | back   | 0.807    | 1.009          | 0.814             | 0.356     | 0.359              |        |
| 836.60                                                                                            | 4183 | UMTS 850 | RMC     | 20.0                        | 19.91                 | -0.05            | 0 mm                                            | WF5             | DLXXT00PLT65         | 1:1        | top    | 0.777    | 1.021          | 0.793             | 0.397     | 0.405              |        |
| 836.60                                                                                            | 4183 | UMTS 850 | RMC     | 20.0                        | 19.91                 | 0.19             | 0 mm                                            | WF5             | DLXXT00PLT65         | 1:1        | bottom | 0.012    | 1.021          | 0.012             | 0.007     | 0.007              |        |
| 836.60                                                                                            | 4183 | UMTS 850 | RMC     | 20.0                        | 19.91                 | 0.17             | 0 mm                                            | WF5             | DLXXT00PLT65         | 1:1        | right  | 0.021    | 1.021          | 0.021             | 0.012     | 0.012              |        |
| 836.60                                                                                            | 4183 | UMTS 850 | RMC     | 20.0                        | 19.91                 | -0.04            | 0 mm                                            | WF5             | DLXXT00PLT65         | 1:1        | left   | 0.096    | 1.021          | 0.098             | 0.048     | 0.049              |        |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |      |          |         |                             |                       |                  | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                 |                      |            |        |          |                |                   |           |                    |        |

|                                         |                                                                                                                  |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device      |
|                                         |                                                                                                                  | Page 90 of 120                  |

**Table 10-3**  
**UMTS 1750 Body SAR – Ant WF3**

| MEASUREMENT RESULTS                                                                               |      |           |         |                             |                       |                  |                                                 |                 |                      |            |        |          |                |                   |           |                    |        |
|---------------------------------------------------------------------------------------------------|------|-----------|---------|-----------------------------|-----------------------|------------------|-------------------------------------------------|-----------------|----------------------|------------|--------|----------|----------------|-------------------|-----------|--------------------|--------|
| FREQUENCY                                                                                         |      | Mode      | Service | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | Spacing                                         | Antenna Config. | Device Serial Number | Duty Cycle | Side   | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |
| MHz                                                                                               | Ch.  |           |         |                             |                       |                  |                                                 |                 |                      |            |        | (W/kg)   |                | (W/kg)            | (W/kg)    | (W/kg)             |        |
| 1712.40                                                                                           | 1312 | UMTS 1750 | RMC     | 14.0                        | 14.00                 | -0.17            | 0 mm                                            | WF3             | DLXXT01CLT65         | 1:1        | back   | 1.140    | 1.000          | 1.140             | 0.548     | 0.548              |        |
| 1732.40                                                                                           | 1412 | UMTS 1750 | RMC     | 14.0                        | 13.95                 | -0.15            | 0 mm                                            | WF3             | DLXXT01CLT65         | 1:1        | back   | 1.170    | 1.012          | 1.184             | 0.559     | 0.566              |        |
| 1752.60                                                                                           | 1513 | UMTS 1750 | RMC     | 14.0                        | 13.96                 | -0.17            | 0 mm                                            | WF3             | DLXXT01CLT65         | 1:1        | back   | 1.170    | 1.009          | 1.181             | 0.561     | 0.566              |        |
| 1732.40                                                                                           | 1412 | UMTS 1750 | RMC     | 14.0                        | 13.95                 | 0.01             | 0 mm                                            | WF3             | DLXXT01CLT65         | 1:1        | top    | 0.743    | 1.012          | 0.752             | 0.336     | 0.340              |        |
| 1732.40                                                                                           | 1412 | UMTS 1750 | RMC     | 14.0                        | 13.95                 | 0.14             | 0 mm                                            | WF3             | DLXXT01CLT65         | 1:1        | bottom | 0.001    | 1.012          | 0.001             | 0.000     | 0.000              |        |
| 1732.40                                                                                           | 1412 | UMTS 1750 | RMC     | 14.0                        | 13.95                 | 0.16             | 0 mm                                            | WF3             | DLXXT01CLT65         | 1:1        | right  | 0.061    | 1.012          | 0.062             | 0.029     | 0.029              |        |
| 1732.40                                                                                           | 1412 | UMTS 1750 | RMC     | 14.0                        | 13.95                 | 0.19             | 0 mm                                            | WF3             | DLXXT01CLT65         | 1:1        | left   | 0.029    | 1.012          | 0.029             | 0.014     | 0.014              |        |
| 1732.40                                                                                           | 1412 | UMTS 1750 | RMC     | 14.0                        | 13.95                 | -0.15            | 0 mm                                            | WF3             | DLXXT01CLT65         | 1:1        | back   | 1.170    | 1.012          | 1.184             | 0.560     | 0.567              | A2     |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |      |           |         |                             |                       |                  | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                 |                      |            |        |          |                |                   |           |                    |        |

**Note: Blue entry represents variability measurement.**

**Table 10-4**  
**UMTS 1750 Body SAR – Ant WF5**

| MEASUREMENT RESULTS                                                                               |      |           |         |                             |                       |                  |                                                 |                 |                      |            |        |          |                |                   |           |                    |        |
|---------------------------------------------------------------------------------------------------|------|-----------|---------|-----------------------------|-----------------------|------------------|-------------------------------------------------|-----------------|----------------------|------------|--------|----------|----------------|-------------------|-----------|--------------------|--------|
| FREQUENCY                                                                                         |      | Mode      | Service | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | Spacing                                         | Antenna Config. | Device Serial Number | Duty Cycle | Side   | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |
| MHz                                                                                               | Ch.  |           |         |                             |                       |                  |                                                 |                 |                      |            |        | (W/kg)   |                | (W/kg)            | (W/kg)    | (W/kg)             |        |
| 1712.40                                                                                           | 1312 | UMTS 1750 | RMC     | 14.2                        | 14.19                 | 0.00             | 0 mm                                            | WF5             | DLXXT00RLT65         | 1:1        | back   | 1.120    | 1.002          | 1.122             | 0.517     | 0.518              |        |
| 1732.40                                                                                           | 1412 | UMTS 1750 | RMC     | 14.2                        | 14.10                 | 0.02             | 0 mm                                            | WF5             | DLXXT00RLT65         | 1:1        | back   | 1.130    | 1.023          | 1.156             | 0.521     | 0.533              |        |
| 1752.60                                                                                           | 1513 | UMTS 1750 | RMC     | 14.2                        | 14.02                 | 0.01             | 0 mm                                            | WF5             | DLXXT00RLT65         | 1:1        | back   | 1.120    | 1.042          | 1.167             | 0.511     | 0.532              |        |
| 1732.40                                                                                           | 1412 | UMTS 1750 | RMC     | 14.2                        | 14.10                 | 0.02             | 0 mm                                            | WF5             | DLXXT00RLT65         | 1:1        | top    | 0.576    | 1.023          | 0.589             | 0.265     | 0.271              |        |
| 1732.40                                                                                           | 1412 | UMTS 1750 | RMC     | 14.2                        | 14.10                 | -0.01            | 0 mm                                            | WF5             | DLXXT00RLT65         | 1:1        | bottom | 0.002    | 1.023          | 0.002             | 0.001     | 0.001              |        |
| 1732.40                                                                                           | 1412 | UMTS 1750 | RMC     | 14.2                        | 14.10                 | 0.06             | 0 mm                                            | WF5             | DLXXT00RLT65         | 1:1        | right  | 0.024    | 1.023          | 0.025             | 0.012     | 0.012              |        |
| 1732.40                                                                                           | 1412 | UMTS 1750 | RMC     | 14.2                        | 14.10                 | 0.04             | 0 mm                                            | WF5             | DLXXT00RLT65         | 1:1        | left   | 0.046    | 1.023          | 0.047             | 0.023     | 0.024              |        |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |      |           |         |                             |                       |                  | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                 |                      |            |        |          |                |                   |           |                    |        |

**Table 10-5**  
**UMTS 1900 Body SAR – Ant WF3**

| MEASUREMENT RESULTS                                   |      |           |         |                             |                       |                  |                         |                 |                      |            |        |          |                |                   |           |                    |        |
|-------------------------------------------------------|------|-----------|---------|-----------------------------|-----------------------|------------------|-------------------------|-----------------|----------------------|------------|--------|----------|----------------|-------------------|-----------|--------------------|--------|
| FREQUENCY                                             |      | Mode      | Service | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | Spacing                 | Antenna Config. | Device Serial Number | Duty Cycle | Side   | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |
| MHz                                                   | Ch.  |           |         |                             |                       |                  |                         |                 |                      |            |        | (W/kg)   |                | (W/kg)            | (W/kg)    | (W/kg)             |        |
| 1852.40                                               | 9262 | UMTS 1900 | RMC     | 13.5                        | 13.30                 | 0.11             | 0 mm                    | WF3             | DLXXT00NLT65         | 1:1        | back   | 0.887    | 1.047          | 0.929             | 0.410     | 0.429              |        |
| 1880.00                                               | 9400 | UMTS 1900 | RMC     | 13.5                        | 13.40                 | 0.08             | 0 mm                    | WF3             | DLXXT00NLT65         | 1:1        | back   | 0.914    | 1.023          | 0.935             | 0.421     | 0.431              |        |
| 1907.60                                               | 9538 | UMTS 1900 | RMC     | 13.5                        | 13.29                 | 0.08             | 0 mm                    | WF3             | DLXXT00NLT65         | 1:1        | back   | 0.863    | 1.050          | 0.906             | 0.396     | 0.416              |        |
| 1880.00                                               | 9400 | UMTS 1900 | RMC     | 13.5                        | 13.40                 | 0.07             | 0 mm                    | WF3             | DLXXT00NLT65         | 1:1        | top    | 0.710    | 1.023          | 0.726             | 0.297     | 0.304              |        |
| 1880.00                                               | 9400 | UMTS 1900 | RMC     | 13.5                        | 13.40                 | 0.12             | 0 mm                    | WF3             | DLXXT00NLT65         | 1:1        | bottom | 0.000    | 1.023          | 0.000             | 0.000     | 0.000              |        |
| 1880.00                                               | 9400 | UMTS 1900 | RMC     | 13.5                        | 13.40                 | 0.12             | 0 mm                    | WF3             | DLXXT00NLT65         | 1:1        | right  | 0.066    | 1.023          | 0.068             | 0.032     | 0.033              |        |
| 1880.00                                               | 9400 | UMTS 1900 | RMC     | 13.5                        | 13.40                 | 0.13             | 0 mm                    | WF3             | DLXXT00NLT65         | 1:1        | left   | 0.037    | 1.023          | 0.038             | 0.017     | 0.017              |        |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak |      |           |         |                             |                       |                  | Body<br>1.6 W/kg (mW/g) |                 |                      |            |        |          |                |                   |           |                    |        |
| Uncontrolled Exposure/General Population              |      |           |         |                             |                       |                  | averaged over 1 gram    |                 |                      |            |        |          |                |                   |           |                    |        |

|                                         |                                                                                     |                              |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 91 of 120                  |

**Table 10-6**  
**UMTS 1900 Body SAR – Ant WF5**

| MEASUREMENT RESULTS                                                                               |      |           |         |                             |                       |                  |                                                 |                 |                      |            |        |          |                |                   |                    |        |
|---------------------------------------------------------------------------------------------------|------|-----------|---------|-----------------------------|-----------------------|------------------|-------------------------------------------------|-----------------|----------------------|------------|--------|----------|----------------|-------------------|--------------------|--------|
| FREQUENCY                                                                                         |      | Mode      | Service | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | Spacing                                         | Antenna Config. | Device Serial Number | Duty Cycle | Side   | SAR (1g) | Scaling Factor | Reported SAR (1g) | Reported SAR (10g) | Plot # |
| MHz                                                                                               | Ch.  |           |         |                             |                       |                  |                                                 |                 |                      |            |        | (W/kg)   |                | (W/kg)            | (W/kg)             |        |
| 1852.40                                                                                           | 9262 | UMTS 1900 | RMC     | 14.3                        | 14.30                 | 0.00             | 0 mm                                            | WF5             | DLXXT00RLT65         | 1:1        | back   | 1.040    | 1.000          | 1.040             | 0.473              | A3     |
| 1880.00                                                                                           | 9400 | UMTS 1900 | RMC     | 14.3                        | 14.01                 | 0.01             | 0 mm                                            | WF5             | DLXXT00RLT65         | 1:1        | back   | 1.020    | 1.069          | 1.090             | 0.462              |        |
| 1907.60                                                                                           | 9538 | UMTS 1900 | RMC     | 14.3                        | 14.00                 | 0.03             | 0 mm                                            | WF5             | DLXXT00RLT65         | 1:1        | back   | 0.948    | 1.072          | 1.016             | 0.427              |        |
| 1880.00                                                                                           | 9400 | UMTS 1900 | RMC     | 14.3                        | 14.01                 | 0.02             | 0 mm                                            | WF5             | DLXXT00RLT65         | 1:1        | top    | 0.673    | 1.069          | 0.719             | 0.317              |        |
| 1880.00                                                                                           | 9400 | UMTS 1900 | RMC     | 14.3                        | 14.01                 | 0.19             | 0 mm                                            | WF5             | DLXXT00RLT65         | 1:1        | bottom | 0.000    | 1.069          | 0.000             | 0.000              |        |
| 1880.00                                                                                           | 9400 | UMTS 1900 | RMC     | 14.3                        | 14.01                 | 0.01             | 0 mm                                            | WF5             | DLXXT00RLT65         | 1:1        | right  | 0.042    | 1.069          | 0.045             | 0.022              |        |
| 1880.00                                                                                           | 9400 | UMTS 1900 | RMC     | 14.3                        | 14.01                 | 0.03             | 0 mm                                            | WF5             | DLXXT00RLT65         | 1:1        | left   | 0.088    | 1.069          | 0.094             | 0.042              |        |
| 1852.40                                                                                           | 9262 | UMTS 1900 | RMC     | 14.3                        | 14.30                 | -0.02            | 0 mm                                            | WF5             | DLXXT00RLT65         | 1:1        | back   | 0.968    | 1.000          | 0.968             | 0.437              |        |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |      |           |         |                             |                       |                  | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                 |                      |            |        |          |                |                   |                    |        |

**Note: Blue entry represents variability measurement.**

**Table 10-7**  
**GSM 850 Body SAR – Ant WF3**

| MEASUREMENT RESULTS                                                                               |     |         |         |                             |                       |                  |                                                 |                 |                      |                 |            |        |          |                |                   |           |                    |        |
|---------------------------------------------------------------------------------------------------|-----|---------|---------|-----------------------------|-----------------------|------------------|-------------------------------------------------|-----------------|----------------------|-----------------|------------|--------|----------|----------------|-------------------|-----------|--------------------|--------|
| FREQUENCY                                                                                         |     | Mode    | Service | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | Spacing                                         | Antenna Config. | Device Serial Number | # of GPRS Slots | Duty Cycle | Side   | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |
| MHz                                                                                               | Ch. |         |         |                             |                       |                  |                                                 |                 |                      |                 |            |        | (W/kg)   |                | (W/kg)            | (W/kg)    |                    |        |
| 824.20                                                                                            | 128 | GSM 850 | GPRS    | 24.7                        | 24.67                 | 0.04             | 0 mm                                            | WF3             | DLXXT00PLT65         | 2               | 1:4.15     | back   | 1.030    | 1.007          | 1.037             | 0.473     | 0.476              | A4     |
| 836.60                                                                                            | 190 | GSM 850 | GPRS    | 24.7                        | 24.58                 | -0.01            | 0 mm                                            | WF3             | DLXXT00PLT65         | 2               | 1:4.15     | back   | 0.932    | 1.028          | 0.958             | 0.426     | 0.438              |        |
| 848.80                                                                                            | 251 | GSM 850 | GPRS    | 24.7                        | 24.55                 | -0.01            | 0 mm                                            | WF3             | DLXXT00PLT65         | 2               | 1:4.15     | back   | 0.838    | 1.035          | 0.867             | 0.385     | 0.398              |        |
| 836.60                                                                                            | 190 | GSM 850 | GPRS    | 24.7                        | 24.58                 | -0.02            | 0 mm                                            | WF3             | DLXXT00PLT65         | 2               | 1:4.15     | top    | 0.727    | 1.028          | 0.747             | 0.369     | 0.379              |        |
| 836.60                                                                                            | 190 | GSM 850 | GPRS    | 24.7                        | 24.58                 | 0.08             | 0 mm                                            | WF3             | DLXXT00PLT65         | 2               | 1:4.15     | bottom | 0.013    | 1.028          | 0.013             | 0.007     | 0.007              |        |
| 836.60                                                                                            | 190 | GSM 850 | GPRS    | 24.7                        | 24.58                 | 0.19             | 0 mm                                            | WF3             | DLXXT00PLT65         | 2               | 1:4.15     | right  | 0.091    | 1.028          | 0.094             | 0.045     | 0.046              |        |
| 836.60                                                                                            | 190 | GSM 850 | GPRS    | 24.7                        | 24.58                 | 0.12             | 0 mm                                            | WF3             | DLXXT00PLT65         | 2               | 1:4.15     | left   | 0.004    | 1.028          | 0.004             | 0.002     | 0.002              |        |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |     |         |         |                             |                       |                  | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                 |                      |                 |            |        |          |                |                   |           |                    |        |

**Table 10-8**  
**GSM 850 Body SAR – Ant WF5**

| MEASUREMENT RESULTS                                   |     |         |         |                             |                       |                  |                                                 |                 |                      |                 |            |        |          |                |                   |           |                    |        |
|-------------------------------------------------------|-----|---------|---------|-----------------------------|-----------------------|------------------|-------------------------------------------------|-----------------|----------------------|-----------------|------------|--------|----------|----------------|-------------------|-----------|--------------------|--------|
| FREQUENCY                                             |     | Mode    | Service | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | Spacing                                         | Antenna Config. | Device Serial Number | # of GPRS Slots | Duty Cycle | Side   | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |
| MHz                                                   | Ch. |         |         |                             |                       |                  |                                                 |                 |                      |                 |            |        | (W/kg)   |                | (W/kg)            | (W/kg)    |                    |        |
| 824.20                                                | 128 | GSM 850 | GPRS    | 26.6                        | 25.95                 | 0.02             | 0 mm                                            | WF5             | DLXXT00QLT64         | 2               | 1:4.15     | back   | 0.894    | 1.161          | 1.038             | 0.427     | 0.496              |        |
| 836.60                                                | 190 | GSM 850 | GPRS    | 26.6                        | 25.85                 | 0.01             | 0 mm                                            | WF5             | DLXXT00QLT64         | 2               | 1:4.15     | back   | 0.851    | 1.189          | 1.012             | 0.407     | 0.484              |        |
| 848.80                                                | 251 | GSM 850 | GPRS    | 26.6                        | 25.83                 | -0.01            | 0 mm                                            | WF5             | DLXXT00QLT64         | 2               | 1:4.15     | back   | 0.786    | 1.194          | 0.938             | 0.374     | 0.447              |        |
| 824.20                                                | 128 | GSM 850 | GPRS    | 26.6                        | 25.95                 | -0.01            | 0 mm                                            | WF5             | DLXXT00QLT64         | 2               | 1:4.15     | top    | 0.803    | 1.161          | 0.932             | 0.407     | 0.473              |        |
| 836.60                                                | 190 | GSM 850 | GPRS    | 26.6                        | 25.85                 | -0.05            | 0 mm                                            | WF5             | DLXXT00QLT64         | 2               | 1:4.15     | top    | 0.751    | 1.189          | 0.893             | 0.387     | 0.460              |        |
| 848.80                                                | 251 | GSM 850 | GPRS    | 26.6                        | 25.83                 | -0.06            | 0 mm                                            | WF5             | DLXXT00QLT64         | 2               | 1:4.15     | top    | 0.750    | 1.194          | 0.896             | 0.375     | 0.448              |        |
| 836.60                                                | 190 | GSM 850 | GPRS    | 26.6                        | 25.85                 | -0.01            | 0 mm                                            | WF5             | DLXXT00QLT64         | 2               | 1:4.15     | bottom | 0.011    | 1.189          | 0.013             | 0.006     | 0.007              |        |
| 836.60                                                | 190 | GSM 850 | GPRS    | 26.6                        | 25.85                 | -0.01            | 0 mm                                            | WF5             | DLXXT00QLT64         | 2               | 1:4.15     | right  | 0.003    | 1.189          | 0.004             | 0.001     | 0.001              |        |
| 836.60                                                | 190 | GSM 850 | GPRS    | 26.6                        | 25.85                 | -0.04            | 0 mm                                            | WF5             | DLXXT00QLT64         | 2               | 1:4.15     | left   | 0.111    | 1.189          | 0.132             | 0.054     | 0.064              |        |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak |     |         |         |                             |                       |                  | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                 |                      |                 |            |        |          |                |                   |           |                    |        |
| Uncontrolled Exposure/General Population              |     |         |         |                             |                       |                  |                                                 |                 |                      |                 |            |        |          |                |                   |           |                    |        |

|                                         |                                                                                     |                              |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 92 of 120                  |

**Table 10-9**  
**GSM 1900 Body SAR – Ant WF3**

| MEASUREMENT RESULTS                      |     |          |         |                             |                       |                  |                      |                 |                      |                 |            |        |          |                |                   |           |                    |        |
|------------------------------------------|-----|----------|---------|-----------------------------|-----------------------|------------------|----------------------|-----------------|----------------------|-----------------|------------|--------|----------|----------------|-------------------|-----------|--------------------|--------|
| FREQUENCY                                |     | Mode     | Service | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | Spacing              | Antenna Config. | Device Serial Number | # of GPRS Slots | Duty Cycle | Side   | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |
| MHz                                      | Ch. |          |         |                             |                       |                  |                      |                 |                      |                 |            |        | (W/kg)   |                | (W/kg)            | (W/kg)    | (W/kg)             |        |
| 1850.20                                  | 512 | GSM 1900 | GPRS    | 20.1                        | 19.26                 | -0.03            | 0 mm                 | WF3             | DLXXT00NLT65         | 2               | 1:4.15     | back   | 0.760    | 1.213          | 0.922             | 0.351     | 0.426              |        |
| 1880.00                                  | 661 | GSM 1900 | GPRS    | 20.1                        | 19.40                 | 0.19             | 0 mm                 | WF3             | DLXXT00NLT65         | 2               | 1:4.15     | back   | 0.804    | 1.175          | 0.945             | 0.370     | 0.435              |        |
| 1909.80                                  | 810 | GSM 1900 | GPRS    | 20.1                        | 19.49                 | -0.03            | 0 mm                 | WF3             | DLXXT00NLT65         | 2               | 1:4.15     | back   | 0.830    | 1.151          | 0.955             | 0.379     | 0.436              | A5     |
| 1880.00                                  | 661 | GSM 1900 | GPRS    | 20.1                        | 19.40                 | -0.03            | 0 mm                 | WF3             | DLXXT00NLT65         | 2               | 1:4.15     | top    | 0.549    | 1.175          | 0.645             | 0.253     | 0.297              |        |
| 1880.00                                  | 661 | GSM 1900 | GPRS    | 20.1                        | 19.40                 | 0.00             | 0 mm                 | WF3             | DLXXT00NLT65         | 2               | 1:4.15     | bottom | 0.000    | 1.175          | 0.000             | 0.000     | 0.000              |        |
| 1880.00                                  | 661 | GSM 1900 | GPRS    | 20.1                        | 19.40                 | -0.19            | 0 mm                 | WF3             | DLXXT00NLT65         | 2               | 1:4.15     | right  | 0.047    | 1.175          | 0.055             | 0.022     | 0.026              |        |
| 1880.00                                  | 661 | GSM 1900 | GPRS    | 20.1                        | 19.40                 | 0.12             | 0 mm                 | WF3             | DLXXT00NLT65         | 2               | 1:4.15     | left   | 0.028    | 1.175          | 0.033             | 0.013     | 0.015              |        |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT    |     |          |         |                             |                       |                  |                      |                 |                      |                 |            |        |          |                |                   |           |                    |        |
| Spatial Peak                             |     |          |         |                             |                       |                  | Body                 |                 |                      |                 |            |        |          |                |                   |           |                    |        |
| Uncontrolled Exposure/General Population |     |          |         |                             |                       |                  | 1.6 W/kg (mW/g)      |                 |                      |                 |            |        |          |                |                   |           |                    |        |
|                                          |     |          |         |                             |                       |                  | averaged over 1 gram |                 |                      |                 |            |        |          |                |                   |           |                    |        |

**Table 10-10**  
**GSM 1900 Body SAR – Ant WF5**

| MEASUREMENT RESULTS                                                                               |     |          |         |                             |                       |                  |                                                 |                 |                      |                 |            |        |          |                |                   |           |                    |        |
|---------------------------------------------------------------------------------------------------|-----|----------|---------|-----------------------------|-----------------------|------------------|-------------------------------------------------|-----------------|----------------------|-----------------|------------|--------|----------|----------------|-------------------|-----------|--------------------|--------|
| FREQUENCY                                                                                         |     | Mode     | Service | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | Spacing                                         | Antenna Config. | Device Serial Number | # of GPRS Slots | Duty Cycle | Side   | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |
| MHz                                                                                               | Ch. |          |         |                             |                       |                  |                                                 |                 |                      |                 |            |        | (W/kg)   |                | (W/kg)            | (W/kg)    |                    |        |
| 1850.20                                                                                           | 512 | GSM 1900 | GPRS    | 20.8                        | 20.03                 | 0.01             | 0 mm                                            | WF5             | DLXXT00NLT65         | 2               | 1:4.15     | back   | 0.783    | 1.194          | 0.935             | 0.362     | 0.432              |        |
| 1880.00                                                                                           | 661 | GSM 1900 | GPRS    | 20.8                        | 20.10                 | 0.01             | 0 mm                                            | WF5             | DLXXT00NLT65         | 2               | 1:4.15     | back   | 0.783    | 1.175          | 0.920             | 0.359     | 0.422              |        |
| 1909.80                                                                                           | 810 | GSM 1900 | GPRS    | 20.8                        | 20.16                 | -0.02            | 0 mm                                            | WF5             | DLXXT00NLT65         | 2               | 1:4.15     | back   | 0.813    | 1.159          | 0.942             | 0.371     | 0.430              |        |
| 1880.00                                                                                           | 661 | GSM 1900 | GPRS    | 20.8                        | 20.10                 | 0.03             | 0 mm                                            | WF5             | DLXXT00NLT65         | 2               | 1:4.15     | top    | 0.642    | 1.175          | 0.754             | 0.282     | 0.331              |        |
| 1880.00                                                                                           | 661 | GSM 1900 | GPRS    | 20.8                        | 20.10                 | 0.01             | 0 mm                                            | WF5             | DLXXT00NLT65         | 2               | 1:4.15     | bottom | 0.000    | 1.175          | 0.000             | 0.000     | 0.000              |        |
| 1880.00                                                                                           | 661 | GSM 1900 | GPRS    | 20.8                        | 20.10                 | 0.09             | 0 mm                                            | WF5             | DLXXT00NLT65         | 2               | 1:4.15     | right  | 0.037    | 1.175          | 0.043             | 0.017     | 0.020              |        |
| 1880.00                                                                                           | 661 | GSM 1900 | GPRS    | 20.8                        | 20.10                 | 0.14             | 0 mm                                            | WF5             | DLXXT00NLT65         | 2               | 1:4.15     | left   | 0.049    | 1.175          | 0.058             | 0.022     | 0.026              |        |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |     |          |         |                             |                       |                  | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                 |                      |                 |            |        |          |                |                   |           |                    |        |

**Table 10-11**  
**LTE Band 71 Body SAR – Ant WF3**

| MEASUREMENT RESULTS                                                                               |        |      |                 |                             |                       |                  |          |                                                 |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |    |
|---------------------------------------------------------------------------------------------------|--------|------|-----------------|-----------------------------|-----------------------|------------------|----------|-------------------------------------------------|----------------------|--------------|---------|-----------|---------|------|------------|----------|----------------|-------------------|-----------|--------------------|--------|----|
| FREQUENCY                                                                                         |        | Mode | Bandwidth [MHz] | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | MPR [dB] | Antenna Config.                                 | Device Serial Number | Modulation   | RB Size | RB Offset | Spacing | Side | Duty Cycle | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |    |
| MHz                                                                                               | Ch.    |      |                 |                             |                       |                  |          |                                                 |                      |              |         |           |         |      |            | (W/kg)   |                | (W/kg)            | (W/kg)    |                    |        |    |
| 680.50                                                                                            | 133297 | Mid  | LTE Band 71     | 20                          | 18.5                  | 18.43            | 0.07     | 0                                               | WF3                  | DLXXT01CLT65 | QPSK    | 1         | 50      | 0 mm | back       | 1:1      | 1.000          | 1.016             | 1.016     | 0.480              | 0.488  |    |
| 680.50                                                                                            | 133297 | Mid  | LTE Band 71     | 20                          | 18.5                  | 18.35            | 0.06     | 0                                               | WF3                  | DLXXT01CLT65 | QPSK    | 50        | 25      | 0 mm | back       | 1:1      | 1.000          | 1.035             | 1.035     | 0.475              | 0.492  |    |
| 680.50                                                                                            | 133297 | Mid  | LTE Band 71     | 20                          | 18.5                  | 18.34            | 0.07     | 0                                               | WF3                  | DLXXT01CLT65 | QPSK    | 100       | 0       | 0 mm | back       | 1:1      | 1.000          | 1.038             | 1.038     | 0.476              | 0.494  | A6 |
| 680.50                                                                                            | 133297 | Mid  | LTE Band 71     | 20                          | 18.5                  | 18.43            | 0.04     | 0                                               | WF3                  | DLXXT01CLT65 | QPSK    | 1         | 50      | 0 mm | top        | 1:1      | 0.659          | 1.016             | 0.670     | 0.342              | 0.347  |    |
| 680.50                                                                                            | 133297 | Mid  | LTE Band 71     | 20                          | 18.5                  | 18.35            | 0.00     | 0                                               | WF3                  | DLXXT01CLT65 | QPSK    | 50        | 25      | 0 mm | top        | 1:1      | 0.648          | 1.035             | 0.671     | 0.334              | 0.346  |    |
| 680.50                                                                                            | 133297 | Mid  | LTE Band 71     | 20                          | 18.5                  | 18.43            | 0.13     | 0                                               | WF3                  | DLXXT01CLT65 | QPSK    | 1         | 50      | 0 mm | bottom     | 1:1      | 0.006          | 1.016             | 0.006     | 0.004              | 0.004  |    |
| 680.50                                                                                            | 133297 | Mid  | LTE Band 71     | 20                          | 18.5                  | 18.35            | -0.14    | 0                                               | WF3                  | DLXXT01CLT65 | QPSK    | 50        | 25      | 0 mm | bottom     | 1:1      | 0.007          | 1.035             | 0.007     | 0.004              | 0.004  |    |
| 680.50                                                                                            | 133297 | Mid  | LTE Band 71     | 20                          | 18.5                  | 18.43            | -0.05    | 0                                               | WF3                  | DLXXT01CLT65 | QPSK    | 1         | 50      | 0 mm | right      | 1:1      | 0.039          | 1.016             | 0.040     | 0.020              | 0.020  |    |
| 680.50                                                                                            | 133297 | Mid  | LTE Band 71     | 20                          | 18.5                  | 18.35            | 0.16     | 0                                               | WF3                  | DLXXT01CLT65 | QPSK    | 50        | 25      | 0 mm | right      | 1:1      | 0.041          | 1.035             | 0.042     | 0.021              | 0.022  |    |
| 680.50                                                                                            | 133297 | Mid  | LTE Band 71     | 20                          | 18.5                  | 18.43            | 0.09     | 0                                               | WF3                  | DLXXT01CLT65 | QPSK    | 1         | 50      | 0 mm | left       | 1:1      | 0.007          | 1.016             | 0.007     | 0.004              | 0.004  |    |
| 680.50                                                                                            | 133297 | Mid  | LTE Band 71     | 20                          | 18.5                  | 18.35            | 0.14     | 0                                               | WF3                  | DLXXT01CLT65 | QPSK    | 50        | 25      | 0 mm | left       | 1:1      | 0.007          | 1.035             | 0.007     | 0.004              | 0.004  |    |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |        |      |                 |                             |                       |                  |          | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |    |

|                                         |                                                                                     |                              |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 93 of 120                  |

**Table 10-12**  
**LTE Band 71 Body SAR – Ant WF5**

| MEASUREMENT RESULTS                      |        |      |                 |                             |                       |                  |          |                      |                      |              |         |           |         |      |            |          |                |                   |           |                    |         |
|------------------------------------------|--------|------|-----------------|-----------------------------|-----------------------|------------------|----------|----------------------|----------------------|--------------|---------|-----------|---------|------|------------|----------|----------------|-------------------|-----------|--------------------|---------|
| FREQUENCY                                |        | Mode | Bandwidth [MHz] | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | MPR [dB] | Antenna Config.      | Device Serial Number | Modulation   | RB Size | RB Offset | Spacing | Side | Duty Cycle | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Pilot # |
| MHz                                      | Ch.    |      |                 |                             |                       |                  |          |                      |                      |              |         |           |         |      |            | (W/kg)   |                | (W/kg)            | (W/kg)    |                    |         |
| 680.50                                   | 133297 | Mid  | LTE Band 71     | 20                          | 19.0                  | 19.00            | 0.04     | 0                    | WF5                  | DLXXT01CLT65 | QPSK    | 1         | 0       | 0 mm | back       | 1:1      | 0.780          | 1.000             | 0.780     | 0.372              |         |
| 680.50                                   | 133297 | Mid  | LTE Band 71     | 20                          | 19.0                  | 18.82            | 0.04     | 0                    | WF5                  | DLXXT01CLT65 | QPSK    | 50        | 0       | 0 mm | back       | 1:1      | 0.802          | 1.042             | 0.836     | 0.378              | 0.394   |
| 680.50                                   | 133297 | Mid  | LTE Band 71     | 20                          | 19.0                  | 18.81            | 0.06     | 0                    | WF5                  | DLXXT01CLT65 | QPSK    | 100       | 0       | 0 mm | back       | 1:1      | 0.777          | 1.045             | 0.812     | 0.366              | 0.382   |
| 680.50                                   | 133297 | Mid  | LTE Band 71     | 20                          | 19.0                  | 19.00            | 0.03     | 0                    | WF5                  | DLXXT01CLT65 | QPSK    | 1         | 0       | 0 mm | top        | 1:1      | 0.521          | 1.000             | 0.521     | 0.271              | 0.271   |
| 680.50                                   | 133297 | Mid  | LTE Band 71     | 20                          | 19.0                  | 18.82            | -0.01    | 0                    | WF5                  | DLXXT01CLT65 | QPSK    | 50        | 0       | 0 mm | top        | 1:1      | 0.542          | 1.042             | 0.565     | 0.280              | 0.292   |
| 680.50                                   | 133297 | Mid  | LTE Band 71     | 20                          | 19.0                  | 19.00            | 0.13     | 0                    | WF5                  | DLXXT01CLT65 | QPSK    | 1         | 0       | 0 mm | bottom     | 1:1      | 0.012          | 1.000             | 0.012     | 0.006              | 0.006   |
| 680.50                                   | 133297 | Mid  | LTE Band 71     | 20                          | 19.0                  | 18.82            | 0.12     | 0                    | WF5                  | DLXXT01CLT65 | QPSK    | 50        | 0       | 0 mm | bottom     | 1:1      | 0.009          | 1.042             | 0.009     | 0.004              | 0.004   |
| 680.50                                   | 133297 | Mid  | LTE Band 71     | 20                          | 19.0                  | 19.00            | -0.11    | 0                    | WF5                  | DLXXT01CLT65 | QPSK    | 1         | 0       | 0 mm | right      | 1:1      | 0.024          | 1.000             | 0.024     | 0.014              | 0.014   |
| 680.50                                   | 133297 | Mid  | LTE Band 71     | 20                          | 19.0                  | 18.82            | -0.12    | 0                    | WF5                  | DLXXT01CLT65 | QPSK    | 50        | 0       | 0 mm | right      | 1:1      | 0.023          | 1.042             | 0.024     | 0.013              | 0.014   |
| 680.50                                   | 133297 | Mid  | LTE Band 71     | 20                          | 19.0                  | 19.00            | 0.14     | 0                    | WF5                  | DLXXT01CLT65 | QPSK    | 1         | 0       | 0 mm | left       | 1:1      | 0.050          | 1.000             | 0.050     | 0.028              | 0.028   |
| 680.50                                   | 133297 | Mid  | LTE Band 71     | 20                          | 19.0                  | 18.82            | 0.03     | 0                    | WF5                  | DLXXT01CLT65 | QPSK    | 50        | 0       | 0 mm | left       | 1:1      | 0.044          | 1.042             | 0.046     | 0.025              | 0.026   |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT    |        |      |                 |                             |                       |                  |          | Body                 |                      |              |         |           |         |      |            |          |                |                   |           |                    |         |
| Spatial Peak                             |        |      |                 |                             |                       |                  |          | 1.6 W/kg (mW/g)      |                      |              |         |           |         |      |            |          |                |                   |           |                    |         |
| Uncontrolled Exposure/General Population |        |      |                 |                             |                       |                  |          | averaged over 1 gram |                      |              |         |           |         |      |            |          |                |                   |           |                    |         |

**Table 10-13**  
**LTE Band 12 Body SAR – Ant WF3**

| MEASUREMENT RESULTS                      |       |      |                 |                             |                       |                  |          |                      |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |    |
|------------------------------------------|-------|------|-----------------|-----------------------------|-----------------------|------------------|----------|----------------------|----------------------|--------------|---------|-----------|---------|------|------------|----------|----------------|-------------------|-----------|--------------------|--------|----|
| FREQUENCY                                |       | Mode | Bandwidth [MHz] | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | MPR [dB] | Antenna Config.      | Device Serial Number | Modulation   | RB Size | RB Offset | Spacing | Side | Duty Cycle | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |    |
| MHz                                      | Ch.   |      |                 |                             |                       |                  |          |                      |                      |              |         |           |         |      |            | (W/kg)   |                | (W/kg)            | (W/kg)    |                    |        |    |
| 707.50                                   | 23095 | Mid  | LTE Band 12     | 10                          | 19.0                  | 19.00            | 0.19     | 0                    | WF3                  | DLX0T00PLT65 | QPSK    | 1         | 0       | 0 mm | back       | 1:1      | 1.180          | 1.000             | 1.180     | 0.521              | 0.521  | A7 |
| 707.50                                   | 23095 | Mid  | LTE Band 12     | 10                          | 19.0                  | 18.96            | -0.06    | 0                    | WF3                  | DLX0T00PLT65 | QPSK    | 25        | 0       | 0 mm | back       | 1:1      | 1.130          | 1.009             | 1.140     | 0.494              | 0.498  |    |
| 707.50                                   | 23095 | Mid  | LTE Band 12     | 10                          | 19.0                  | 18.91            | -0.03    | 0                    | WF3                  | DLX0T00PLT65 | QPSK    | 50        | 0       | 0 mm | back       | 1:1      | 1.130          | 1.021             | 1.154     | 0.496              | 0.506  |    |
| 707.50                                   | 23095 | Mid  | LTE Band 12     | 10                          | 19.0                  | 19.00            | -0.01    | 0                    | WF3                  | DLX0T00PLT65 | QPSK    | 1         | 0       | 0 mm | top        | 1:1      | 0.683          | 1.000             | 0.683     | 0.352              | 0.352  |    |
| 707.50                                   | 23095 | Mid  | LTE Band 12     | 10                          | 19.0                  | 18.96            | -0.01    | 0                    | WF3                  | DLX0T00PLT65 | QPSK    | 25        | 0       | 0 mm | top        | 1:1      | 0.661          | 1.009             | 0.667     | 0.336              | 0.339  |    |
| 707.50                                   | 23095 | Mid  | LTE Band 12     | 10                          | 19.0                  | 19.00            | 0.02     | 0                    | WF3                  | DLX0T00PLT65 | QPSK    | 1         | 0       | 0 mm | bottom     | 1:1      | 0.017          | 1.000             | 0.017     | 0.011              | 0.011  |    |
| 707.50                                   | 23095 | Mid  | LTE Band 12     | 10                          | 19.0                  | 18.96            | 0.06     | 0                    | WF3                  | DLX0T00PLT65 | QPSK    | 25        | 0       | 0 mm | bottom     | 1:1      | 0.017          | 1.009             | 0.017     | 0.010              | 0.010  |    |
| 707.50                                   | 23095 | Mid  | LTE Band 12     | 10                          | 19.0                  | 19.00            | 0.01     | 0                    | WF3                  | DLX0T00PLT65 | QPSK    | 1         | 0       | 0 mm | right      | 1:1      | 0.056          | 1.000             | 0.056     | 0.030              | 0.030  |    |
| 707.50                                   | 23095 | Mid  | LTE Band 12     | 10                          | 19.0                  | 18.96            | 0.05     | 0                    | WF3                  | DLX0T00PLT65 | QPSK    | 25        | 0       | 0 mm | right      | 1:1      | 0.055          | 1.009             | 0.055     | 0.030              | 0.030  |    |
| 707.50                                   | 23095 | Mid  | LTE Band 12     | 10                          | 19.0                  | 19.00            | 0.00     | 0                    | WF3                  | DLX0T00PLT65 | QPSK    | 1         | 0       | 0 mm | left       | 1:1      | 0.019          | 1.000             | 0.019     | 0.009              | 0.009  |    |
| 707.50                                   | 23095 | Mid  | LTE Band 12     | 10                          | 19.0                  | 18.96            | 0.06     | 0                    | WF3                  | DLX0T00PLT65 | QPSK    | 25        | 0       | 0 mm | left       | 1:1      | 0.021          | 1.009             | 0.021     | 0.011              | 0.011  |    |
| 707.50                                   | 23095 | Mid  | LTE Band 12     | 10                          | 19.0                  | 19.00            | -0.05    | 0                    | WF3                  | DLX0T00PLT65 | QPSK    | 1         | 0       | 0 mm | back       | 1:1      | 1.180          | 1.000             | 1.180     | 0.520              | 0.520  |    |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT    |       |      |                 |                             |                       |                  |          | Body                 |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |    |
| Spatial Peak                             |       |      |                 |                             |                       |                  |          | 1.6 W/kg (mW/g)      |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |    |
| Uncontrolled Exposure/General Population |       |      |                 |                             |                       |                  |          | averaged over 1 gram |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |    |

**Note: Blue entry represents variability measurement.**

**Table 10-14**  
**LTE Band 12 Body SAR – Ant WF5**

| MEASUREMENT RESULTS                      |       |      |                 |                             |                       |                  |          |                      |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |  |
|------------------------------------------|-------|------|-----------------|-----------------------------|-----------------------|------------------|----------|----------------------|----------------------|--------------|---------|-----------|---------|------|------------|----------|----------------|-------------------|-----------|--------------------|--------|--|
| FREQUENCY                                |       | Mode | Bandwidth [MHz] | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | MPR [dB] | Antenna Config.      | Device Serial Number | Modulation   | RB Size | RB Offset | Spacing | Side | Duty Cycle | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |  |
| MHz                                      | Ch.   |      |                 |                             |                       |                  |          |                      |                      |              |         |           |         |      |            | (W/kg)   |                | (W/kg)            | (W/kg)    |                    |        |  |
| 707.50                                   | 23095 | Mid  | LTE Band 12     | 10                          | 19.0                  | 18.90            | -0.19    | 0                    | WF5                  | DLX0T01CLT65 | QPSK    | 1         | 49      | 0 mm | back       | 1:1      | 0.869          | 1.023             | 0.889     | 0.427              | 0.437  |  |
| 707.50                                   | 23095 | Mid  | LTE Band 12     | 10                          | 19.0                  | 18.93            | 0.00     | 0                    | WF5                  | DLX0T01CLT65 | QPSK    | 25        | 12      | 0 mm | back       | 1:1      | 0.948          | 1.016             | 0.963     | 0.463              | 0.470  |  |
| 707.50                                   | 23095 | Mid  | LTE Band 12     | 10                          | 19.0                  | 18.89            | -0.03    | 0                    | WF5                  | DLX0T01CLT65 | QPSK    | 50        | 0       | 0 mm | back       | 1:1      | 0.942          | 1.026             | 0.966     | 0.460              | 0.472  |  |
| 707.50                                   | 23095 | Mid  | LTE Band 12     | 10                          | 19.0                  | 18.90            | 0.01     | 0                    | WF5                  | DLX0T01CLT65 | QPSK    | 1         | 49      | 0 mm | top        | 1:1      | 0.651          | 1.023             | 0.666     | 0.350              | 0.358  |  |
| 707.50                                   | 23095 | Mid  | LTE Band 12     | 10                          | 19.0                  | 18.93            | -0.01    | 0                    | WF5                  | DLX0T01CLT65 | QPSK    | 25        | 12      | 0 mm | top        | 1:1      | 0.674          | 1.016             | 0.685     | 0.364              | 0.370  |  |
| 707.50                                   | 23095 | Mid  | LTE Band 12     | 10                          | 19.0                  | 18.90            | 0.13     | 0                    | WF5                  | DLX0T01CLT65 | QPSK    | 1         | 49      | 0 mm | bottom     | 1:1      | 0.013          | 1.023             | 0.013     | 0.006              | 0.006  |  |
| 707.50                                   | 23095 | Mid  | LTE Band 12     | 10                          | 19.0                  | 18.93            | 0.13     | 0                    | WF5                  | DLX0T01CLT65 | QPSK    | 25        | 12      | 0 mm | bottom     | 1:1      | 0.013          | 1.016             | 0.013     | 0.006              | 0.006  |  |
| 707.50                                   | 23095 | Mid  | LTE Band 12     | 10                          | 19.0                  | 18.90            | -0.04    | 0                    | WF5                  | DLX0T01CLT65 | QPSK    | 1         | 49      | 0 mm | right      | 1:1      | 0.007          | 1.023             | 0.007     | 0.004              | 0.004  |  |
| 707.50                                   | 23095 | Mid  | LTE Band 12     | 10                          | 19.0                  | 18.93            | 0.12     | 0                    | WF5                  | DLX0T01CLT65 | QPSK    | 25        | 12      | 0 mm | right      | 1:1      | 0.004          | 1.016             | 0.004     | 0.002              | 0.002  |  |
| 707.50                                   | 23095 | Mid  | LTE Band 12     | 10                          | 19.0                  | 18.90            | 0.12     | 0                    | WF5                  | DLX0T01CLT65 | QPSK    | 1         | 49      | 0 mm | left       | 1:1      | 0.064          | 1.023             | 0.065     | 0.036              | 0.037  |  |
| 707.50                                   | 23095 | Mid  | LTE Band 12     | 10                          | 19.0                  | 18.93            | -0.07    | 0                    | WF5                  | DLX0T01CLT65 | QPSK    | 25        | 12      | 0 mm | left       | 1:1      | 0.059          | 1.016             | 0.060     | 0.034              | 0.035  |  |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT    |       |      |                 |                             |                       |                  |          | Body                 |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |  |
| Spatial Peak                             |       |      |                 |                             |                       |                  |          | 1.6 W/kg (mW/g)      |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |  |
| Uncontrolled Exposure/General Population |       |      |                 |                             |                       |                  |          | averaged over 1 gram |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |  |

|                                         |                                                                                     |                              |                                        |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|----------------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | <b>Approved by:</b><br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 94 of 120                         |

**Table 10-15**  
**LTE Band 13 Body SAR – Ant WF3**

| MEASUREMENT RESULTS                                                                               |       |      |                 |                             |                       |                  |          |                                                 |                      |               |         |           |         |      |            |          |                |                   |           |                    |        |    |
|---------------------------------------------------------------------------------------------------|-------|------|-----------------|-----------------------------|-----------------------|------------------|----------|-------------------------------------------------|----------------------|---------------|---------|-----------|---------|------|------------|----------|----------------|-------------------|-----------|--------------------|--------|----|
| FREQUENCY                                                                                         |       | Mode | Bandwidth [MHz] | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | MPR [dB] | Antenna Config.                                 | Device Serial Number | Modulation    | RB Size | RB Offset | Spacing | Side | Duty Cycle | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |    |
| MHz                                                                                               | Ch.   |      |                 |                             |                       |                  |          |                                                 |                      |               |         |           |         |      |            | (W/kg)   |                | (W/kg)            | (W/kg)    |                    |        |    |
| 782.00                                                                                            | 23230 | Mid  | LTE Band 13     | 10                          | 18.5                  | 18.46            | 0.20     | 0                                               | WF3                  | DLXX0T01CLT65 | QPSK    | 1         | 0       | 0 mm | back       | 1:1      | 1.090          | 1.009             | 1.100     | 0.536              | 0.541  | A8 |
| 782.00                                                                                            | 23230 | Mid  | LTE Band 13     | 10                          | 18.5                  | 18.37            | 0.12     | 0                                               | WF3                  | DLXX0T01CLT65 | QPSK    | 25        | 25      | 0 mm | back       | 1:1      | 1.030          | 1.030             | 1.061     | 0.513              | 0.528  |    |
| 782.00                                                                                            | 23230 | Mid  | LTE Band 13     | 10                          | 18.5                  | 18.36            | 0.07     | 0                                               | WF3                  | DLXX0T01CLT65 | QPSK    | 50        | 0       | 0 mm | back       | 1:1      | 1.070          | 1.033             | 1.105     | 0.536              | 0.554  |    |
| 782.00                                                                                            | 23230 | Mid  | LTE Band 13     | 10                          | 18.5                  | 18.46            | -0.03    | 0                                               | WF3                  | DLXX0T01CLT65 | QPSK    | 1         | 0       | 0 mm | top        | 1:1      | 0.700          | 1.009             | 0.706     | 0.366              | 0.369  |    |
| 782.00                                                                                            | 23230 | Mid  | LTE Band 13     | 10                          | 18.5                  | 18.37            | 0.03     | 0                                               | WF3                  | DLXX0T01CLT65 | QPSK    | 25        | 25      | 0 mm | top        | 1:1      | 0.670          | 1.030             | 0.690     | 0.347              | 0.357  |    |
| 782.00                                                                                            | 23230 | Mid  | LTE Band 13     | 10                          | 18.5                  | 18.46            | 0.01     | 0                                               | WF3                  | DLXX0T01CLT65 | QPSK    | 1         | 0       | 0 mm | bottom     | 1:1      | 0.009          | 1.009             | 0.009     | 0.005              | 0.005  |    |
| 782.00                                                                                            | 23230 | Mid  | LTE Band 13     | 10                          | 18.5                  | 18.37            | 0.01     | 0                                               | WF3                  | DLXX0T01CLT65 | QPSK    | 25        | 25      | 0 mm | bottom     | 1:1      | 0.009          | 1.030             | 0.009     | 0.005              | 0.005  |    |
| 782.00                                                                                            | 23230 | Mid  | LTE Band 13     | 10                          | 18.5                  | 18.46            | -0.11    | 0                                               | WF3                  | DLXX0T01CLT65 | QPSK    | 1         | 0       | 0 mm | right      | 1:1      | 0.079          | 1.009             | 0.080     | 0.041              | 0.041  |    |
| 782.00                                                                                            | 23230 | Mid  | LTE Band 13     | 10                          | 18.5                  | 18.37            | -0.06    | 0                                               | WF3                  | DLXX0T01CLT65 | QPSK    | 25        | 25      | 0 mm | right      | 1:1      | 0.075          | 1.030             | 0.077     | 0.039              | 0.040  |    |
| 782.00                                                                                            | 23230 | Mid  | LTE Band 13     | 10                          | 18.5                  | 18.46            | 0.00     | 0                                               | WF3                  | DLXX0T01CLT65 | QPSK    | 1         | 0       | 0 mm | left       | 1:1      | 0.023          | 1.009             | 0.023     | 0.012              | 0.012  |    |
| 782.00                                                                                            | 23230 | Mid  | LTE Band 13     | 10                          | 18.5                  | 18.37            | 0.13     | 0                                               | WF3                  | DLXX0T01CLT65 | QPSK    | 25        | 25      | 0 mm | left       | 1:1      | 0.032          | 1.030             | 0.033     | 0.016              | 0.016  |    |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |       |      |                 |                             |                       |                  |          | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                      |               |         |           |         |      |            |          |                |                   |           |                    |        |    |

**Table 10-16**  
**LTE Band 13 Body SAR – Ant WF5**

| MEASUREMENT RESULTS                                                                               |       |      |                 |                             |                       |                  |          |                                                 |                      |               |         |           |         |      |            |          |                |                   |           |                    |        |  |
|---------------------------------------------------------------------------------------------------|-------|------|-----------------|-----------------------------|-----------------------|------------------|----------|-------------------------------------------------|----------------------|---------------|---------|-----------|---------|------|------------|----------|----------------|-------------------|-----------|--------------------|--------|--|
| FREQUENCY                                                                                         |       | Mode | Bandwidth [MHz] | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | MPR [dB] | Antenna Config.                                 | Device Serial Number | Modulation    | RB Size | RB Offset | Spacing | Side | Duty Cycle | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |  |
| MHz                                                                                               | Ch.   |      |                 |                             |                       |                  |          |                                                 |                      |               |         |           |         |      |            | (W/kg)   |                | (W/kg)            | (W/kg)    |                    |        |  |
| 782.00                                                                                            | 23230 | Mid  | LTE Band 13     | 10                          | 20.1                  | 20.04            | 0.09     | 0                                               | WF5                  | DLXX0T01CLT65 | QPSK    | 1         | 0       | 0 mm | back       | 1:1      | 0.909          | 1.014             | 0.922     | 0.458              | 0.464  |  |
| 782.00                                                                                            | 23230 | Mid  | LTE Band 13     | 10                          | 20.1                  | 20.03            | 0.08     | 0                                               | WF5                  | DLXX0T01CLT65 | QPSK    | 25        | 25      | 0 mm | back       | 1:1      | 0.776          | 1.016             | 0.788     | 0.384              | 0.390  |  |
| 782.00                                                                                            | 23230 | Mid  | LTE Band 13     | 10                          | 20.1                  | 19.98            | 0.07     | 0                                               | WF5                  | DLXX0T01CLT65 | QPSK    | 50        | 0       | 0 mm | back       | 1:1      | 0.800          | 1.028             | 0.822     | 0.396              | 0.407  |  |
| 782.00                                                                                            | 23230 | Mid  | LTE Band 13     | 10                          | 20.1                  | 20.04            | -0.02    | 0                                               | WF5                  | DLXX0T01CLT65 | QPSK    | 1         | 0       | 0 mm | top        | 1:1      | 0.757          | 1.014             | 0.768     | 0.409              | 0.415  |  |
| 782.00                                                                                            | 23230 | Mid  | LTE Band 13     | 10                          | 20.1                  | 20.03            | 0.01     | 0                                               | WF5                  | DLXX0T01CLT65 | QPSK    | 25        | 25      | 0 mm | top        | 1:1      | 0.699          | 1.016             | 0.710     | 0.375              | 0.381  |  |
| 782.00                                                                                            | 23230 | Mid  | LTE Band 13     | 10                          | 20.1                  | 20.04            | -0.14    | 0                                               | WF5                  | DLXX0T01CLT65 | QPSK    | 1         | 0       | 0 mm | bottom     | 1:1      | 0.007          | 1.014             | 0.007     | 0.003              | 0.003  |  |
| 782.00                                                                                            | 23230 | Mid  | LTE Band 13     | 10                          | 20.1                  | 20.03            | 0.01     | 0                                               | WF5                  | DLXX0T01CLT65 | QPSK    | 25        | 25      | 0 mm | bottom     | 1:1      | 0.009          | 1.016             | 0.009     | 0.004              | 0.004  |  |
| 782.00                                                                                            | 23230 | Mid  | LTE Band 13     | 10                          | 20.1                  | 20.04            | 0.20     | 0                                               | WF5                  | DLXX0T01CLT65 | QPSK    | 1         | 0       | 0 mm | right      | 1:1      | 0.009          | 1.014             | 0.009     | 0.004              | 0.004  |  |
| 782.00                                                                                            | 23230 | Mid  | LTE Band 13     | 10                          | 20.1                  | 20.03            | -0.02    | 0                                               | WF5                  | DLXX0T01CLT65 | QPSK    | 25        | 25      | 0 mm | right      | 1:1      | 0.016          | 1.016             | 0.016     | 0.008              | 0.008  |  |
| 782.00                                                                                            | 23230 | Mid  | LTE Band 13     | 10                          | 20.1                  | 20.04            | -0.03    | 0                                               | WF5                  | DLXX0T01CLT65 | QPSK    | 1         | 0       | 0 mm | left       | 1:1      | 0.085          | 1.014             | 0.086     | 0.047              | 0.048  |  |
| 782.00                                                                                            | 23230 | Mid  | LTE Band 13     | 10                          | 20.1                  | 20.03            | 0.12     | 0                                               | WF5                  | DLXX0T01CLT65 | QPSK    | 25        | 25      | 0 mm | left       | 1:1      | 0.080          | 1.016             | 0.081     | 0.044              | 0.045  |  |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |       |      |                 |                             |                       |                  |          | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                      |               |         |           |         |      |            |          |                |                   |           |                    |        |  |

**Table 10-17**  
**LTE Band 14 Body SAR – Ant WF3**

| MEASUREMENT RESULTS                                                                               |       |      |                 |                             |                       |                  |          |                                                 |                      |               |         |           |         |      |            |          |                |                   |           |                    |        |    |
|---------------------------------------------------------------------------------------------------|-------|------|-----------------|-----------------------------|-----------------------|------------------|----------|-------------------------------------------------|----------------------|---------------|---------|-----------|---------|------|------------|----------|----------------|-------------------|-----------|--------------------|--------|----|
| FREQUENCY                                                                                         |       | Mode | Bandwidth [MHz] | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | MPR [dB] | Antenna Config.                                 | Device Serial Number | Modulation    | RB Size | RB Offset | Spacing | Side | Duty Cycle | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |    |
| MHz                                                                                               | Ch.   |      |                 |                             |                       |                  |          |                                                 |                      |               |         |           |         |      |            | (W/kg)   |                | (W/kg)            | (W/kg)    |                    |        |    |
| 793.00                                                                                            | 23330 | Mid  | LTE Band 14     | 10                          | 18.5                  | 18.49            | -0.02    | 0                                               | WF3                  | DLXX0T01CLT65 | QPSK    | 1         | 0       | 0 mm | back       | 1:1      | 0.918          | 1.002             | 0.920     | 0.425              | 0.426  | A9 |
| 793.00                                                                                            | 23330 | Mid  | LTE Band 14     | 10                          | 18.5                  | 18.40            | -0.08    | 0                                               | WF3                  | DLXX0T01CLT65 | QPSK    | 25        | 12      | 0 mm | back       | 1:1      | 0.866          | 1.023             | 0.886     | 0.403              | 0.412  |    |
| 793.00                                                                                            | 23330 | Mid  | LTE Band 14     | 10                          | 18.5                  | 18.36            | -0.10    | 0                                               | WF3                  | DLXX0T01CLT65 | QPSK    | 50        | 0       | 0 mm | back       | 1:1      | 0.897          | 1.033             | 0.927     | 0.418              | 0.432  |    |
| 793.00                                                                                            | 23330 | Mid  | LTE Band 14     | 10                          | 18.5                  | 18.49            | -0.05    | 0                                               | WF3                  | DLXX0T01CLT65 | QPSK    | 1         | 0       | 0 mm | top        | 1:1      | 0.696          | 1.002             | 0.697     | 0.361              | 0.362  |    |
| 793.00                                                                                            | 23330 | Mid  | LTE Band 14     | 10                          | 18.5                  | 18.40            | -0.03    | 0                                               | WF3                  | DLXX0T01CLT65 | QPSK    | 25        | 12      | 0 mm | top        | 1:1      | 0.652          | 1.023             | 0.667     | 0.337              | 0.345  |    |
| 793.00                                                                                            | 23330 | Mid  | LTE Band 14     | 10                          | 18.5                  | 18.49            | 0.13     | 0                                               | WF3                  | DLXX0T01CLT65 | QPSK    | 1         | 0       | 0 mm | bottom     | 1:1      | 0.009          | 1.002             | 0.009     | 0.005              | 0.005  |    |
| 793.00                                                                                            | 23330 | Mid  | LTE Band 14     | 10                          | 18.5                  | 18.40            | -0.17    | 0                                               | WF3                  | DLXX0T01CLT65 | QPSK    | 25        | 12      | 0 mm | bottom     | 1:1      | 0.007          | 1.023             | 0.007     | 0.004              | 0.004  |    |
| 793.00                                                                                            | 23330 | Mid  | LTE Band 14     | 10                          | 18.5                  | 18.49            | 0.02     | 0                                               | WF3                  | DLXX0T01CLT65 | QPSK    | 1         | 0       | 0 mm | right      | 1:1      | 0.077          | 1.002             | 0.077     | 0.040              | 0.040  |    |
| 793.00                                                                                            | 23330 | Mid  | LTE Band 14     | 10                          | 18.5                  | 18.40            | 0.09     | 0                                               | WF3                  | DLXX0T01CLT65 | QPSK    | 25        | 12      | 0 mm | right      | 1:1      | 0.072          | 1.023             | 0.074     | 0.038              | 0.039  |    |
| 793.00                                                                                            | 23330 | Mid  | LTE Band 14     | 10                          | 18.5                  | 18.49            | -0.04    | 0                                               | WF3                  | DLXX0T01CLT65 | QPSK    | 1         | 0       | 0 mm | left       | 1:1      | 0.036          | 1.002             | 0.036     | 0.018              | 0.018  |    |
| 793.00                                                                                            | 23330 | Mid  | LTE Band 14     | 10                          | 18.5                  | 18.40            | -0.10    | 0                                               | WF3                  | DLXX0T01CLT65 | QPSK    | 25        | 12      | 0 mm | left       | 1:1      | 0.036          | 1.023             | 0.037     | 0.018              | 0.018  |    |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |       |      |                 |                             |                       |                  |          | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                      |               |         |           |         |      |            |          |                |                   |           |                    |        |    |

|                                         |                                                                                     |                              |                                        |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|----------------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | <b>Approved by:</b><br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 95 of 120                         |

**Table 10-18**  
**LTE Band 14 Body SAR – Ant WF5**

| MEASUREMENT RESULTS                                                                               |       |      |                 |                             |                       |                  |          |                                                 |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |  |
|---------------------------------------------------------------------------------------------------|-------|------|-----------------|-----------------------------|-----------------------|------------------|----------|-------------------------------------------------|----------------------|--------------|---------|-----------|---------|------|------------|----------|----------------|-------------------|-----------|--------------------|--------|--|
| FREQUENCY                                                                                         |       | Mode | Bandwidth [MHz] | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | MPR [dB] | Antenna Config.                                 | Device Serial Number | Modulation   | RB Size | RB Offset | Spacing | Side | Duty Cycle | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |  |
| MHz                                                                                               | Ch.   |      |                 |                             |                       |                  |          |                                                 |                      |              |         |           |         |      |            | (W/kg)   |                | (W/kg)            | (W/kg)    |                    |        |  |
| 793.00                                                                                            | 23330 | Mid  | LTE Band 14     | 10                          | 20.1                  | 20.10            | 0.05     | 0                                               | WF5                  | DLXXT01CLT65 | QPSK    | 1         | 0       | 0 mm | back       | 1:1      | 0.899          | 1.000             | 0.899     | 0.452              | 0.452  |  |
| 793.00                                                                                            | 23330 | Mid  | LTE Band 14     | 10                          | 20.1                  | 20.07            | 0.01     | 0                                               | WF5                  | DLXXT01CLT65 | QPSK    | 25        | 0       | 0 mm | back       | 1:1      | 0.896          | 1.007             | 0.902     | 0.448              | 0.451  |  |
| 793.00                                                                                            | 23330 | Mid  | LTE Band 14     | 10                          | 20.1                  | 19.94            | 0.03     | 0                                               | WF5                  | DLXXT01CLT65 | QPSK    | 50        | 0       | 0 mm | back       | 1:1      | 0.875          | 1.038             | 0.908     | 0.439              | 0.456  |  |
| 793.00                                                                                            | 23330 | Mid  | LTE Band 14     | 10                          | 20.1                  | 20.10            | -0.02    | 0                                               | WF5                  | DLXXT01CLT65 | QPSK    | 1         | 0       | 0 mm | top        | 1:1      | 0.764          | 1.000             | 0.764     | 0.415              | 0.415  |  |
| 793.00                                                                                            | 23330 | Mid  | LTE Band 14     | 10                          | 20.1                  | 20.07            | -0.04    | 0                                               | WF5                  | DLXXT01CLT65 | QPSK    | 25        | 0       | 0 mm | top        | 1:1      | 0.766          | 1.007             | 0.771     | 0.414              | 0.417  |  |
| 793.00                                                                                            | 23330 | Mid  | LTE Band 14     | 10                          | 20.1                  | 20.10            | -0.15    | 0                                               | WF5                  | DLXXT01CLT65 | QPSK    | 1         | 0       | 0 mm | bottom     | 1:1      | 0.009          | 1.000             | 0.009     | 0.004              | 0.004  |  |
| 793.00                                                                                            | 23330 | Mid  | LTE Band 14     | 10                          | 20.1                  | 20.07            | 0.14     | 0                                               | WF5                  | DLXXT01CLT65 | QPSK    | 25        | 0       | 0 mm | bottom     | 1:1      | 0.008          | 1.007             | 0.008     | 0.004              | 0.004  |  |
| 793.00                                                                                            | 23330 | Mid  | LTE Band 14     | 10                          | 20.1                  | 20.10            | 0.08     | 0                                               | WF5                  | DLXXT01CLT65 | QPSK    | 1         | 0       | 0 mm | right      | 1:1      | 0.016          | 1.000             | 0.016     | 0.008              | 0.008  |  |
| 793.00                                                                                            | 23330 | Mid  | LTE Band 14     | 10                          | 20.1                  | 20.07            | -0.20    | 0                                               | WF5                  | DLXXT01CLT65 | QPSK    | 25        | 0       | 0 mm | right      | 1:1      | 0.017          | 1.007             | 0.017     | 0.009              | 0.009  |  |
| 793.00                                                                                            | 23330 | Mid  | LTE Band 14     | 10                          | 20.1                  | 20.10            | 0.03     | 0                                               | WF5                  | DLXXT01CLT65 | QPSK    | 1         | 0       | 0 mm | left       | 1:1      | 0.084          | 1.000             | 0.084     | 0.047              | 0.047  |  |
| 793.00                                                                                            | 23330 | Mid  | LTE Band 14     | 10                          | 20.1                  | 20.07            | 0.06     | 0                                               | WF5                  | DLXXT01CLT65 | QPSK    | 25        | 0       | 0 mm | left       | 1:1      | 0.081          | 1.007             | 0.082     | 0.046              | 0.046  |  |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |       |      |                 |                             |                       |                  |          | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |  |

**Table 10-19**  
**LTE Band 5 (Cell) Body SAR- Ant WF3**

| MEASUREMENT RESULTS                                                                               |       |      |                   |                             |                       |                  |          |                                                 |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |     |
|---------------------------------------------------------------------------------------------------|-------|------|-------------------|-----------------------------|-----------------------|------------------|----------|-------------------------------------------------|----------------------|--------------|---------|-----------|---------|------|------------|----------|----------------|-------------------|-----------|--------------------|--------|-----|
| FREQUENCY                                                                                         |       | Mode | Bandwidth [MHz]   | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | MPR [dB] | Antenna Config.                                 | Device Serial Number | Modulation   | RB Size | RB Offset | Spacing | Side | Duty Cycle | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |     |
| MHz                                                                                               | Ch.   |      |                   |                             |                       |                  |          |                                                 |                      |              |         |           |         |      |            | (W/kg)   |                | (W/kg)            | (W/kg)    |                    |        |     |
| 836.50                                                                                            | 20525 | Mid  | LTE Band 5 (Cell) | 10                          | 18.7                  | 18.70            | -0.01    | 0                                               | WF3                  | DLXXT00QLT64 | QPSK    | 1         | 49      | 0 mm | back       | 1:1      | 1.160          | 1.000             | 1.160     | 0.527              | 0.527  |     |
| 836.50                                                                                            | 20525 | Mid  | LTE Band 5 (Cell) | 10                          | 18.7                  | 18.70            | -0.02    | 0                                               | WF3                  | DLXXT00QLT64 | QPSK    | 25        | 25      | 0 mm | back       | 1:1      | 1.170          | 1.000             | 1.170     | 0.526              | 0.526  |     |
| 836.50                                                                                            | 20525 | Mid  | LTE Band 5 (Cell) | 10                          | 18.7                  | 18.67            | 0.13     | 0                                               | WF3                  | DLXXT00QLT64 | QPSK    | 50        | 0       | 0 mm | back       | 1:1      | 1.180          | 1.007             | 1.188     | 0.531              | 0.535  |     |
| 836.50                                                                                            | 20525 | Mid  | LTE Band 5 (Cell) | 10                          | 18.7                  | 18.70            | -0.02    | 0                                               | WF3                  | DLXXT00QLT64 | QPSK    | 1         | 49      | 0 mm | top        | 1:1      | 0.866          | 1.000             | 0.866     | 0.444              | 0.444  |     |
| 836.50                                                                                            | 20525 | Mid  | LTE Band 5 (Cell) | 10                          | 18.7                  | 18.70            | 0.00     | 0                                               | WF3                  | DLXXT00QLT64 | QPSK    | 25        | 25      | 0 mm | top        | 1:1      | 0.842          | 1.000             | 0.842     | 0.431              | 0.431  |     |
| 836.50                                                                                            | 20525 | Mid  | LTE Band 5 (Cell) | 10                          | 18.7                  | 18.67            | -0.02    | 0                                               | WF3                  | DLXXT00QLT64 | QPSK    | 50        | 0       | 0 mm | top        | 1:1      | 0.837          | 1.007             | 0.843     | 0.427              | 0.430  |     |
| 836.50                                                                                            | 20525 | Mid  | LTE Band 5 (Cell) | 10                          | 18.7                  | 18.70            | -0.01    | 0                                               | WF3                  | DLXXT00QLT64 | QPSK    | 1         | 49      | 0 mm | bottom     | 1:1      | 0.014          | 1.000             | 0.014     | 0.008              | 0.008  |     |
| 836.50                                                                                            | 20525 | Mid  | LTE Band 5 (Cell) | 10                          | 18.7                  | 18.70            | 0.06     | 0                                               | WF3                  | DLXXT00QLT64 | QPSK    | 25        | 25      | 0 mm | bottom     | 1:1      | 0.013          | 1.000             | 0.013     | 0.007              | 0.007  |     |
| 836.50                                                                                            | 20525 | Mid  | LTE Band 5 (Cell) | 10                          | 18.7                  | 18.70            | 0.16     | 0                                               | WF3                  | DLXXT00QLT64 | QPSK    | 1         | 49      | 0 mm | right      | 1:1      | 0.098          | 1.000             | 0.098     | 0.048              | 0.048  |     |
| 836.50                                                                                            | 20525 | Mid  | LTE Band 5 (Cell) | 10                          | 18.7                  | 18.70            | 0.00     | 0                                               | WF3                  | DLXXT00QLT64 | QPSK    | 25        | 25      | 0 mm | right      | 1:1      | 0.091          | 1.000             | 0.091     | 0.045              | 0.045  |     |
| 836.50                                                                                            | 20525 | Mid  | LTE Band 5 (Cell) | 10                          | 18.7                  | 18.70            | -0.15    | 0                                               | WF3                  | DLXXT00QLT64 | QPSK    | 1         | 49      | 0 mm | left       | 1:1      | 0.017          | 1.000             | 0.017     | 0.008              | 0.008  |     |
| 836.50                                                                                            | 20525 | Mid  | LTE Band 5 (Cell) | 10                          | 18.7                  | 18.70            | 0.05     | 0                                               | WF3                  | DLXXT00QLT64 | QPSK    | 25        | 25      | 0 mm | left       | 1:1      | 0.018          | 1.000             | 0.018     | 0.009              | 0.009  |     |
| 836.50                                                                                            | 20525 | Mid  | LTE Band 5 (Cell) | 10                          | 18.7                  | 18.67            | -0.10    | 0                                               | WF3                  | DLXXT00QLT64 | QPSK    | 50        | 0       | 0 mm | back       | 1:1      | 1.180          | 1.007             | 1.188     | 0.547              | 0.551  | A10 |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |       |      |                   |                             |                       |                  |          | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |     |

**Note: Blue entry represents variability measurement.**

|                                         |                                                                                     |                              |                                        |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|----------------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | <b>Approved by:</b><br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 96 of 120                         |

**Table 10-20**  
**LTE Band 5 (Cell) Body SAR- Ant WF5**

| MEASUREMENT RESULTS                      |       |      |                   |                             |                       |                  |          |                      |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |  |
|------------------------------------------|-------|------|-------------------|-----------------------------|-----------------------|------------------|----------|----------------------|----------------------|--------------|---------|-----------|---------|------|------------|----------|----------------|-------------------|-----------|--------------------|--------|--|
| FREQUENCY                                |       | Mode | Bandwidth [MHz]   | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | MPR [dB] | Antenna Config.      | Device Serial Number | Modulation   | RB Size | RB Offset | Spacing | Side | Duty Cycle | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |  |
| MHz                                      | Ch.   |      |                   |                             |                       |                  |          |                      |                      |              |         |           |         |      |            | (W/kg)   |                | (W/kg)            | (W/kg)    |                    |        |  |
| 836.50                                   | 20525 | Mid  | LTE Band 5 (Cell) | 10                          | 20.0                  | 19.96            | 0.03     | 0                    | WF5                  | DLXXT00PLT65 | QPSK    | 1         | 49      | 0 mm | back       | 1:1      | 0.961          | 1.009             | 0.970     | 0.448              | 0.452  |  |
| 836.50                                   | 20525 | Mid  | LTE Band 5 (Cell) | 10                          | 20.0                  | 19.88            | 0.05     | 0                    | WF5                  | DLXXT00PLT65 | QPSK    | 25        | 25      | 0 mm | back       | 1:1      | 0.970          | 1.028             | 0.997     | 0.450              | 0.463  |  |
| 836.50                                   | 20525 | Mid  | LTE Band 5 (Cell) | 10                          | 20.0                  | 19.82            | 0.02     | 0                    | WF5                  | DLXXT00PLT65 | QPSK    | 50        | 0       | 0 mm | back       | 1:1      | 0.970          | 1.042             | 1.011     | 0.455              | 0.474  |  |
| 836.50                                   | 20525 | Mid  | LTE Band 5 (Cell) | 10                          | 20.0                  | 19.96            | -0.01    | 0                    | WF5                  | DLXXT00PLT65 | QPSK    | 1         | 49      | 0 mm | top        | 1:1      | 0.795          | 1.009             | 0.802     | 0.399              | 0.403  |  |
| 836.50                                   | 20525 | Mid  | LTE Band 5 (Cell) | 10                          | 20.0                  | 19.88            | 0.01     | 0                    | WF5                  | DLXXT00PLT65 | QPSK    | 25        | 25      | 0 mm | top        | 1:1      | 0.782          | 1.028             | 0.804     | 0.389              | 0.400  |  |
| 836.50                                   | 20525 | Mid  | LTE Band 5 (Cell) | 10                          | 20.0                  | 19.82            | -0.01    | 0                    | WF5                  | DLXXT00PLT65 | QPSK    | 50        | 0       | 0 mm | top        | 1:1      | 0.765          | 1.042             | 0.797     | 0.379              | 0.395  |  |
| 836.50                                   | 20525 | Mid  | LTE Band 5 (Cell) | 10                          | 20.0                  | 19.96            | -0.13    | 0                    | WF5                  | DLXXT00PLT65 | QPSK    | 1         | 49      | 0 mm | bottom     | 1:1      | 0.011          | 1.009             | 0.011     | 0.006              | 0.006  |  |
| 836.50                                   | 20525 | Mid  | LTE Band 5 (Cell) | 10                          | 20.0                  | 19.88            | 0.00     | 0                    | WF5                  | DLXXT00PLT65 | QPSK    | 25        | 25      | 0 mm | bottom     | 1:1      | 0.011          | 1.028             | 0.011     | 0.006              | 0.006  |  |
| 836.50                                   | 20525 | Mid  | LTE Band 5 (Cell) | 10                          | 20.0                  | 19.96            | 0.12     | 0                    | WF5                  | DLXXT00PLT65 | QPSK    | 1         | 49      | 0 mm | right      | 1:1      | 0.010          | 1.009             | 0.010     | 0.005              | 0.005  |  |
| 836.50                                   | 20525 | Mid  | LTE Band 5 (Cell) | 10                          | 20.0                  | 19.88            | 0.07     | 0                    | WF5                  | DLXXT00PLT65 | QPSK    | 25        | 25      | 0 mm | right      | 1:1      | 0.017          | 1.028             | 0.017     | 0.008              | 0.008  |  |
| 836.50                                   | 20525 | Mid  | LTE Band 5 (Cell) | 10                          | 20.0                  | 19.96            | 0.00     | 0                    | WF5                  | DLXXT00PLT65 | QPSK    | 1         | 49      | 0 mm | left       | 1:1      | 0.115          | 1.009             | 0.116     | 0.056              | 0.057  |  |
| 836.50                                   | 20525 | Mid  | LTE Band 5 (Cell) | 10                          | 20.0                  | 19.88            | 0.05     | 0                    | WF5                  | DLXXT00PLT65 | QPSK    | 25        | 25      | 0 mm | left       | 1:1      | 0.106          | 1.028             | 0.109     | 0.051              | 0.052  |  |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT    |       |      |                   |                             |                       |                  |          |                      |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |  |
| Spatial Peak                             |       |      |                   |                             |                       |                  |          | Body                 |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |  |
| Uncontrolled Exposure/General Population |       |      |                   |                             |                       |                  |          | 1.6 W/kg (mW/g)      |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |  |
|                                          |       |      |                   |                             |                       |                  |          | averaged over 1 gram |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |  |

**Table 10-21**  
**LTE Band 26 (Cell) Body SAR- Ant WF3**

| MEASUREMENT RESULTS                      |       |      |                    |                             |                       |                  |          |                      |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |     |
|------------------------------------------|-------|------|--------------------|-----------------------------|-----------------------|------------------|----------|----------------------|----------------------|--------------|---------|-----------|---------|------|------------|----------|----------------|-------------------|-----------|--------------------|--------|-----|
| FREQUENCY                                |       | Mode | Bandwidth [MHz]    | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | MPR [dB] | Antenna Config.      | Device Serial Number | Modulation   | RB Size | RB Offset | Spacing | Side | Duty Cycle | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |     |
| MHz                                      | Ch.   |      |                    |                             |                       |                  |          |                      |                      |              |         |           |         |      |            | (W/kg)   |                | (W/kg)            | (W/kg)    |                    |        |     |
| 819.00                                   | 26740 | Low  | LTE Band 26 (Cell) | 10                          | 18.7                  | 18.63            | 0.15     | 0                    | WF3                  | DLX0T00PLT65 | QPSK    | 1         | 0       | 0 mm | back       | 1:1      | 1.150          | 1.016             | 1.168     | 0.520              | 0.528  | A11 |
| 831.50                                   | 26865 | Mid  | LTE Band 26 (Cell) | 10                          | 18.7                  | 18.38            | 0.01     | 0                    | WF3                  | DLX0T00PLT65 | QPSK    | 1         | 0       | 0 mm | back       | 1:1      | 1.020          | 1.076             | 1.098     | 0.462              | 0.497  |     |
| 844.00                                   | 26990 | High | LTE Band 26 (Cell) | 10                          | 18.7                  | 18.45            | 0.03     | 0                    | WF3                  | DLX0T00PLT65 | QPSK    | 1         | 0       | 0 mm | back       | 1:1      | 0.963          | 1.059             | 1.020     | 0.437              | 0.463  |     |
| 819.00                                   | 26740 | Low  | LTE Band 26 (Cell) | 10                          | 18.7                  | 18.40            | 0.04     | 0                    | WF3                  | DLX0T00PLT65 | QPSK    | 25        | 25      | 0 mm | back       | 1:1      | 1.070          | 1.072             | 1.147     | 0.481              | 0.516  |     |
| 831.50                                   | 26865 | Mid  | LTE Band 26 (Cell) | 10                          | 18.7                  | 18.34            | 0.02     | 0                    | WF3                  | DLX0T00PLT65 | QPSK    | 25        | 0       | 0 mm | back       | 1:1      | 1.030          | 1.086             | 1.119     | 0.464              | 0.504  |     |
| 844.00                                   | 26990 | High | LTE Band 26 (Cell) | 10                          | 18.7                  | 18.51            | 0.00     | 0                    | WF3                  | DLX0T00PLT65 | QPSK    | 25        | 0       | 0 mm | back       | 1:1      | 0.985          | 1.045             | 1.029     | 0.441              | 0.461  |     |
| 844.00                                   | 26990 | High | LTE Band 26 (Cell) | 10                          | 18.7                  | 18.39            | 0.14     | 0                    | WF3                  | DLX0T00PLT65 | QPSK    | 50        | 0       | 0 mm | back       | 1:1      | 1.030          | 1.074             | 1.106     | 0.453              | 0.487  |     |
| 819.00                                   | 26740 | Low  | LTE Band 26 (Cell) | 10                          | 18.7                  | 18.63            | 0.01     | 0                    | WF3                  | DLX0T00PLT65 | QPSK    | 1         | 0       | 0 mm | top        | 1:1      | 0.782          | 1.016             | 0.795     | 0.386              | 0.392  |     |
| 844.00                                   | 26990 | High | LTE Band 26 (Cell) | 10                          | 18.7                  | 18.51            | -0.14    | 0                    | WF3                  | DLX0T00PLT65 | QPSK    | 25        | 0       | 0 mm | top        | 1:1      | 0.710          | 1.045             | 0.742     | 0.365              | 0.381  |     |
| 819.00                                   | 26740 | Low  | LTE Band 26 (Cell) | 10                          | 18.7                  | 18.63            | 0.14     | 0                    | WF3                  | DLX0T00PLT65 | QPSK    | 1         | 0       | 0 mm | bottom     | 1:1      | 0.015          | 1.016             | 0.015     | 0.008              | 0.008  |     |
| 844.00                                   | 26990 | High | LTE Band 26 (Cell) | 10                          | 18.7                  | 18.51            | 0.12     | 0                    | WF3                  | DLX0T00PLT65 | QPSK    | 25        | 0       | 0 mm | bottom     | 1:1      | 0.010          | 1.045             | 0.010     | 0.005              | 0.005  |     |
| 819.00                                   | 26740 | Low  | LTE Band 26 (Cell) | 10                          | 18.7                  | 18.63            | 0.05     | 0                    | WF3                  | DLX0T00PLT65 | QPSK    | 1         | 0       | 0 mm | right      | 1:1      | 0.067          | 1.016             | 0.068     | 0.035              | 0.036  |     |
| 844.00                                   | 26990 | High | LTE Band 26 (Cell) | 10                          | 18.7                  | 18.51            | -0.01    | 0                    | WF3                  | DLX0T00PLT65 | QPSK    | 25        | 0       | 0 mm | right      | 1:1      | 0.079          | 1.045             | 0.083     | 0.040              | 0.042  |     |
| 819.00                                   | 26740 | Low  | LTE Band 26 (Cell) | 10                          | 18.7                  | 18.63            | 0.10     | 0                    | WF3                  | DLX0T00PLT65 | QPSK    | 1         | 0       | 0 mm | left       | 1:1      | 0.019          | 1.016             | 0.019     | 0.009              | 0.009  |     |
| 844.00                                   | 26990 | High | LTE Band 26 (Cell) | 10                          | 18.7                  | 18.51            | -0.06    | 0                    | WF3                  | DLX0T00PLT65 | QPSK    | 25        | 0       | 0 mm | left       | 1:1      | 0.008          | 1.045             | 0.008     | 0.003              | 0.003  |     |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT    |       |      |                    |                             |                       |                  |          | Body                 |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |     |
| Spatial Peak                             |       |      |                    |                             |                       |                  |          | 1.6 W/kg (mW/g)      |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |     |
| Uncontrolled Exposure/General Population |       |      |                    |                             |                       |                  |          | averaged over 1 gram |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |     |

|                                         |                                                                                                                  |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device      |
| Page 97 of 120                          |                                                                                                                  |                                 |

**Table 10-22**  
**LTE Band 26 (Cell) Body SAR- Ant WF5**

| MEASUREMENT RESULTS                                                                               |       |      |                    |                             |                       |                  |          |                                                 |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |  |
|---------------------------------------------------------------------------------------------------|-------|------|--------------------|-----------------------------|-----------------------|------------------|----------|-------------------------------------------------|----------------------|--------------|---------|-----------|---------|------|------------|----------|----------------|-------------------|-----------|--------------------|--------|--|
| FREQUENCY                                                                                         |       | Mode | Bandwidth [MHz]    | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | MPR [dB] | Antenna Config.                                 | Device Serial Number | Modulation   | RB Size | RB Offset | Spacing | Side | Duty Cycle | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |  |
| MHz                                                                                               | Ch.   |      |                    |                             |                       |                  |          |                                                 |                      |              |         |           |         |      |            | (W/kg)   |                | (W/kg)            |           | (W/kg)             |        |  |
| 819.00                                                                                            | 26740 | Low  | LTE Band 26 (Cell) | 10                          | 20.0                  | 19.99            | -0.01    | 0                                               | WF5                  | DLXXT00QLT64 | QPSK    | 1         | 49      | 0 mm | back       | 1:1      | 1.150          | 1.002             | 1.152     | 0.522              | 0.523  |  |
| 831.50                                                                                            | 26865 | Mid  | LTE Band 26 (Cell) | 10                          | 20.0                  | 19.97            | 0.01     | 0                                               | WF5                  | DLXXT00QLT64 | QPSK    | 1         | 0       | 0 mm | back       | 1:1      | 1.110          | 1.007             | 1.118     | 0.503              | 0.507  |  |
| 844.00                                                                                            | 26990 | High | LTE Band 26 (Cell) | 10                          | 20.0                  | 19.92            | 0.01     | 0                                               | WF5                  | DLXXT00QLT64 | QPSK    | 1         | 25      | 0 mm | back       | 1:1      | 1.020          | 1.019             | 1.039     | 0.462              | 0.471  |  |
| 819.00                                                                                            | 26740 | Low  | LTE Band 26 (Cell) | 10                          | 20.0                  | 19.90            | -0.01    | 0                                               | WF5                  | DLXXT00QLT64 | QPSK    | 25        | 25      | 0 mm | back       | 1:1      | 1.130          | 1.023             | 1.156     | 0.510              | 0.522  |  |
| 831.50                                                                                            | 26865 | Mid  | LTE Band 26 (Cell) | 10                          | 20.0                  | 19.81            | 0.01     | 0                                               | WF5                  | DLXXT00QLT64 | QPSK    | 25        | 0       | 0 mm | back       | 1:1      | 1.070          | 1.045             | 1.118     | 0.479              | 0.501  |  |
| 844.00                                                                                            | 26990 | High | LTE Band 26 (Cell) | 10                          | 20.0                  | 19.97            | -0.01    | 0                                               | WF5                  | DLXXT00QLT64 | QPSK    | 25        | 0       | 0 mm | back       | 1:1      | 1.050          | 1.007             | 1.057     | 0.470              | 0.473  |  |
| 844.00                                                                                            | 26990 | High | LTE Band 26 (Cell) | 10                          | 20.0                  | 19.89            | -0.12    | 0                                               | WF5                  | DLXXT00QLT64 | QPSK    | 50        | 0       | 0 mm | back       | 1:1      | 1.020          | 1.026             | 1.047     | 0.458              | 0.470  |  |
| 819.00                                                                                            | 26740 | Low  | LTE Band 26 (Cell) | 10                          | 20.0                  | 19.99            | -0.05    | 0                                               | WF5                  | DLXXT00QLT64 | QPSK    | 1         | 49      | 0 mm | top        | 1:1      | 0.848          | 1.002             | 0.850     | 0.430              | 0.431  |  |
| 831.50                                                                                            | 26865 | Mid  | LTE Band 26 (Cell) | 10                          | 20.0                  | 19.97            | -0.20    | 0                                               | WF5                  | DLXXT00QLT64 | QPSK    | 1         | 0       | 0 mm | top        | 1:1      | 0.805          | 1.007             | 0.811     | 0.428              | 0.431  |  |
| 844.00                                                                                            | 26990 | High | LTE Band 26 (Cell) | 10                          | 20.0                  | 19.92            | 0.09     | 0                                               | WF5                  | DLXXT00QLT64 | QPSK    | 1         | 25      | 0 mm | top        | 1:1      | 0.883          | 1.019             | 0.900     | 0.459              | 0.468  |  |
| 819.00                                                                                            | 26740 | Low  | LTE Band 26 (Cell) | 10                          | 20.0                  | 19.90            | 0.10     | 0                                               | WF5                  | DLXXT00QLT64 | QPSK    | 25        | 25      | 0 mm | top        | 1:1      | 0.765          | 1.023             | 0.783     | 0.387              | 0.396  |  |
| 831.50                                                                                            | 26865 | Mid  | LTE Band 26 (Cell) | 10                          | 20.0                  | 19.81            | 0.12     | 0                                               | WF5                  | DLXXT00QLT64 | QPSK    | 25        | 0       | 0 mm | top        | 1:1      | 0.770          | 1.045             | 0.805     | 0.395              | 0.413  |  |
| 844.00                                                                                            | 26990 | High | LTE Band 26 (Cell) | 10                          | 20.0                  | 19.97            | 0.10     | 0                                               | WF5                  | DLXXT00QLT64 | QPSK    | 25        | 0       | 0 mm | top        | 1:1      | 0.883          | 1.007             | 0.889     | 0.455              | 0.458  |  |
| 844.00                                                                                            | 26990 | High | LTE Band 26 (Cell) | 10                          | 20.0                  | 19.89            | 0.11     | 0                                               | WF5                  | DLXXT00QLT64 | QPSK    | 50        | 0       | 0 mm | top        | 1:1      | 0.893          | 1.026             | 0.916     | 0.459              | 0.471  |  |
| 819.00                                                                                            | 26740 | Low  | LTE Band 26 (Cell) | 10                          | 20.0                  | 19.99            | 0.19     | 0                                               | WF5                  | DLXXT00QLT64 | QPSK    | 1         | 49      | 0 mm | bottom     | 1:1      | 0.029          | 1.002             | 0.029     | 0.017              | 0.017  |  |
| 844.00                                                                                            | 26990 | High | LTE Band 26 (Cell) | 10                          | 20.0                  | 19.97            | -0.06    | 0                                               | WF5                  | DLXXT00QLT64 | QPSK    | 25        | 0       | 0 mm | bottom     | 1:1      | 0.019          | 1.007             | 0.019     | 0.012              | 0.012  |  |
| 819.00                                                                                            | 26740 | Low  | LTE Band 26 (Cell) | 10                          | 20.0                  | 19.99            | -0.07    | 0                                               | WF5                  | DLXXT00QLT64 | QPSK    | 1         | 49      | 0 mm | right      | 1:1      | 0.058          | 1.002             | 0.058     | 0.029              | 0.029  |  |
| 844.00                                                                                            | 26990 | High | LTE Band 26 (Cell) | 10                          | 20.0                  | 19.97            | 0.03     | 0                                               | WF5                  | DLXXT00QLT64 | QPSK    | 25        | 0       | 0 mm | right      | 1:1      | 0.029          | 1.007             | 0.029     | 0.015              | 0.015  |  |
| 819.00                                                                                            | 26740 | Low  | LTE Band 26 (Cell) | 10                          | 20.0                  | 19.99            | 0.04     | 0                                               | WF5                  | DLXXT00QLT64 | QPSK    | 1         | 49      | 0 mm | left       | 1:1      | 0.099          | 1.002             | 0.099     | 0.048              | 0.048  |  |
| 844.00                                                                                            | 26990 | High | LTE Band 26 (Cell) | 10                          | 20.0                  | 19.97            | 0.03     | 0                                               | WF5                  | DLXXT00QLT64 | QPSK    | 25        | 0       | 0 mm | left       | 1:1      | 0.123          | 1.007             | 0.124     | 0.059              | 0.059  |  |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |       |      |                    |                             |                       |                  |          | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |  |

**Table 10-23**  
**LTE Band 66 (AWS) Body SAR- Ant WF3**

| MEASUREMENT RESULTS                                   |        |        |                   |                 |                             |                       |                  |                                                 |                 |                      |            |         |           |         |        |            |          |                |                   |           |                    |        |
|-------------------------------------------------------|--------|--------|-------------------|-----------------|-----------------------------|-----------------------|------------------|-------------------------------------------------|-----------------|----------------------|------------|---------|-----------|---------|--------|------------|----------|----------------|-------------------|-----------|--------------------|--------|
| FREQUENCY                                             |        |        | Mode              | Bandwidth [MHz] | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | MPR [dB]                                        | Antenna Config. | Device Serial Number | Modulation | RB Size | RB Offset | Spacing | Side   | Duty Cycle | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |
| MHz                                                   | Ch.    | (W/kg) |                   |                 |                             |                       |                  |                                                 |                 |                      |            |         |           |         |        |            | (W/kg)   |                | (W/kg)            | (W/kg)    |                    |        |
| 1720.00                                               | 132072 | Low    | LTE Band 66 (AWS) | 20              | 14.0                        | 13.90                 | -0.12            | 0                                               | WF3             | DLXXT018LT65         | QPSK       | 1       | 0         | 0 mm    | back   | 1:1        | 1.080    | 1.023          | 1.105             | 0.509     | 0.521              |        |
| 1745.00                                               | 132322 | Mid    | LTE Band 66 (AWS) | 20              | 14.0                        | 13.95                 | -0.12            | 0                                               | WF3             | DLXXT018LT65         | QPSK       | 1       | 0         | 0 mm    | back   | 1:1        | 1.130    | 1.012          | 1.144             | 0.530     | 0.536              |        |
| 1770.00                                               | 132572 | High   | LTE Band 66 (AWS) | 20              | 14.0                        | 13.96                 | -0.12            | 0                                               | WF3             | DLXXT018LT65         | QPSK       | 1       | 99        | 0 mm    | back   | 1:1        | 1.170    | 1.009          | 1.181             | 0.544     | 0.549              | A12    |
| 1720.00                                               | 132072 | Low    | LTE Band 66 (AWS) | 20              | 14.0                        | 13.88                 | -0.12            | 0                                               | WF3             | DLXXT018LT65         | QPSK       | 50      | 0         | 0 mm    | back   | 1:1        | 1.090    | 1.028          | 1.121             | 0.510     | 0.524              |        |
| 1745.00                                               | 132322 | Mid    | LTE Band 66 (AWS) | 20              | 14.0                        | 13.94                 | -0.12            | 0                                               | WF3             | DLXXT018LT65         | QPSK       | 50      | 0         | 0 mm    | back   | 1:1        | 1.130    | 1.014          | 1.146             | 0.527     | 0.534              |        |
| 1770.00                                               | 132572 | High   | LTE Band 66 (AWS) | 20              | 14.0                        | 13.86                 | -0.12            | 0                                               | WF3             | DLXXT018LT65         | QPSK       | 50      | 0         | 0 mm    | back   | 1:1        | 1.150    | 1.033          | 1.188             | 0.535     | 0.553              |        |
| 1745.00                                               | 132322 | Mid    | LTE Band 66 (AWS) | 20              | 14.0                        | 13.93                 | -0.12            | 0                                               | WF3             | DLXXT018LT65         | QPSK       | 100     | 0         | 0 mm    | back   | 1:1        | 1.160    | 1.016          | 1.179             | 0.538     | 0.547              |        |
| 1770.00                                               | 132572 | High   | LTE Band 66 (AWS) | 20              | 14.0                        | 13.96                 | -0.10            | 0                                               | WF3             | DLXXT018LT65         | QPSK       | 1       | 99        | 0 mm    | top    | 1:1        | 0.601    | 1.009          | 0.606             | 0.297     | 0.300              |        |
| 1745.00                                               | 132322 | Mid    | LTE Band 66 (AWS) | 20              | 14.0                        | 13.94                 | -0.07            | 0                                               | WF3             | DLXXT018LT65         | QPSK       | 50      | 0         | 0 mm    | top    | 1:1        | 0.595    | 1.014          | 0.603             | 0.295     | 0.299              |        |
| 1770.00                                               | 132572 | High   | LTE Band 66 (AWS) | 20              | 14.0                        | 13.96                 | 0.11             | 0                                               | WF3             | DLXXT018LT65         | QPSK       | 1       | 99        | 0 mm    | bottom | 1:1        | 0.003    | 1.009          | 0.003             | 0.001     | 0.001              |        |
| 1745.00                                               | 132322 | Mid    | LTE Band 66 (AWS) | 20              | 14.0                        | 13.94                 | 0.15             | 0                                               | WF3             | DLXXT018LT65         | QPSK       | 50      | 0         | 0 mm    | bottom | 1:1        | 0.002    | 1.014          | 0.002             | 0.001     | 0.001              |        |
| 1770.00                                               | 132572 | High   | LTE Band 66 (AWS) | 20              | 14.0                        | 13.96                 | 0.06             | 0                                               | WF3             | DLXXT018LT65         | QPSK       | 1       | 99        | 0 mm    | right  | 1:1        | 0.050    | 1.009          | 0.050             | 0.023     | 0.023              |        |
| 1745.00                                               | 132322 | Mid    | LTE Band 66 (AWS) | 20              | 14.0                        | 13.94                 | 0.14             | 0                                               | WF3             | DLXXT018LT65         | QPSK       | 50      | 0         | 0 mm    | right  | 1:1        | 0.050    | 1.014          | 0.051             | 0.024     | 0.024              |        |
| 1770.00                                               | 132572 | High   | LTE Band 66 (AWS) | 20              | 14.0                        | 13.96                 | 0.08             | 0                                               | WF3             | DLXXT018LT65         | QPSK       | 1       | 99        | 0 mm    | left   | 1:1        | 0.024    | 1.009          | 0.024             | 0.012     | 0.012              |        |
| 1745.00                                               | 132322 | Mid    | LTE Band 66 (AWS) | 20              | 14.0                        | 13.94                 | 0.05             | 0                                               | WF3             | DLXXT018LT65         | QPSK       | 50      | 0         | 0 mm    | left   | 1:1        | 0.026    | 1.014          | 0.026             | 0.013     | 0.013              |        |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak |        |        |                   |                 |                             |                       |                  | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                 |                      |            |         |           |         |        |            |          |                |                   |           |                    |        |
| Uncontrolled Exposure/General Population              |        |        |                   |                 |                             |                       |                  |                                                 |                 |                      |            |         |           |         |        |            |          |                |                   |           |                    |        |

|                                         |                                                                                     |                              |                                        |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|----------------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | <b>Approved by:</b><br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 98 of 120                         |

**Table 10-24**  
**LTE Band 66 (AWS) Body SAR- Ant WF5**

| MEASUREMENT RESULTS                      |        |      |                   |                             |                       |                  |          |                      |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |  |
|------------------------------------------|--------|------|-------------------|-----------------------------|-----------------------|------------------|----------|----------------------|----------------------|--------------|---------|-----------|---------|------|------------|----------|----------------|-------------------|-----------|--------------------|--------|--|
| FREQUENCY                                |        | Mode | Bandwidth [MHz]   | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | MPR [dB] | Antenna Config.      | Device Serial Number | Modulation   | RB Size | RB Offset | Spacing | Side | Duty Cycle | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |  |
| MHz                                      | Ch.    |      |                   |                             |                       |                  |          |                      |                      |              |         |           |         |      |            | (W/kg)   |                | (W/kg)            | (W/kg)    |                    |        |  |
| 1720.00                                  | 132072 | Low  | LTE Band 66 (AWS) | 20                          | 14.2                  | 14.09            | 0.03     | 0                    | WF5                  | DLX0T018LT65 | QPSK    | 1         | 99      | 0 mm | back       | 1:1      | 1.130          | 1.026             | 1.159     | 0.521              | 0.535  |  |
| 1745.00                                  | 132322 | Mid  | LTE Band 66 (AWS) | 20                          | 14.2                  | 14.13            | 0.03     | 0                    | WF5                  | DLX0T018LT65 | QPSK    | 1         | 0       | 0 mm | back       | 1:1      | 1.130          | 1.016             | 1.148     | 0.521              | 0.529  |  |
| 1770.00                                  | 132572 | High | LTE Band 66 (AWS) | 20                          | 14.2                  | 14.02            | 0.01     | 0                    | WF5                  | DLX0T018LT65 | QPSK    | 1         | 0       | 0 mm | back       | 1:1      | 1.140          | 1.042             | 1.188     | 0.525              | 0.547  |  |
| 1720.00                                  | 132072 | Low  | LTE Band 66 (AWS) | 20                          | 14.2                  | 13.92            | 0.00     | 0                    | WF5                  | DLX0T018LT65 | QPSK    | 50        | 0       | 0 mm | back       | 1:1      | 1.090          | 1.067             | 1.163     | 0.504              | 0.538  |  |
| 1745.00                                  | 132322 | Mid  | LTE Band 66 (AWS) | 20                          | 14.2                  | 14.01            | 0.07     | 0                    | WF5                  | DLX0T018LT65 | QPSK    | 50        | 0       | 0 mm | back       | 1:1      | 1.090          | 1.045             | 1.139     | 0.500              | 0.523  |  |
| 1770.00                                  | 132572 | High | LTE Band 66 (AWS) | 20                          | 14.2                  | 13.86            | 0.01     | 0                    | WF5                  | DLX0T018LT65 | QPSK    | 50        | 0       | 0 mm | back       | 1:1      | 1.100          | 1.081             | 1.189     | 0.502              | 0.543  |  |
| 1720.00                                  | 132072 | Low  | LTE Band 66 (AWS) | 20                          | 14.2                  | 13.99            | 0.01     | 0                    | WF5                  | DLX0T018LT65 | QPSK    | 100       | 0       | 0 mm | back       | 1:1      | 1.110          | 1.050             | 1.166     | 0.511              | 0.537  |  |
| 1745.00                                  | 132322 | Mid  | LTE Band 66 (AWS) | 20                          | 14.2                  | 14.13            | -0.01    | 0                    | WF5                  | DLX0T018LT65 | QPSK    | 1         | 0       | 0 mm | top        | 1:1      | 0.592          | 1.016             | 0.601     | 0.273              | 0.277  |  |
| 1745.00                                  | 132322 | Mid  | LTE Band 66 (AWS) | 20                          | 14.2                  | 14.01            | 0.03     | 0                    | WF5                  | DLX0T018LT65 | QPSK    | 50        | 0       | 0 mm | top        | 1:1      | 0.593          | 1.045             | 0.620     | 0.271              | 0.283  |  |
| 1745.00                                  | 132322 | Mid  | LTE Band 66 (AWS) | 20                          | 14.2                  | 14.13            | 0.12     | 0                    | WF5                  | DLX0T018LT65 | QPSK    | 1         | 0       | 0 mm | bottom     | 1:1      | 0.001          | 1.016             | 0.001     | 0.001              | 0.001  |  |
| 1745.00                                  | 132322 | Mid  | LTE Band 66 (AWS) | 20                          | 14.2                  | 14.01            | 0.15     | 0                    | WF5                  | DLX0T018LT65 | QPSK    | 50        | 0       | 0 mm | bottom     | 1:1      | 0.001          | 1.045             | 0.001     | 0.000              | 0.000  |  |
| 1745.00                                  | 132322 | Mid  | LTE Band 66 (AWS) | 20                          | 14.2                  | 14.13            | 0.09     | 0                    | WF5                  | DLX0T018LT65 | QPSK    | 1         | 0       | 0 mm | right      | 1:1      | 0.030          | 1.016             | 0.030     | 0.015              | 0.015  |  |
| 1745.00                                  | 132322 | Mid  | LTE Band 66 (AWS) | 20                          | 14.2                  | 14.01            | 0.12     | 0                    | WF5                  | DLX0T018LT65 | QPSK    | 50        | 0       | 0 mm | right      | 1:1      | 0.030          | 1.045             | 0.031     | 0.014              | 0.015  |  |
| 1745.00                                  | 132322 | Mid  | LTE Band 66 (AWS) | 20                          | 14.2                  | 14.13            | -0.07    | 0                    | WF5                  | DLX0T018LT65 | QPSK    | 1         | 0       | 0 mm | left       | 1:1      | 0.054          | 1.016             | 0.055     | 0.026              | 0.026  |  |
| 1745.00                                  | 132322 | Mid  | LTE Band 66 (AWS) | 20                          | 14.2                  | 14.01            | 0.13     | 0                    | WF5                  | DLX0T018LT65 | QPSK    | 50        | 0       | 0 mm | left       | 1:1      | 0.054          | 1.045             | 0.056     | 0.025              | 0.026  |  |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT    |        |      |                   |                             |                       |                  |          | Body                 |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |  |
| Spatial Peak                             |        |      |                   |                             |                       |                  |          | 1.6 W/kg (mW/g)      |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |  |
| Uncontrolled Exposure/General Population |        |      |                   |                             |                       |                  |          | averaged over 1 gram |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |  |

**Table 10-25**  
**LTE Band 25 (PCS) Body SAR – Ant WF3**

| MEASUREMENT RESULTS                      |       |      |                   |                             |                       |                  |          |                      |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |     |
|------------------------------------------|-------|------|-------------------|-----------------------------|-----------------------|------------------|----------|----------------------|----------------------|--------------|---------|-----------|---------|------|------------|----------|----------------|-------------------|-----------|--------------------|--------|-----|
| FREQUENCY                                |       | Mode | Bandwidth [MHz]   | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | MPR [dB] | Antenna Config.      | Device Serial Number | Modulation   | RB Size | RB Offset | Spacing | Side | Duty Cycle | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |     |
| MHz                                      | Ch.   |      |                   |                             |                       |                  |          |                      |                      |              |         |           |         |      |            | (W/kg)   |                | (W/kg)            | (W/kg)    |                    |        |     |
| 1860.00                                  | 26140 | Low  | LTE Band 25 (PCS) | 20                          | 13.5                  | 13.33            | -0.07    | 0                    | WF3                  | DLX0T00NLT65 | QPSK    | 1         | 99      | 0 mm | back       | 1:1      | 0.936          | 1.040             | 0.973     | 0.427              | 0.444  | A13 |
| 1882.50                                  | 26365 | Mid  | LTE Band 25 (PCS) | 20                          | 13.5                  | 13.28            | -0.03    | 0                    | WF3                  | DLX0T00NLT65 | QPSK    | 1         | 99      | 0 mm | back       | 1:1      | 0.949          | 1.052             | 0.998     | 0.428              | 0.450  |     |
| 1905.00                                  | 26590 | High | LTE Band 25 (PCS) | 20                          | 13.5                  | 13.47            | -0.02    | 0                    | WF3                  | DLX0T00NLT65 | QPSK    | 1         | 99      | 0 mm | back       | 1:1      | 0.960          | 1.007             | 0.967     | 0.430              | 0.433  |     |
| 1860.00                                  | 26140 | Low  | LTE Band 25 (PCS) | 20                          | 13.5                  | 13.26            | -0.04    | 0                    | WF3                  | DLX0T00NLT65 | QPSK    | 50        | 50      | 0 mm | back       | 1:1      | 0.912          | 1.057             | 0.964     | 0.417              | 0.441  |     |
| 1882.50                                  | 26365 | Mid  | LTE Band 25 (PCS) | 20                          | 13.5                  | 13.33            | -0.04    | 0                    | WF3                  | DLX0T00NLT65 | QPSK    | 50        | 25      | 0 mm | back       | 1:1      | 0.955          | 1.040             | 0.993     | 0.430              | 0.447  |     |
| 1905.00                                  | 26590 | High | LTE Band 25 (PCS) | 20                          | 13.5                  | 13.47            | -0.04    | 0                    | WF3                  | DLX0T00NLT65 | QPSK    | 50        | 50      | 0 mm | back       | 1:1      | 0.953          | 1.007             | 0.960     | 0.427              | 0.430  |     |
| 1882.50                                  | 26365 | Mid  | LTE Band 25 (PCS) | 20                          | 13.5                  | 13.46            | -0.01    | 0                    | WF3                  | DLX0T00NLT65 | QPSK    | 100       | 0       | 0 mm | back       | 1:1      | 0.954          | 1.009             | 0.963     | 0.426              | 0.430  |     |
| 1905.00                                  | 26590 | High | LTE Band 25 (PCS) | 20                          | 13.5                  | 13.47            | -0.02    | 0                    | WF3                  | DLX0T00NLT65 | QPSK    | 1         | 99      | 0 mm | top        | 1:1      | 0.642          | 1.007             | 0.646     | 0.294              | 0.296  |     |
| 1905.00                                  | 26590 | High | LTE Band 25 (PCS) | 20                          | 13.5                  | 13.47            | -0.01    | 0                    | WF3                  | DLX0T00NLT65 | QPSK    | 50        | 50      | 0 mm | top        | 1:1      | 0.638          | 1.007             | 0.642     | 0.293              | 0.295  |     |
| 1905.00                                  | 26590 | High | LTE Band 25 (PCS) | 20                          | 13.5                  | 13.47            | 0.13     | 0                    | WF3                  | DLX0T00NLT65 | QPSK    | 1         | 99      | 0 mm | bottom     | 1:1      | 0.000          | 1.007             | 0.000     | 0.000              | 0.000  |     |
| 1905.00                                  | 26590 | High | LTE Band 25 (PCS) | 20                          | 13.5                  | 13.47            | -0.12    | 0                    | WF3                  | DLX0T00NLT65 | QPSK    | 50        | 50      | 0 mm | bottom     | 1:1      | 0.000          | 1.007             | 0.000     | 0.000              | 0.000  |     |
| 1905.00                                  | 26590 | High | LTE Band 25 (PCS) | 20                          | 13.5                  | 13.47            | -0.01    | 0                    | WF3                  | DLX0T00NLT65 | QPSK    | 1         | 99      | 0 mm | right      | 1:1      | 0.054          | 1.007             | 0.054     | 0.025              | 0.025  |     |
| 1905.00                                  | 26590 | High | LTE Band 25 (PCS) | 20                          | 13.5                  | 13.47            | 0.04     | 0                    | WF3                  | DLX0T00NLT65 | QPSK    | 50        | 50      | 0 mm | right      | 1:1      | 0.051          | 1.007             | 0.051     | 0.024              | 0.024  |     |
| 1905.00                                  | 26590 | High | LTE Band 25 (PCS) | 20                          | 13.5                  | 13.47            | -0.03    | 0                    | WF3                  | DLX0T00NLT65 | QPSK    | 1         | 99      | 0 mm | left       | 1:1      | 0.031          | 1.007             | 0.031     | 0.015              | 0.015  |     |
| 1905.00                                  | 26590 | High | LTE Band 25 (PCS) | 20                          | 13.5                  | 13.47            | 0.13     | 0                    | WF3                  | DLX0T00NLT65 | QPSK    | 50        | 50      | 0 mm | left       | 1:1      | 0.033          | 1.007             | 0.033     | 0.016              | 0.016  |     |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT    |       |      |                   |                             |                       |                  |          | Body                 |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |     |
| Spatial Peak                             |       |      |                   |                             |                       |                  |          | 1.6 W/kg (mW/g)      |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |     |
| Uncontrolled Exposure/General Population |       |      |                   |                             |                       |                  |          | averaged over 1 gram |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |     |

|                                         |                                                                                     |                              |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 99 of 120                  |

**Table 10-26**  
**LTE Band 25 (PCS) Body SAR – Ant WF5**

| MEASUREMENT RESULTS                      |       |        |                   |                 |                             |                       |                  |                      |                 |                      |            |         |           |         |        |            |          |                |                   |           |                    |        |
|------------------------------------------|-------|--------|-------------------|-----------------|-----------------------------|-----------------------|------------------|----------------------|-----------------|----------------------|------------|---------|-----------|---------|--------|------------|----------|----------------|-------------------|-----------|--------------------|--------|
| FREQUENCY                                |       |        | Mode              | Bandwidth [MHz] | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | MPR [dB]             | Antenna Config. | Device Serial Number | Modulation | RB Size | RB Offset | Spacing | Side   | Duty Cycle | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |
| MHz                                      | Ch.   | (W/kg) |                   |                 |                             |                       |                  |                      |                 |                      |            |         |           |         |        |            | (W/kg)   |                | (W/kg)            |           |                    |        |
| 1860.00                                  | 26140 | Low    | LTE Band 25 (PCS) | 20              | 14.3                        | 14.29                 | -0.05            | 0                    | WF5             | DLXXT00NLT65         | QPSK       | 1       | 0         | 0 mm    | back   | 1:1        | 0.952    | 1.002          | 0.954             | 0.432     | 0.433              |        |
| 1882.50                                  | 26365 | Mid    | LTE Band 25 (PCS) | 20              | 14.3                        | 14.10                 | -0.01            | 0                    | WF5             | DLXXT00NLT65         | QPSK       | 1       | 0         | 0 mm    | back   | 1:1        | 0.895    | 1.047          | 0.937             | 0.406     | 0.425              |        |
| 1905.00                                  | 26590 | High   | LTE Band 25 (PCS) | 20              | 14.3                        | 14.00                 | 0.00             | 0                    | WF5             | DLXXT00NLT65         | QPSK       | 1       | 99        | 0 mm    | back   | 1:1        | 0.882    | 1.072          | 0.946             | 0.396     | 0.425              |        |
| 1860.00                                  | 26140 | Low    | LTE Band 25 (PCS) | 20              | 14.3                        | 14.21                 | 0.01             | 0                    | WF5             | DLXXT00NLT65         | QPSK       | 50      | 0         | 0 mm    | back   | 1:1        | 0.909    | 1.021          | 0.928             | 0.412     | 0.421              |        |
| 1882.50                                  | 26365 | Mid    | LTE Band 25 (PCS) | 20              | 14.3                        | 13.94                 | 0.01             | 0                    | WF5             | DLXXT00NLT65         | QPSK       | 50      | 0         | 0 mm    | back   | 1:1        | 0.881    | 1.086          | 0.957             | 0.397     | 0.431              |        |
| 1905.00                                  | 26590 | High   | LTE Band 25 (PCS) | 20              | 14.3                        | 13.84                 | 0.01             | 0                    | WF5             | DLXXT00NLT65         | QPSK       | 50      | 50        | 0 mm    | back   | 1:1        | 0.854    | 1.112          | 0.950             | 0.382     | 0.425              |        |
| 1860.00                                  | 26140 | Low    | LTE Band 25 (PCS) | 20              | 14.3                        | 14.14                 | -0.02            | 0                    | WF5             | DLXXT00NLT65         | QPSK       | 100     | 0         | 0 mm    | back   | 1:1        | 0.905    | 1.038          | 0.939             | 0.411     | 0.427              |        |
| 1860.00                                  | 26140 | Low    | LTE Band 25 (PCS) | 20              | 14.3                        | 14.29                 | -0.02            | 0                    | WF5             | DLXXT00NLT65         | QPSK       | 1       | 0         | 0 mm    | top    | 1:1        | 0.704    | 1.002          | 0.705             | 0.316     | 0.317              |        |
| 1860.00                                  | 26140 | Low    | LTE Band 25 (PCS) | 20              | 14.3                        | 14.21                 | -0.01            | 0                    | WF5             | DLXXT00NLT65         | QPSK       | 50      | 0         | 0 mm    | top    | 1:1        | 0.671    | 1.021          | 0.685             | 0.300     | 0.306              |        |
| 1860.00                                  | 26140 | Low    | LTE Band 25 (PCS) | 20              | 14.3                        | 14.29                 | 0.01             | 0                    | WF5             | DLXXT00NLT65         | QPSK       | 1       | 0         | 0 mm    | bottom | 1:1        | 0.000    | 1.002          | 0.000             | 0.000     | 0.000              |        |
| 1860.00                                  | 26140 | Low    | LTE Band 25 (PCS) | 20              | 14.3                        | 14.21                 | 0.01             | 0                    | WF5             | DLXXT00NLT65         | QPSK       | 50      | 0         | 0 mm    | bottom | 1:1        | 0.000    | 1.021          | 0.000             | 0.000     | 0.000              |        |
| 1860.00                                  | 26140 | Low    | LTE Band 25 (PCS) | 20              | 14.3                        | 14.29                 | 0.08             | 0                    | WF5             | DLXXT00NLT65         | QPSK       | 1       | 0         | 0 mm    | right  | 1:1        | 0.045    | 1.002          | 0.045             | 0.022     | 0.022              |        |
| 1860.00                                  | 26140 | Low    | LTE Band 25 (PCS) | 20              | 14.3                        | 14.21                 | 0.12             | 0                    | WF5             | DLXXT00NLT65         | QPSK       | 50      | 0         | 0 mm    | right  | 1:1        | 0.042    | 1.021          | 0.043             | 0.021     | 0.021              |        |
| 1860.00                                  | 26140 | Low    | LTE Band 25 (PCS) | 20              | 14.3                        | 14.29                 | 0.05             | 0                    | WF5             | DLXXT00NLT65         | QPSK       | 1       | 0         | 0 mm    | left   | 1:1        | 0.068    | 1.002          | 0.068             | 0.032     | 0.032              |        |
| 1860.00                                  | 26140 | Low    | LTE Band 25 (PCS) | 20              | 14.3                        | 14.21                 | 0.05             | 0                    | WF5             | DLXXT00NLT65         | QPSK       | 50      | 0         | 0 mm    | left   | 1:1        | 0.064    | 1.021          | 0.065             | 0.030     | 0.031              |        |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT    |       |        |                   |                 |                             |                       |                  | Body                 |                 |                      |            |         |           |         |        |            |          |                |                   |           |                    |        |
| Spatial Peak                             |       |        |                   |                 |                             |                       |                  | 1.6 W/kg (mW/g)      |                 |                      |            |         |           |         |        |            |          |                |                   |           |                    |        |
| Uncontrolled Exposure/General Population |       |        |                   |                 |                             |                       |                  | averaged over 1 gram |                 |                      |            |         |           |         |        |            |          |                |                   |           |                    |        |

**Table 10-27**  
**LTE Band 30 Body SAR – Ant WF3**

| MEASUREMENT RESULTS                      |       |      |                 |                             |                       |                  |          |                      |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |     |
|------------------------------------------|-------|------|-----------------|-----------------------------|-----------------------|------------------|----------|----------------------|----------------------|--------------|---------|-----------|---------|------|------------|----------|----------------|-------------------|-----------|--------------------|--------|-----|
| FREQUENCY                                |       | Mode | Bandwidth [MHz] | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | MPR [dB] | Antenna Config.      | Device Serial Number | Modulation   | RB Size | RB Offset | Spacing | Side | Duty Cycle | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |     |
| MHz                                      | Ch.   |      |                 |                             |                       |                  |          |                      |                      |              |         |           |         |      |            | (W/kg)   |                | (W/kg)            | (W/kg)    |                    |        |     |
| 2310.00                                  | 27710 | Mid  | LTE Band 30     | 10                          | 13.0                  | 12.96            | -0.05    | 0                    | WF3                  | DLXXT00NLT65 | QPSK    | 1         | 49      | 0 mm | back       | 1:1      | 0.998          | 1.009             | 1.007     | 0.426              | 0.430  |     |
| 2310.00                                  | 27710 | Mid  | LTE Band 30     | 10                          | 13.0                  | 12.96            | -0.04    | 0                    | WF3                  | DLXXT00NLT65 | QPSK    | 25        | 12      | 0 mm | back       | 1:1      | 0.998          | 1.009             | 0.997     | 0.422              | 0.426  |     |
| 2310.00                                  | 27710 | Mid  | LTE Band 30     | 10                          | 13.0                  | 12.95            | -0.05    | 0                    | WF3                  | DLXXT00NLT65 | QPSK    | 50        | 0       | 0 mm | back       | 1:1      | 1.000          | 1.012             | 1.012     | 0.428              | 0.433  | A14 |
| 2310.00                                  | 27710 | Mid  | LTE Band 30     | 10                          | 13.0                  | 12.96            | -0.01    | 0                    | WF3                  | DLXXT00NLT65 | QPSK    | 1         | 49      | 0 mm | top        | 1:1      | 0.796          | 1.009             | 0.803     | 0.338              | 0.341  |     |
| 2310.00                                  | 27710 | Mid  | LTE Band 30     | 10                          | 13.0                  | 12.96            | 0.02     | 0                    | WF3                  | DLXXT00NLT65 | QPSK    | 25        | 12      | 0 mm | top        | 1:1      | 0.792          | 1.009             | 0.799     | 0.334              | 0.337  |     |
| 2310.00                                  | 27710 | Mid  | LTE Band 30     | 10                          | 13.0                  | 12.95            | -0.02    | 0                    | WF3                  | DLXXT00NLT65 | QPSK    | 50        | 0       | 0 mm | top        | 1:1      | 0.809          | 1.012             | 0.819     | 0.340              | 0.344  |     |
| 2310.00                                  | 27710 | Mid  | LTE Band 30     | 10                          | 13.0                  | 12.96            | 0.19     | 0                    | WF3                  | DLXXT00NLT65 | QPSK    | 1         | 49      | 0 mm | bottom     | 1:1      | 0.002          | 1.009             | 0.002     | 0.001              | 0.001  |     |
| 2310.00                                  | 27710 | Mid  | LTE Band 30     | 10                          | 13.0                  | 12.96            | 0.13     | 0                    | WF3                  | DLXXT00NLT65 | QPSK    | 25        | 12      | 0 mm | bottom     | 1:1      | 0.002          | 1.009             | 0.002     | 0.000              | 0.000  |     |
| 2310.00                                  | 27710 | Mid  | LTE Band 30     | 10                          | 13.0                  | 12.96            | 0.00     | 0                    | WF3                  | DLXXT00NLT65 | QPSK    | 1         | 49      | 0 mm | right      | 1:1      | 0.069          | 1.009             | 0.070     | 0.031              | 0.031  |     |
| 2310.00                                  | 27710 | Mid  | LTE Band 30     | 10                          | 13.0                  | 12.96            | 0.01     | 0                    | WF3                  | DLXXT00NLT65 | QPSK    | 25        | 12      | 0 mm | right      | 1:1      | 0.069          | 1.009             | 0.070     | 0.031              | 0.031  |     |
| 2310.00                                  | 27710 | Mid  | LTE Band 30     | 10                          | 13.0                  | 12.96            | 0.09     | 0                    | WF3                  | DLXXT00NLT65 | QPSK    | 1         | 49      | 0 mm | left       | 1:1      | 0.033          | 1.009             | 0.033     | 0.015              | 0.015  |     |
| 2310.00                                  | 27710 | Mid  | LTE Band 30     | 10                          | 13.0                  | 12.96            | 0.13     | 0                    | WF3                  | DLXXT00NLT65 | QPSK    | 25        | 12      | 0 mm | left       | 1:1      | 0.032          | 1.009             | 0.032     | 0.014              | 0.014  |     |
| 2310.00                                  | 27710 | Mid  | LTE Band 30     | 10                          | 13.0                  | 12.95            | -0.12    | 0                    | WF3                  | DLXXT00NLT65 | QPSK    | 50        | 0       | 0 mm | back       | 1:1      | 0.891          | 1.012             | 0.902     | 0.390              | 0.395  |     |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT    |       |      |                 |                             |                       |                  |          | Body                 |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |     |
| Spatial Peak                             |       |      |                 |                             |                       |                  |          | 1.6 W/kg (mW/g)      |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |     |
| Uncontrolled Exposure/General Population |       |      |                 |                             |                       |                  |          | averaged over 1 gram |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |     |

**Note: Blue entry represents variability measurement.**

|                                         |                                                                                     |                              |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 100 of 120                 |

**Table 10-28**  
**LTE Band 30 Body SAR – Ant WF5**

| MEASUREMENT RESULTS                                   |       |      |                 |                             |                       |                  |          |                                                 |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |  |
|-------------------------------------------------------|-------|------|-----------------|-----------------------------|-----------------------|------------------|----------|-------------------------------------------------|----------------------|--------------|---------|-----------|---------|------|------------|----------|----------------|-------------------|-----------|--------------------|--------|--|
| FREQUENCY                                             |       | Mode | Bandwidth [MHz] | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | MPR [dB] | Antenna Config.                                 | Device Serial Number | Modulation   | RB Size | RB Offset | Spacing | Side | Duty Cycle | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |  |
| MHz                                                   | Ch.   |      |                 |                             |                       |                  |          |                                                 |                      |              |         |           |         |      |            | (W/kg)   |                | (W/kg)            | (W/kg)    |                    |        |  |
| 2310.00                                               | 27710 | Mid  | LTE Band 30     | 10                          | 12.2                  | 12.20            | -0.01    | 0                                               | WF5                  | DLXXT00NLT65 | QPSK    | 1         | 49      | 0 mm | back       | 1:1      | 0.897          | 1.000             | 0.897     | 0.383              | 0.383  |  |
| 2310.00                                               | 27710 | Mid  | LTE Band 30     | 10                          | 12.2                  | 12.14            | 0.00     | 0                                               | WF5                  | DLXXT00NLT65 | QPSK    | 25        | 25      | 0 mm | back       | 1:1      | 0.904          | 1.014             | 0.917     | 0.387              | 0.392  |  |
| 2310.00                                               | 27710 | Mid  | LTE Band 30     | 10                          | 12.2                  | 12.13            | -0.01    | 0                                               | WF5                  | DLXXT00NLT65 | QPSK    | 50        | 0       | 0 mm | back       | 1:1      | 0.912          | 1.016             | 0.927     | 0.390              | 0.396  |  |
| 2310.00                                               | 27710 | Mid  | LTE Band 30     | 10                          | 12.2                  | 12.20            | -0.04    | 0                                               | WF5                  | DLXXT00NLT65 | QPSK    | 1         | 49      | 0 mm | top        | 1:1      | 0.604          | 1.000             | 0.604     | 0.252              | 0.252  |  |
| 2310.00                                               | 27710 | Mid  | LTE Band 30     | 10                          | 12.2                  | 12.14            | 0.01     | 0                                               | WF5                  | DLXXT00NLT65 | QPSK    | 25        | 25      | 0 mm | top        | 1:1      | 0.611          | 1.014             | 0.620     | 0.253              | 0.257  |  |
| 2310.00                                               | 27710 | Mid  | LTE Band 30     | 10                          | 12.2                  | 12.20            | 0.19     | 0                                               | WF5                  | DLXXT00NLT65 | QPSK    | 1         | 49      | 0 mm | bottom     | 1:1      | 0.000          | 1.000             | 0.000     | 0.000              | 0.000  |  |
| 2310.00                                               | 27710 | Mid  | LTE Band 30     | 10                          | 12.2                  | 12.14            | 0.19     | 0                                               | WF5                  | DLXXT00NLT65 | QPSK    | 25        | 25      | 0 mm | bottom     | 1:1      | 0.000          | 1.014             | 0.000     | 0.000              | 0.000  |  |
| 2310.00                                               | 27710 | Mid  | LTE Band 30     | 10                          | 12.2                  | 12.20            | 0.13     | 0                                               | WF5                  | DLXXT00NLT65 | QPSK    | 1         | 49      | 0 mm | right      | 1:1      | 0.027          | 1.000             | 0.027     | 0.012              | 0.012  |  |
| 2310.00                                               | 27710 | Mid  | LTE Band 30     | 10                          | 12.2                  | 12.14            | 0.07     | 0                                               | WF5                  | DLXXT00NLT65 | QPSK    | 25        | 25      | 0 mm | right      | 1:1      | 0.027          | 1.014             | 0.027     | 0.012              | 0.012  |  |
| 2310.00                                               | 27710 | Mid  | LTE Band 30     | 10                          | 12.2                  | 12.20            | -0.08    | 0                                               | WF5                  | DLXXT00NLT65 | QPSK    | 1         | 49      | 0 mm | left       | 1:1      | 0.056          | 1.000             | 0.056     | 0.025              | 0.025  |  |
| 2310.00                                               | 27710 | Mid  | LTE Band 30     | 10                          | 12.2                  | 12.14            | -0.05    | 0                                               | WF5                  | DLXXT00NLT65 | QPSK    | 25        | 25      | 0 mm | left       | 1:1      | 0.054          | 1.014             | 0.055     | 0.024              | 0.024  |  |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak |       |      |                 |                             |                       |                  |          | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |  |
| Uncontrolled Exposure/General Population              |       |      |                 |                             |                       |                  |          |                                                 |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |  |

**Table 10-29**  
**LTE Band 7 Body SAR – Ant WF3**

| MEASUREMENT RESULTS                      |     |                   |           |      |            |                 |                             |                       |                  |                      |                 |                      |            |         |           |         |        |            |          |                |                   |           |                    |        |
|------------------------------------------|-----|-------------------|-----------|------|------------|-----------------|-----------------------------|-----------------------|------------------|----------------------|-----------------|----------------------|------------|---------|-----------|---------|--------|------------|----------|----------------|-------------------|-----------|--------------------|--------|
| 1 CC Uplink   2 CC Uplink                |     | Component Carrier | FREQUENCY |      | Mode       | Bandwidth [MHz] | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | MPR [dB]             | Antenna Config. | Device Serial Number | Modulation | RB Size | RB Offset | Spacing | Side   | Duty Cycle | SAR (lg) | Scaling Factor | Reported SAR (lg) | SAR (10g) | Reported SAR (10g) | Plot # |
|                                          |     |                   | MHz       | Ch.  |            |                 |                             |                       |                  |                      |                 |                      |            |         |           |         |        |            | (W/kg)   | (W/kg)         | (W/kg)            |           |                    |        |
| 1 CC Uplink                              | N/A | 2510.00           | 20850     | Low  | LTE Band 7 | 20              | 11.5                        | 11.48                 | -0.04            | 0                    | WF3             | DLXXV008LT64         | QPSK       | 1       | 0         | 0 mm    | back   | 1:1        | 1.080    | 1.005          | 1.085             | 0.437     | 0.439              |        |
| 1 CC Uplink                              | N/A | 2535.00           | 21100     | Mid  | LTE Band 7 | 20              | 11.5                        | 11.21                 | -0.04            | 0                    | WF3             | DLXXV008LT64         | QPSK       | 1       | 99        | 0 mm    | back   | 1:1        | 1.080    | 1.069          | 1.155             | 0.436     | 0.466              |        |
| 1 CC Uplink                              | N/A | 2560.00           | 21350     | High | LTE Band 7 | 20              | 11.5                        | 11.28                 | -0.06            | 0                    | WF3             | DLXXV008LT64         | QPSK       | 1       | 99        | 0 mm    | back   | 1:1        | 1.090    | 1.052          | 1.147             | 0.442     | 0.465              |        |
| 1 CC Uplink                              | N/A | 2510.00           | 20850     | Low  | LTE Band 7 | 20              | 11.5                        | 11.37                 | -0.03            | 0                    | WF3             | DLXXV008LT64         | QPSK       | 50      | 50        | 0 mm    | back   | 1:1        | 1.100    | 1.030          | 1.133             | 0.443     | 0.456              |        |
| 1 CC Uplink                              | N/A | 2535.00           | 21100     | Mid  | LTE Band 7 | 20              | 11.5                        | 11.22                 | -0.08            | 0                    | WF3             | DLXXV008LT64         | QPSK       | 50      | 50        | 0 mm    | back   | 1:1        | 1.090    | 1.067          | 1.120             | 0.426     | 0.455              |        |
| 1 CC Uplink                              | N/A | 2560.00           | 21350     | High | LTE Band 7 | 20              | 11.5                        | 11.32                 | -0.03            | 0                    | WF3             | DLXXV008LT64         | QPSK       | 50      | 0         | 0 mm    | back   | 1:1        | 1.120    | 1.042          | 1.167             | 0.450     | 0.469              | A15    |
| 1 CC Uplink                              | N/A | 2510.00           | 20850     | Low  | LTE Band 7 | 20              | 11.5                        | 11.36                 | -0.04            | 0                    | WF3             | DLXXV008LT64         | QPSK       | 100     | 0         | 0 mm    | back   | 1:1        | 1.100    | 1.033          | 1.136             | 0.443     | 0.458              |        |
| 2 CC Uplink                              | PCC | 2560.00           | 21350     | High | LTE Band 7 | 20              | 11.5                        | 10.88                 | -0.06            | 0                    | WF3             | DLXXT00VLT65         | QPSK       | 50      | 0         | 0 mm    | back   | 1:1        | 1.030    | 1.153          | 1.188             | 0.417     | 0.481              |        |
| 2 CC Uplink                              | SCC | 2540.20           | 21152     | High | LTE Band 7 | 20              |                             |                       |                  |                      |                 |                      |            | 50      | 50        |         |        |            |          |                |                   |           |                    |        |
| 1 CC Uplink                              | N/A | 2510.00           | 20850     | Low  | LTE Band 7 | 20              | 11.5                        | 11.48                 | -0.02            | 0                    | WF3             | DLXXV008LT64         | QPSK       | 1       | 0         | 0 mm    | top    | 1:1        | 0.774    | 1.005          | 0.778             | 0.304     | 0.306              |        |
| 1 CC Uplink                              | N/A | 2510.00           | 20850     | Low  | LTE Band 7 | 20              | 11.5                        | 11.37                 | 0.01             | 0                    | WF3             | DLXXV008LT64         | QPSK       | 50      | 50        | 0 mm    | top    | 1:1        | 0.773    | 1.030          | 0.796             | 0.302     | 0.311              |        |
| 1 CC Uplink                              | N/A | 2510.00           | 20850     | Low  | LTE Band 7 | 20              | 11.5                        | 11.48                 | -0.17            | 0                    | WF3             | DLXXV008LT64         | QPSK       | 1       | 0         | 0 mm    | bottom | 1:1        | 0.000    | 1.005          | 0.000             | 0.000     | 0.000              |        |
| 1 CC Uplink                              | N/A | 2510.00           | 20850     | Low  | LTE Band 7 | 20              | 11.5                        | 11.37                 | 0.00             | 0                    | WF3             | DLXXV008LT64         | QPSK       | 50      | 50        | 0 mm    | bottom | 1:1        | 0.000    | 1.030          | 0.000             | 0.000     | 0.000              |        |
| 1 CC Uplink                              | N/A | 2510.00           | 20850     | Low  | LTE Band 7 | 20              | 11.5                        | 11.48                 | 0.04             | 0                    | WF3             | DLXXV008LT64         | QPSK       | 1       | 0         | 0 mm    | right  | 1:1        | 0.099    | 1.005          | 0.099             | 0.043     | 0.043              |        |
| 1 CC Uplink                              | N/A | 2510.00           | 20850     | Low  | LTE Band 7 | 20              | 11.5                        | 11.37                 | 0.00             | 0                    | WF3             | DLXXV008LT64         | QPSK       | 50      | 50        | 0 mm    | right  | 1:1        | 0.102    | 1.030          | 0.105             | 0.044     | 0.045              |        |
| 1 CC Uplink                              | N/A | 2510.00           | 20850     | Low  | LTE Band 7 | 20              | 11.5                        | 11.48                 | 0.13             | 0                    | WF3             | DLXXV008LT64         | QPSK       | 1       | 0         | 0 mm    | left   | 1:1        | 0.014    | 1.005          | 0.014             | 0.005     | 0.005              |        |
| 1 CC Uplink                              | N/A | 2510.00           | 20850     | Low  | LTE Band 7 | 20              | 11.5                        | 11.37                 | 0.15             | 0                    | WF3             | DLXXV008LT64         | QPSK       | 50      | 50        | 0 mm    | left   | 1:1        | 0.015    | 1.030          | 0.015             | 0.006     | 0.006              |        |
| 1 CC Uplink                              | N/A | 2560.00           | 21350     | High | LTE Band 7 | 20              | 11.5                        | 11.32                 | -0.12            | 0                    | WF3             | DLXXV008LT64         | QPSK       | 50      | 0         | 0 mm    | back   | 1:1        | 1.090    | 1.042          | 1.136             | 0.444     | 0.463              |        |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT    |     |                   |           |      |            |                 |                             |                       |                  | Body                 |                 |                      |            |         |           |         |        |            |          |                |                   |           |                    |        |
| Spatial Peak                             |     |                   |           |      |            |                 |                             |                       |                  | 1.6 W/kg (mW/g)      |                 |                      |            |         |           |         |        |            |          |                |                   |           |                    |        |
| Uncontrolled Exposure/General Population |     |                   |           |      |            |                 |                             |                       |                  | averaged over 1 gram |                 |                      |            |         |           |         |        |            |          |                |                   |           |                    |        |

**Note: Blue entry represents variability measurement.**

|                                         |                                                                                     |                              |                                        |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|----------------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | <b>Approved by:</b><br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 101 of 120                        |

**Table 10-30**  
**LTE Band 7 Body SAR – Ant WF5**

| MEASUREMENT RESULTS                                   |                   |           |       |      |                 |                             |                       |                  |          |                                                 |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |  |
|-------------------------------------------------------|-------------------|-----------|-------|------|-----------------|-----------------------------|-----------------------|------------------|----------|-------------------------------------------------|----------------------|--------------|---------|-----------|---------|------|------------|----------|----------------|-------------------|-----------|--------------------|--------|--|
| 1 CC Uplink   2 CC Uplink                             | Component Carrier | FREQUENCY |       | Mode | Bandwidth [MHz] | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | MPR [dB] | Antenna Config.                                 | Device Serial Number | Modulation   | RB Size | RB Offset | Spacing | Side | Duty Cycle | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |  |
|                                                       |                   | MHz       | Ch.   |      |                 |                             |                       |                  |          |                                                 |                      |              |         |           |         |      |            | (W/kg)   |                | (W/kg)            | (W/kg)    |                    |        |  |
| 1 CC Uplink                                           | N/A               | 2510.00   | 20850 | Low  | LTE Band 7      | 20                          | 11.9                  | 11.86            | -0.01    | 0                                               | WF5                  | DLXXV00BLT64 | QPSK    | 1         | 0       | 0 mm | back       | 1:1      | 0.989          | 1.009             | 0.998     | 0.394              | 0.398  |  |
| 1 CC Uplink                                           | N/A               | 2535.00   | 21100 | Mid  | LTE Band 7      | 20                          | 11.9                  | 11.43            | 0.00     | 0                                               | WF5                  | DLXXV00BLT64 | QPSK    | 1         | 0       | 0 mm | back       | 1:1      | 0.958          | 1.114             | 1.067     | 0.380              | 0.423  |  |
| 1 CC Uplink                                           | N/A               | 2560.00   | 21350 | High | LTE Band 7      | 20                          | 11.9                  | 11.46            | -0.01    | 0                                               | WF5                  | DLXXV00BLT64 | QPSK    | 1         | 0       | 0 mm | back       | 1:1      | 0.997          | 1.107             | 1.104     | 0.398              | 0.441  |  |
| 1 CC Uplink                                           | N/A               | 2510.00   | 20850 | Low  | LTE Band 7      | 20                          | 11.9                  | 11.70            | -0.02    | 0                                               | WF5                  | DLXXV00BLT64 | QPSK    | 50        | 25      | 0 mm | back       | 1:1      | 0.977          | 1.047             | 1.023     | 0.388              | 0.406  |  |
| 1 CC Uplink                                           | N/A               | 2535.00   | 21100 | Mid  | LTE Band 7      | 20                          | 11.9                  | 11.54            | 0.00     | 0                                               | WF5                  | DLXXV00BLT64 | QPSK    | 50        | 0       | 0 mm | back       | 1:1      | 0.960          | 1.086             | 1.043     | 0.381              | 0.414  |  |
| 1 CC Uplink                                           | N/A               | 2560.00   | 21350 | High | LTE Band 7      | 20                          | 11.9                  | 11.46            | 0.02     | 0                                               | WF5                  | DLXXV00BLT64 | QPSK    | 50        | 50      | 0 mm | back       | 1:1      | 0.955          | 1.107             | 1.057     | 0.379              | 0.420  |  |
| 1 CC Uplink                                           | N/A               | 2510.00   | 20850 | Low  | LTE Band 7      | 20                          | 11.9                  | 11.69            | -0.01    | 0                                               | WF5                  | DLXXV00BLT64 | QPSK    | 100       | 0       | 0 mm | back       | 1:1      | 0.999          | 1.050             | 1.049     | 0.397              | 0.417  |  |
| 2 CC Uplink                                           | PCC               | 2560.00   | 21350 | High | LTE Band 7      | 20                          | 11.9                  | 10.84            | 0.00     | 0                                               | WF5                  | DLXXT00VL765 | QPSK    | 1         | 0       | 0 mm | back       | 1:1      | 0.901          | 1.276             | 1.150     | 0.352              | 0.449  |  |
| 2 CC Uplink                                           | SCC               | 2540.20   | 21152 | High | LTE Band 7      | 20                          |                       |                  |          |                                                 |                      |              |         | 1         | 99      |      |            |          |                |                   |           |                    |        |  |
| 1 CC Uplink                                           | N/A               | 2510.00   | 20850 | Low  | LTE Band 7      | 20                          | 11.9                  | 11.86            | -0.04    | 0                                               | WF5                  | DLXXV00BLT64 | QPSK    | 1         | 0       | 0 mm | top        | 1:1      | 0.628          | 1.009             | 0.634     | 0.246              | 0.248  |  |
| 1 CC Uplink                                           | N/A               | 2510.00   | 20850 | Low  | LTE Band 7      | 20                          | 11.9                  | 11.70            | -0.04    | 0                                               | WF5                  | DLXXV00BLT64 | QPSK    | 50        | 25      | 0 mm | top        | 1:1      | 0.615          | 1.047             | 0.644     | 0.240              | 0.251  |  |
| 1 CC Uplink                                           | N/A               | 2510.00   | 20850 | Low  | LTE Band 7      | 20                          | 11.9                  | 11.86            | 0.12     | 0                                               | WF5                  | DLXXV00BLT64 | QPSK    | 1         | 0       | 0 mm | bottom     | 1:1      | 0.000          | 1.009             | 0.000     | 0.000              | 0.000  |  |
| 1 CC Uplink                                           | N/A               | 2510.00   | 20850 | Low  | LTE Band 7      | 20                          | 11.9                  | 11.70            | 0.00     | 0                                               | WF5                  | DLXXV00BLT64 | QPSK    | 50        | 25      | 0 mm | bottom     | 1:1      | 0.000          | 1.047             | 0.000     | 0.000              | 0.000  |  |
| 1 CC Uplink                                           | N/A               | 2510.00   | 20850 | Low  | LTE Band 7      | 20                          | 11.9                  | 11.86            | 0.04     | 0                                               | WF5                  | DLXXV00BLT64 | QPSK    | 1         | 0       | 0 mm | right      | 1:1      | 0.018          | 1.009             | 0.018     | 0.007              | 0.007  |  |
| 1 CC Uplink                                           | N/A               | 2510.00   | 20850 | Low  | LTE Band 7      | 20                          | 11.9                  | 11.70            | 0.14     | 0                                               | WF5                  | DLXXV00BLT64 | QPSK    | 50        | 25      | 0 mm | right      | 1:1      | 0.018          | 1.047             | 0.019     | 0.007              | 0.007  |  |
| 1 CC Uplink                                           | N/A               | 2510.00   | 20850 | Low  | LTE Band 7      | 20                          | 11.9                  | 11.86            | -0.01    | 0                                               | WF5                  | DLXXV00BLT64 | QPSK    | 1         | 0       | 0 mm | left       | 1:1      | 0.101          | 1.009             | 0.102     | 0.042              | 0.042  |  |
| 1 CC Uplink                                           | N/A               | 2510.00   | 20850 | Low  | LTE Band 7      | 20                          | 11.9                  | 11.70            | -0.01    | 0                                               | WF5                  | DLXXV00BLT64 | QPSK    | 50        | 25      | 0 mm | left       | 1:1      | 0.100          | 1.047             | 0.105     | 0.041              | 0.043  |  |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak |                   |           |       |      |                 |                             |                       |                  |          | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |  |
| Uncontrolled Exposure/General Population              |                   |           |       |      |                 |                             |                       |                  |          |                                                 |                      |              |         |           |         |      |            |          |                |                   |           |                    |        |  |

**Table 10-31**  
**LTE Band 41 Body SAR – Ant WF3**

| MEASUREMENT RESULTS                      |                   |           |       |          |             |                 |                             |                       |                  |                      |                 |                      |            |         |           |         |        |            |          |                |                   |           |                    |        |
|------------------------------------------|-------------------|-----------|-------|----------|-------------|-----------------|-----------------------------|-----------------------|------------------|----------------------|-----------------|----------------------|------------|---------|-----------|---------|--------|------------|----------|----------------|-------------------|-----------|--------------------|--------|
| 1 CC Uplink / 2 CC Uplink, Power Class   | Component Carrier | FREQUENCY |       |          | Mode        | Bandwidth [MHz] | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | MPR [dB]             | Antenna Config. | Device Serial Number | Modulation | RB Size | RB Offset | Spacing | Side   | Duty Cycle | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |
|                                          |                   | MHz       |       | Ch.      |             |                 |                             |                       |                  |                      |                 |                      |            |         |           |         |        |            | (W/kg)   |                | (W/kg)            | (W/kg)    | (W/kg)             |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2506.00   | 39750 | Low      | LTE Band 41 | 20              | 14.0                        | 13.96                 | -0.06            | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 1       | 0         | 0 mm    | back   | 1:1.58     | 0.939    | 1.009          | 0.947             | 0.398     | 0.402              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2549.50   | 40185 | Low-Mid  | LTE Band 41 | 20              | 14.0                        | 13.75                 | -0.19            | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 1       | 99        | 0 mm    | back   | 1:1.58     | 0.912    | 1.059          | 0.966             | 0.379     | 0.401              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2593.00   | 40620 | Mid      | LTE Band 41 | 20              | 14.0                        | 13.72                 | -0.18            | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 1       | 0         | 0 mm    | back   | 1:1.58     | 0.919    | 1.067          | 0.981             | 0.392     | 0.418              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2636.50   | 41055 | Mid-High | LTE Band 41 | 20              | 14.0                        | 13.82                 | -0.12            | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 1       | 0         | 0 mm    | back   | 1:1.58     | 0.944    | 1.042          | 0.984             | 0.399     | 0.416              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2680.00   | 41490 | High     | LTE Band 41 | 20              | 14.0                        | 13.85                 | 0.12             | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 1       | 0         | 0 mm    | back   | 1:1.58     | 1.040    | 1.035          | 1.076             | 0.405     | 0.419              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2506.00   | 39750 | Low      | LTE Band 41 | 20              | 14.0                        | 13.95                 | -0.18            | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 50      | 0         | 0 mm    | back   | 1:1.58     | 0.912    | 1.012          | 0.923             | 0.382     | 0.387              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2549.50   | 40185 | Low-Mid  | LTE Band 41 | 20              | 14.0                        | 13.64                 | -0.14            | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 50      | 50        | 0 mm    | back   | 1:1.58     | 0.886    | 1.086          | 0.962             | 0.378     | 0.411              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2593.00   | 40620 | Mid      | LTE Band 41 | 20              | 14.0                        | 13.66                 | -0.13            | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 50      | 0         | 0 mm    | back   | 1:1.58     | 0.908    | 1.081          | 0.982             | 0.381     | 0.412              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2636.50   | 41055 | Mid-High | LTE Band 41 | 20              | 14.0                        | 13.73                 | -0.10            | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 50      | 0         | 0 mm    | back   | 1:1.58     | 0.929    | 1.064          | 0.988             | 0.392     | 0.417              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2680.00   | 41490 | High     | LTE Band 41 | 20              | 14.0                        | 13.77                 | 0.18             | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 50      | 0         | 0 mm    | back   | 1:1.58     | 0.889    | 1.054          | 0.937             | 0.380     | 0.401              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2680.00   | 41490 | High     | LTE Band 41 | 20              | 14.0                        | 13.77                 | -0.13            | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 100     | 0         | 0 mm    | back   | 1:1.58     | 1.020    | 1.054          | 1.075             | 0.409     | 0.431              |        |
| 1 CC Uplink - Power Class 2              | N/A               | 2680.00   | 41490 | High     | LTE Band 41 | 20              | 14.0                        | 13.72                 | -0.13            | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 1       | 0         | 0 mm    | back   | 12.31      | 0.690    | 1.067          | 0.736             | 0.280     | 0.299              |        |
| 2 CC Uplink - Power Class 3              | PCC               | 2680.00   | 41490 | High     | LTE Band 41 | 20              | 14.0                        | 13.74                 | -0.13            | 0                    | WF3             | DLX0T00VL765         | QPSK       | 1       | 0         | 0 mm    | back   | 1:1.58     | 1.030    | 1.062          | 1.094             | 0.410     | 0.435              |        |
| 2 CC Uplink - Power Class 3              | SCC               | 2660.20   | 41292 | High     | LTE Band 41 | 20              |                             |                       |                  |                      |                 |                      |            | 1       | 99        |         |        |            |          |                |                   |           |                    |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2506.00   | 39750 | Low      | LTE Band 41 | 20              | 14.0                        | 13.96                 | 0.03             | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 1       | 0         | 0 mm    | top    | 1:1.58     | 0.720    | 1.009          | 0.726             | 0.279     | 0.282              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2549.50   | 40185 | Low-Mid  | LTE Band 41 | 20              | 14.0                        | 13.75                 | 0.06             | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 1       | 99        | 0 mm    | top    | 1:1.58     | 0.681    | 1.059          | 0.721             | 0.260     | 0.275              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2593.00   | 40620 | Mid      | LTE Band 41 | 20              | 14.0                        | 13.72                 | 0.03             | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 1       | 0         | 0 mm    | top    | 1:1.58     | 0.681    | 1.067          | 0.727             | 0.257     | 0.274              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2636.50   | 41055 | Mid-High | LTE Band 41 | 20              | 14.0                        | 13.82                 | -0.01            | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 1       | 0         | 0 mm    | top    | 1:1.58     | 0.656    | 1.042          | 0.684             | 0.247     | 0.257              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2680.00   | 41490 | High     | LTE Band 41 | 20              | 14.0                        | 13.85                 | 0.05             | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 1       | 0         | 0 mm    | top    | 1:1.58     | 0.629    | 1.035          | 0.651             | 0.233     | 0.241              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2506.00   | 39750 | Low      | LTE Band 41 | 20              | 14.0                        | 13.95                 | 0.02             | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 50      | 0         | 0 mm    | top    | 1:1.58     | 0.719    | 1.012          | 0.728             | 0.278     | 0.281              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2549.50   | 40185 | Low-Mid  | LTE Band 41 | 20              | 14.0                        | 13.64                 | 0.02             | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 50      | 50        | 0 mm    | top    | 1:1.58     | 0.683    | 1.086          | 0.742             | 0.256     | 0.278              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2593.00   | 40620 | Mid      | LTE Band 41 | 20              | 14.0                        | 13.66                 | 0.03             | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 50      | 0         | 0 mm    | top    | 1:1.58     | 0.671    | 1.081          | 0.725             | 0.254     | 0.275              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2636.50   | 41055 | Mid-High | LTE Band 41 | 20              | 14.0                        | 13.73                 | 0.01             | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 50      | 0         | 0 mm    | top    | 1:1.58     | 0.644    | 1.064          | 0.685             | 0.241     | 0.256              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2680.00   | 41490 | High     | LTE Band 41 | 20              | 14.0                        | 13.77                 | 0.01             | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 50      | 0         | 0 mm    | top    | 1:1.58     | 0.640    | 1.054          | 0.675             | 0.237     | 0.250              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2680.00   | 41490 | High     | LTE Band 41 | 20              | 14.0                        | 13.77                 | 0.01             | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 100     | 0         | 0 mm    | top    | 1:1.58     | 0.638    | 1.054          | 0.672             | 0.237     | 0.250              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2506.00   | 39750 | Low      | LTE Band 41 | 20              | 14.0                        | 13.96                 | 0.19             | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 1       | 0         | 0 mm    | bottom | 1:1.58     | 0.000    | 1.009          | 0.000             | 0.000     | 0.000              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2506.00   | 39750 | Low      | LTE Band 41 | 20              | 14.0                        | 13.95                 | 0.19             | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 50      | 0         | 0 mm    | bottom | 1:1.58     | 0.000    | 1.012          | 0.000             | 0.000     | 0.000              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2506.00   | 39750 | Low      | LTE Band 41 | 20              | 14.0                        | 13.96                 | -0.03            | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 1       | 0         | 0 mm    | right  | 1:1.58     | 0.101    | 1.009          | 0.102             | 0.041     | 0.041              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2506.00   | 39750 | Low      | LTE Band 41 | 20              | 14.0                        | 13.95                 | -0.02            | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 50      | 0         | 0 mm    | right  | 1:1.58     | 0.097    | 1.012          | 0.098             | 0.039     | 0.039              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2506.00   | 39750 | Low      | LTE Band 41 | 20              | 14.0                        | 13.96                 | 0.17             | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 1       | 0         | 0 mm    | left   | 1:1.58     | 0.017    | 1.009          | 0.017             | 0.006     | 0.006              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2506.00   | 39750 | Low      | LTE Band 41 | 20              | 14.0                        | 13.95                 | 0.13             | 0                    | WF3             | DLX0T01BLT65         | QPSK       | 50      | 0         | 0 mm    | left   | 1:1.58     | 0.019    | 1.012          | 0.019             | 0.006     | 0.006              |        |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT    |                   |           |       |          |             |                 |                             |                       |                  | Body                 |                 |                      |            |         |           |         |        |            |          |                |                   |           |                    |        |
| Spatial Peak                             |                   |           |       |          |             |                 |                             |                       |                  | 1.6 W/kg (mW/g)      |                 |                      |            |         |           |         |        |            |          |                |                   |           |                    |        |
| Uncontrolled Exposure/General Population |                   |           |       |          |             |                 |                             |                       |                  | averaged over 1 gram |                 |                      |            |         |           |         |        |            |          |                |                   |           |                    |        |

**Table 10-32**  
**LTE Band 41 Body SAR – Ant WF5**

| MEASUREMENT RESULTS                      |                   |           |       |          |             |                 |                             |                       |                  |          |                 |                      |            |         |           |         |        |            |          |                |                   |           |                    |        |
|------------------------------------------|-------------------|-----------|-------|----------|-------------|-----------------|-----------------------------|-----------------------|------------------|----------|-----------------|----------------------|------------|---------|-----------|---------|--------|------------|----------|----------------|-------------------|-----------|--------------------|--------|
| 1 CC Uplink - 2 CC Uplink, Power Class   | Component Carrier | FREQUENCY |       |          | Mode        | Bandwidth [MHz] | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | MPR [dB] | Antenna Config. | Device Serial Number | Modulation | RB Size | RB Offset | Spacing | Side   | Duty Cycle | SAR (1g) | Scaling Factor | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |
|                                          |                   | MHz       |       | Ch.      |             |                 |                             |                       |                  |          |                 |                      |            |         |           |         |        |            | (W/kg)   |                | (W/kg)            | (W/kg)    |                    |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2506.00   | 39750 | Low      | LTE Band 41 | 20              | 14.5                        | 14.38                 | -0.15            | 0        | WF5             | DLX0T018LT65         | QPSK       | 1       | 0         | 0 mm    | back   | 1:1.58     | 0.963    | 1.028          | 0.990             | 0.409     | 0.420              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2549.50   | 40185 | Low-Mid  | LTE Band 41 | 20              | 14.5                        | 14.43                 | -0.12            | 0        | WF5             | DLX0T018LT65         | QPSK       | 1       | 0         | 0 mm    | back   | 1:1.58     | 1.100    | 1.016          | 1.118             | 0.459     | 0.466              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2593.00   | 40620 | Mid      | LTE Band 41 | 20              | 14.5                        | 14.49                 | 0.17             | 0        | WF5             | DLX0T018LT65         | QPSK       | 1       | 0         | 0 mm    | back   | 1:1.58     | 1.080    | 1.002          | 1.082             | 0.447     | 0.448              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2636.50   | 41055 | Mid-High | LTE Band 41 | 20              | 14.5                        | 14.40                 | 0.00             | 0        | WF5             | DLX0T018LT65         | QPSK       | 1       | 0         | 0 mm    | back   | 1:1.58     | 1.100    | 1.023          | 1.125             | 0.470     | 0.481              | A16    |
| 1 CC Uplink - Power Class 3              | N/A               | 2680.00   | 41490 | High     | LTE Band 41 | 20              | 14.5                        | 14.26                 | 0.03             | 0        | WF5             | DLX0T018LT65         | QPSK       | 1       | 0         | 0 mm    | back   | 1:1.58     | 0.993    | 1.057          | 1.050             | 0.425     | 0.449              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2506.00   | 39750 | Low      | LTE Band 41 | 20              | 14.5                        | 14.33                 | -0.20            | 0        | WF5             | DLX0T018LT65         | QPSK       | 50      | 0         | 0 mm    | back   | 1:1.58     | 0.998    | 1.040          | 1.038             | 0.412     | 0.428              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2549.50   | 40185 | Low-Mid  | LTE Band 41 | 20              | 14.5                        | 14.37                 | -0.15            | 0        | WF5             | DLX0T018LT65         | QPSK       | 50      | 50        | 0 mm    | back   | 1:1.58     | 1.070    | 1.030          | 1.102             | 0.446     | 0.459              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2593.00   | 40620 | Mid      | LTE Band 41 | 20              | 14.5                        | 14.39                 | 0.20             | 0        | WF5             | DLX0T018LT65         | QPSK       | 50      | 0         | 0 mm    | back   | 1:1.58     | 0.970    | 1.026          | 0.995             | 0.411     | 0.422              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2636.50   | 41055 | Mid-High | LTE Band 41 | 20              | 14.5                        | 14.29                 | 0.01             | 0        | WF5             | DLX0T018LT65         | QPSK       | 50      | 25        | 0 mm    | back   | 1:1.58     | 1.060    | 1.050          | 1.113             | 0.453     | 0.476              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2680.00   | 41490 | High     | LTE Band 41 | 20              | 14.5                        | 14.24                 | 0.20             | 0        | WF5             | DLX0T018LT65         | QPSK       | 50      | 0         | 0 mm    | back   | 1:1.58     | 0.967    | 1.062          | 1.027             | 0.369     | 0.392              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2593.00   | 40620 | Mid      | LTE Band 41 | 20              | 14.5                        | 14.37                 | -0.03            | 0        | WF5             | DLX0T018LT65         | QPSK       | 100     | 0         | 0 mm    | back   | 1:1.58     | 1.070    | 1.030          | 1.102             | 0.454     | 0.468              |        |
| 1 CC Uplink - Power Class 2              | N/A               | 2636.50   | 41055 | Mid-High | LTE Band 41 | 20              | 14.5                        | 14.41                 | -0.07            | 0        | WF5             | DLX0T018LT65         | QPSK       | 1       | 0         | 0 mm    | back   | 12.31      | 0.724    | 1.021          | 0.739             | 0.309     | 0.315              |        |
| 2 CC Uplink - Power Class 3              | PCC               | 2636.50   | 41055 | Mid-High | LTE Band 41 | 20              | 14.5                        | 14.29                 | -0.10            | 0        | WF5             | DLX0V040LT65         | QPSK       | 1       | 0         | 0 mm    | back   | 1:1.58     | 1.090    | 1.050          | 1.145             | 0.452     | 0.475              |        |
| 2 CC Uplink - Power Class 3              | SCC               | 2616.70   | 40857 | Mid-High | LTE Band 41 | 20              |                             |                       |                  |          |                 |                      |            | 1       | 99        |         |        |            |          |                |                   |           |                    |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2506.00   | 39750 | Low      | LTE Band 41 | 20              | 14.5                        | 14.38                 | -0.05            | 0        | WF5             | DLX0T018LT65         | QPSK       | 1       | 0         | 0 mm    | top    | 1:1.58     | 0.558    | 1.028          | 0.574             | 0.235     | 0.242              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2549.50   | 40185 | Low-Mid  | LTE Band 41 | 20              | 14.5                        | 14.43                 | -0.04            | 0        | WF5             | DLX0T018LT65         | QPSK       | 1       | 0         | 0 mm    | top    | 1:1.58     | 0.628    | 1.016          | 0.638             | 0.242     | 0.246              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2593.00   | 40620 | Mid      | LTE Band 41 | 20              | 14.5                        | 14.49                 | 0.02             | 0        | WF5             | DLX0T018LT65         | QPSK       | 1       | 0         | 0 mm    | top    | 1:1.58     | 0.715    | 1.002          | 0.716             | 0.270     | 0.271              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2636.50   | 41055 | Mid-High | LTE Band 41 | 20              | 14.5                        | 14.40                 | 0.02             | 0        | WF5             | DLX0T018LT65         | QPSK       | 1       | 0         | 0 mm    | top    | 1:1.58     | 0.666    | 1.023          | 0.681             | 0.244     | 0.250              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2680.00   | 41490 | High     | LTE Band 41 | 20              | 14.5                        | 14.26                 | 0.08             | 0        | WF5             | DLX0T018LT65         | QPSK       | 1       | 0         | 0 mm    | top    | 1:1.58     | 0.582    | 1.057          | 0.615             | 0.214     | 0.226              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2506.00   | 39750 | Low      | LTE Band 41 | 20              | 14.5                        | 14.33                 | -0.08            | 0        | WF5             | DLX0T018LT65         | QPSK       | 50      | 0         | 0 mm    | top    | 1:1.58     | 0.566    | 1.040          | 0.589             | 0.222     | 0.231              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2549.50   | 40185 | Low-Mid  | LTE Band 41 | 20              | 14.5                        | 14.37                 | -0.05            | 0        | WF5             | DLX0T018LT65         | QPSK       | 50      | 50        | 0 mm    | top    | 1:1.58     | 0.661    | 1.030          | 0.681             | 0.253     | 0.261              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2593.00   | 40620 | Mid      | LTE Band 41 | 20              | 14.5                        | 14.39                 | -0.08            | 0        | WF5             | DLX0T018LT65         | QPSK       | 50      | 0         | 0 mm    | top    | 1:1.58     | 0.633    | 1.026          | 0.649             | 0.252     | 0.259              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2636.50   | 41055 | Mid-High | LTE Band 41 | 20              | 14.5                        | 14.29                 | -0.01            | 0        | WF5             | DLX0T018LT65         | QPSK       | 50      | 25        | 0 mm    | top    | 1:1.58     | 0.726    | 1.050          | 0.762             | 0.273     | 0.287              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2680.00   | 41490 | High     | LTE Band 41 | 20              | 14.5                        | 14.24                 | 0.11             | 0        | WF5             | DLX0T018LT65         | QPSK       | 50      | 0         | 0 mm    | top    | 1:1.58     | 0.469    | 1.062          | 0.498             | 0.186     | 0.198              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2593.00   | 40620 | Mid      | LTE Band 41 | 20              | 14.5                        | 14.37                 | 0.02             | 0        | WF5             | DLX0T018LT65         | QPSK       | 100     | 0         | 0 mm    | top    | 1:1.58     | 0.609    | 1.030          | 0.627             | 0.233     | 0.240              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2593.00   | 40620 | Mid      | LTE Band 41 | 20              | 14.5                        | 14.49                 | 0.14             | 0        | WF5             | DLX0T018LT65         | QPSK       | 1       | 0         | 0 mm    | bottom | 1:1.58     | 0.000    | 1.002          | 0.000             | 0.000     | 0.000              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2593.00   | 40620 | Mid      | LTE Band 41 | 20              | 14.5                        | 14.39                 | -0.15            | 0        | WF5             | DLX0T018LT65         | QPSK       | 50      | 0         | 0 mm    | bottom | 1:1.58     | 0.000    | 1.026          | 0.000             | 0.000     | 0.000              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2593.00   | 40620 | Mid      | LTE Band 41 | 20              | 14.5                        | 14.49                 | -0.20            | 0        | WF5             | DLX0T018LT65         | QPSK       | 1       | 0         | 0 mm    | right  | 1:1.58     | 0.016    | 1.002          | 0.016             | 0.006     | 0.006              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2593.00   | 40620 | Mid      | LTE Band 41 | 20              | 14.5                        | 14.39                 | 0.05             | 0        | WF5             | DLX0T018LT65         | QPSK       | 50      | 0         | 0 mm    | right  | 1:1.58     | 0.019    | 1.026          | 0.019             | 0.006     | 0.006              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2593.00   | 40620 | Mid      | LTE Band 41 | 20              | 14.5                        | 14.49                 | 0.00             | 0        | WF5             | DLX0T018LT65         | QPSK       | 1       | 0         | 0 mm    | left   | 1:1.58     | 0.141    | 1.002          | 0.141             | 0.055     | 0.055              |        |
| 1 CC Uplink - Power Class 3              | N/A               | 2593.00   | 40620 | Mid      | LTE Band 41 | 20              | 14.5                        | 14.39                 | -0.01            | 0        | WF5             | DLX0T018LT65         | QPSK       | 50      | 0         | 0 mm    | left   | 1:1.58     | 0.140    | 1.026          | 0.144             | 0.055     | 0.056              |        |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT    |                   |           |       |          |             |                 |                             |                       |                  |          |                 | Body                 |            |         |           |         |        |            |          |                |                   |           |                    |        |
| Spatial Peak                             |                   |           |       |          |             |                 |                             |                       |                  |          |                 | 1.6 W/kg (mW/g)      |            |         |           |         |        |            |          |                |                   |           |                    |        |
| Uncontrolled Exposure/General Population |                   |           |       |          |             |                 |                             |                       |                  |          |                 | averaged over 1 gram |            |         |           |         |        |            |          |                |                   |           |                    |        |

**Table 10-33**  
**2.4GHz WLAN Body SAR- Ant WF1**

| MEASUREMENT RESULTS                      |     |         |         |                 |                             |                       |                  |         |                 |                      |                      |                  |        |                |          |                        |                             |                   |           |                    |        |
|------------------------------------------|-----|---------|---------|-----------------|-----------------------------|-----------------------|------------------|---------|-----------------|----------------------|----------------------|------------------|--------|----------------|----------|------------------------|-----------------------------|-------------------|-----------|--------------------|--------|
| FREQUENCY                                |     | Mode    | Service | Bandwidth [MHz] | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | Spacing | Antenna Config. | Variant              | Device Serial Number | Data Rate [Mbps] | Side   | Duty Cycle (%) | SAR (1g) | Scaling Factor (Power) | Scaling Factor (Duty Cycle) | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |
| MHz                                      | Ch. |         |         |                 |                             |                       |                  |         |                 |                      |                      |                  |        |                | (W/kg)   |                        |                             | (W/kg)            |           |                    |        |
| 2412                                     | 1   | 802.11b | DSSS    | 22              | 19.5                        | 19.50                 | -0.01            | 0 mm    | WF1             | V2                   | DLX0T00YLT65         | 1                | back   | 100.0          | 0.120    | 1.000                  | 1.000                       | 0.120             | 0.057     | 0.057              |        |
| 2412                                     | 1   | 802.11b | DSSS    | 22              | 19.5                        | 19.50                 | 0.12             | 0 mm    | WF1             | V2                   | DLX0T00YLT65         | 1                | top    | 100.0          | 0.016    | 1.000                  | 1.000                       | 0.016             | 0.007     | 0.007              |        |
| 2412                                     | 1   | 802.11b | DSSS    | 22              | 19.5                        | 19.50                 | -0.05            | 0 mm    | WF1             | V2                   | DLX0T00YLT65         | 1                | bottom | 100.0          | 1.120    | 1.000                  | 1.000                       | 1.120             | 0.419     | 0.419              |        |
| 2412                                     | 1   | 802.11b | DSSS    | 22              | 19.5                        | 19.49                 | 0.05             | 0 mm    | WF1             | V1                   | DLX0T01ELT65         | 1                | bottom | 100.0          | 1.080    | 1.002                  | 1.000                       | 1.082             | 0.399     | 0.400              |        |
| 2437                                     | 6   | 802.11b | DSSS    | 22              | 19.5                        | 19.49                 | -0.08            | 0 mm    | WF1             | V2                   | DLX0T00YLT65         | 1                | bottom | 100.0          | 1.090    | 1.002                  | 1.000                       | 1.092             | 0.412     | 0.413              |        |
| 2457                                     | 10  | 802.11b | DSSS    | 22              | 19.5                        | 19.47                 | -0.09            | 0 mm    | WF1             | V2                   | DLX0T00YLT65         | 1                | bottom | 100.0          | 0.921    | 1.007                  | 1.000                       | 0.927             | 0.354     | 0.356              |        |
| 2412                                     | 1   | 802.11b | DSSS    | 22              | 19.5                        | 19.50                 | 0.14             | 0 mm    | WF1             | V2                   | DLX0T00YLT65         | 1                | right  | 100.0          | 0.007    | 1.000                  | 1.000                       | 0.007             | 0.003     | 0.003              |        |
| 2412                                     | 1   | 802.11b | DSSS    | 22              | 19.5                        | 19.50                 | -0.03            | 0 mm    | WF1             | V2                   | DLX0T00YLT65         | 1                | left   | 100.0          | 0.222    | 1.000                  | 1.000                       | 0.222             | 0.093     | 0.093              |        |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT    |     |         |         |                 |                             |                       |                  |         |                 | Body                 |                      |                  |        |                |          |                        |                             |                   |           |                    |        |
| Spatial Peak                             |     |         |         |                 |                             |                       |                  |         |                 | 1.6 W/kg (mW/g)      |                      |                  |        |                |          |                        |                             |                   |           |                    |        |
| Uncontrolled Exposure/General Population |     |         |         |                 |                             |                       |                  |         |                 | averaged over 1 gram |                      |                  |        |                |          |                        |                             |                   |           |                    |        |

|                                         |                                                                                     |                              |                                        |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|----------------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | <b>Approved by:</b><br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 103 of 120                        |

**Table 10-34**  
**2.4GHz WLAN Body SAR- Ant WF2**

| MEASUREMENT RESULTS                      |     |         |         |                 |                             |                       |                  |                      |                 |         |                      |                  |        |                |          |        |                        |                             |                   |           |                    |        |
|------------------------------------------|-----|---------|---------|-----------------|-----------------------------|-----------------------|------------------|----------------------|-----------------|---------|----------------------|------------------|--------|----------------|----------|--------|------------------------|-----------------------------|-------------------|-----------|--------------------|--------|
| FREQUENCY                                |     | Mode    | Service | Bandwidth [MHz] | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | Spacing              | Antenna Config. | Variant | Device Serial Number | Data Rate (Mbps) | Side   | Duty Cycle (%) | SAR (1g) |        | Scaling Factor (Power) | Scaling Factor (Duty Cycle) | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |
| MHz                                      | Ch. |         |         |                 |                             |                       |                  |                      |                 |         |                      |                  |        |                | (W/kg)   | (W/kg) |                        |                             | (W/kg)            |           |                    |        |
| 2412                                     | 1   | 802.11b | DSSS    | 22              | 19.75                       | 19.75                 | -0.08            | 0 mm                 | WF2             | V2      | DLXXT00YLT65         | 1                | back   | 100.0          | 0.111    | 1.000  | 1.000                  | 0.111                       | 0.052             | 0.052     |                    |        |
| 2412                                     | 1   | 802.11b | DSSS    | 22              | 19.75                       | 19.75                 | 0.13             | 0 mm                 | WF2             | V2      | DLXXT00YLT65         | 1                | top    | 100.0          | 0.025    | 1.000  | 1.000                  | 0.025                       | 0.011             | 0.011     |                    |        |
| 2412                                     | 1   | 802.11b | DSSS    | 22              | 19.75                       | 19.75                 | 0.02             | 0 mm                 | WF2             | V2      | DLXXT00YLT65         | 1                | bottom | 100.0          | 1.050    | 1.000  | 1.000                  | 1.050                       | 0.387             | 0.387     |                    |        |
| 2437                                     | 6   | 802.11b | DSSS    | 22              | 19.75                       | 19.72                 | -0.03            | 0 mm                 | WF2             | V2      | DLXXT00YLT65         | 1                | bottom | 100.0          | 1.170    | 1.007  | 1.000                  | 1.178                       | 0.433             | 0.436     | A17                |        |
| 2437                                     | 6   | 802.11b | DSSS    | 22              | 19.75                       | 19.75                 | 0.00             | 0 mm                 | WF2             | V1      | DLXXT00YLT65         | 1                | bottom | 100.0          | 1.140    | 1.000  | 1.000                  | 1.140                       | 0.417             | 0.417     |                    |        |
| 2457                                     | 10  | 802.11b | DSSS    | 22              | 19.75                       | 19.73                 | -0.08            | 0 mm                 | WF2             | V2      | DLXXT00YLT65         | 1                | bottom | 100.0          | 1.110    | 1.005  | 1.000                  | 1.116                       | 0.412             | 0.414     |                    |        |
| 2412                                     | 1   | 802.11b | DSSS    | 22              | 19.75                       | 19.75                 | -0.02            | 0 mm                 | WF2             | V2      | DLXXT00YLT65         | 1                | right  | 100.0          | 0.208    | 1.000  | 1.000                  | 0.208                       | 0.084             | 0.084     |                    |        |
| 2412                                     | 1   | 802.11b | DSSS    | 22              | 19.75                       | 19.75                 | -0.04            | 0 mm                 | WF2             | V2      | DLXXT00YLT65         | 1                | left   | 100.0          | 0.007    | 1.000  | 1.000                  | 0.007                       | 0.003             | 0.003     |                    |        |
| 2437                                     | 6   | 802.11b | DSSS    | 22              | 19.75                       | 19.72                 | -0.01            | 0 mm                 | WF2             | V2      | DLXXT00YLT65         | 1                | bottom | 100.0          | 1.060    | 1.007  | 1.000                  | 1.067                       | 0.394             | 0.397     |                    |        |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT    |     |         |         |                 |                             |                       |                  | Body                 |                 |         |                      |                  |        |                |          |        |                        |                             |                   |           |                    |        |
| Spatial Peak                             |     |         |         |                 |                             |                       |                  | 1.6 W/kg (mW/g)      |                 |         |                      |                  |        |                |          |        |                        |                             |                   |           |                    |        |
| Uncontrolled Exposure/General Population |     |         |         |                 |                             |                       |                  | averaged over 1 gram |                 |         |                      |                  |        |                |          |        |                        |                             |                   |           |                    |        |

**Note: Blue entry represents variability measurement.**

**Table 10-35**  
**5GHz WLAN Body SAR- Ant WF1**

| MEASUREMENT RESULTS                      |     |          |         |                 |                             |                       |                  |                      |                 |         |                      |                  |        |                |          |        |                        |                             |                   |           |                    |        |
|------------------------------------------|-----|----------|---------|-----------------|-----------------------------|-----------------------|------------------|----------------------|-----------------|---------|----------------------|------------------|--------|----------------|----------|--------|------------------------|-----------------------------|-------------------|-----------|--------------------|--------|
| FREQUENCY                                |     | Mode     | Service | Bandwidth [MHz] | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | Spacing              | Antenna Config. | Variant | Device Serial Number | Data Rate (Mbps) | Side   | Duty Cycle (%) | SAR (1g) |        | Scaling Factor (Power) | Scaling Factor (Duty Cycle) | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |
| MHz                                      | Ch. |          |         |                 |                             |                       |                  |                      |                 |         |                      |                  |        |                | (W/kg)   | (W/kg) |                        |                             | (W/kg)            |           |                    |        |
| 5270                                     | 54  | 802.11n  | OFDM    | 40              | 16.50                       | 16.40                 | 0.18             | 0 mm                 | WF1             | V2      | DLXXT00YLT65         | 13.5             | back   | 97.8           | 0.165    | 1.023  | 1.022                  | 0.173                       | 0.061             | 0.064     |                    |        |
| 5270                                     | 54  | 802.11n  | OFDM    | 40              | 16.50                       | 16.40                 | 0.11             | 0 mm                 | WF1             | V2      | DLXXT00YLT65         | 13.5             | top    | 97.8           | 0.036    | 1.023  | 1.022                  | 0.038                       | 0.010             | 0.010     |                    |        |
| 5270                                     | 54  | 802.11n  | OFDM    | 40              | 16.50                       | 16.40                 | 0.03             | 0 mm                 | WF1             | V2      | DLXXT00YLT65         | 13.5             | bottom | 97.8           | 0.956    | 1.023  | 1.022                  | 1.000                       | 0.316             | 0.330     |                    |        |
| 5270                                     | 54  | 802.11n  | OFDM    | 40              | 16.50                       | 16.25                 | -0.02            | 0 mm                 | WF1             | V1      | DLXXT00QLT65         | 13.5             | bottom | 97.8           | 0.759    | 1.059  | 1.022                  | 0.821                       | 0.251             | 0.272     |                    |        |
| 5310                                     | 62  | 802.11n  | OFDM    | 40              | 14.50                       | 13.85                 | -0.07            | 0 mm                 | WF1             | V2      | DLXXT00YLT65         | 13.5             | bottom | 97.8           | 0.483    | 1.161  | 1.022                  | 0.573                       | 0.157             | 0.186     |                    |        |
| 5270                                     | 54  | 802.11n  | OFDM    | 40              | 16.50                       | 16.40                 | 0.19             | 0 mm                 | WF1             | V2      | DLXXT00YLT65         | 13.5             | right  | 97.8           | 0.000    | 1.023  | 1.022                  | 0.000                       | 0.000             | 0.000     |                    |        |
| 5270                                     | 54  | 802.11n  | OFDM    | 40              | 16.50                       | 16.40                 | 0.03             | 0 mm                 | WF1             | V2      | DLXXT00YLT65         | 13.5             | left   | 97.8           | 0.286    | 1.023  | 1.022                  | 0.299                       | 0.097             | 0.101     |                    |        |
| 5610                                     | 122 | 802.11ac | OFDM    | 80              | 15.25                       | 15.00                 | 0.20             | 0 mm                 | WF1             | V1      | DLXXT00QLT65         | 29.3             | back   | 95.6           | 0.166    | 1.059  | 1.046                  | 0.184                       | 0.063             | 0.070     |                    |        |
| 5610                                     | 122 | 802.11ac | OFDM    | 80              | 15.25                       | 15.00                 | 0.20             | 0 mm                 | WF1             | V1      | DLXXT00QLT65         | 29.3             | top    | 95.6           | 0.027    | 1.059  | 1.046                  | 0.030                       | 0.007             | 0.008     |                    |        |
| 5530                                     | 106 | 802.11ac | OFDM    | 80              | 13.50                       | 13.50                 | 0.06             | 0 mm                 | WF1             | V1      | DLXXT00QLT65         | 29.3             | bottom | 95.6           | 0.650    | 1.000  | 1.046                  | 0.680                       | 0.209             | 0.219     |                    |        |
| 5610                                     | 122 | 802.11ac | OFDM    | 80              | 15.25                       | 15.00                 | 0.06             | 0 mm                 | WF1             | V1      | DLXXT00QLT65         | 29.3             | bottom | 95.6           | 1.030    | 1.059  | 1.046                  | 1.141                       | 0.328             | 0.363     |                    |        |
| 5610                                     | 122 | 802.11ac | OFDM    | 80              | 15.25                       | 14.84                 | -0.11            | 0 mm                 | WF1             | V2      | DLXXT00SLT64         | 29.3             | bottom | 95.6           | 0.895    | 1.099  | 1.046                  | 1.029                       | 0.291             | 0.335     |                    |        |
| 5690                                     | 138 | 802.11ac | OFDM    | 80              | 15.25                       | 14.99                 | 0.01             | 0 mm                 | WF1             | V1      | DLXXT00QLT65         | 29.3             | bottom | 95.6           | 0.978    | 1.062  | 1.046                  | 1.086                       | 0.311             | 0.345     |                    |        |
| 5610                                     | 122 | 802.11ac | OFDM    | 80              | 15.25                       | 15.00                 | 0.07             | 0 mm                 | WF1             | V1      | DLXXT00QLT65         | 29.3             | right  | 95.6           | 0.000    | 1.059  | 1.046                  | 0.000                       | 0.000             | 0.000     |                    |        |
| 5610                                     | 122 | 802.11ac | OFDM    | 80              | 15.25                       | 15.00                 | 0.01             | 0 mm                 | WF1             | V1      | DLXXT00QLT65         | 29.3             | left   | 95.6           | 0.188    | 1.059  | 1.046                  | 0.208                       | 0.060             | 0.066     |                    |        |
| 5775                                     | 155 | 802.11ac | OFDM    | 80              | 14.75                       | 14.15                 | -0.15            | 0 mm                 | WF1             | V1      | DLXXT00QLT65         | 29.3             | back   | 95.6           | 0.077    | 1.148  | 1.046                  | 0.092                       | 0.029             | 0.035     |                    |        |
| 5775                                     | 155 | 802.11ac | OFDM    | 80              | 14.75                       | 14.15                 | 0.11             | 0 mm                 | WF1             | V1      | DLXXT00QLT65         | 29.3             | top    | 95.6           | 0.030    | 1.148  | 1.046                  | 0.036                       | 0.009             | 0.011     |                    |        |
| 5775                                     | 155 | 802.11ac | OFDM    | 80              | 14.75                       | 14.15                 | 0.10             | 0 mm                 | WF1             | V1      | DLXXT00QLT65         | 29.3             | bottom | 95.6           | 0.801    | 1.148  | 1.046                  | 0.962                       | 0.261             | 0.313     |                    |        |
| 5775                                     | 155 | 802.11ac | OFDM    | 80              | 14.75                       | 14.10                 | -0.02            | 0 mm                 | WF1             | V2      | DLXXT00SLT64         | 29.3             | bottom | 95.6           | 0.789    | 1.161  | 1.046                  | 0.958                       | 0.254             | 0.308     |                    |        |
| 5775                                     | 155 | 802.11ac | OFDM    | 80              | 14.75                       | 14.15                 | 0.19             | 0 mm                 | WF1             | V1      | DLXXT00QLT65         | 29.3             | right  | 95.6           | 0.000    | 1.148  | 1.046                  | 0.000                       | 0.000             | 0.000     |                    |        |
| 5775                                     | 155 | 802.11ac | OFDM    | 80              | 14.75                       | 14.15                 | 0.03             | 0 mm                 | WF1             | V1      | DLXXT00QLT65         | 29.3             | left   | 95.6           | 0.114    | 1.148  | 1.046                  | 0.137                       | 0.039             | 0.047     |                    |        |
| 5610                                     | 122 | 802.11ac | OFDM    | 80              | 15.25                       | 15.00                 | 0.20             | 0 mm                 | WF1             | V1      | DLXXT00QLT65         | 29.3             | bottom | 95.6           | 1.030    | 1.059  | 1.046                  | 1.141                       | 0.327             | 0.362     |                    |        |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT    |     |          |         |                 |                             |                       |                  | Body                 |                 |         |                      |                  |        |                |          |        |                        |                             |                   |           |                    |        |
| Spatial Peak                             |     |          |         |                 |                             |                       |                  | 1.6 W/kg (mW/g)      |                 |         |                      |                  |        |                |          |        |                        |                             |                   |           |                    |        |
| Uncontrolled Exposure/General Population |     |          |         |                 |                             |                       |                  | averaged over 1 gram |                 |         |                      |                  |        |                |          |        |                        |                             |                   |           |                    |        |

**Note: Blue entry represents variability measurement.**

|                                         |                                                                                                                  |                            |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  <b>SAR EVALUATION REPORT</b> |                            | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device | Page 104 of 120                 |

**Table 10-36**  
**5 GHz WLAN Body SAR – Ant WF2**

| MEASUREMENT RESULTS                      |     |          |         |                 |                             |                       |                  |                      |                 |         |                      |                  |        |                |          |                        |                             |                   |           |                    |        |
|------------------------------------------|-----|----------|---------|-----------------|-----------------------------|-----------------------|------------------|----------------------|-----------------|---------|----------------------|------------------|--------|----------------|----------|------------------------|-----------------------------|-------------------|-----------|--------------------|--------|
| FREQUENCY                                |     | Mode     | Service | Bandwidth [MHz] | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | Spacing              | Antenna Config. | Variant | Device Serial Number | Data Rate (Mbps) | Side   | Duty Cycle (%) | SAR (1g) | Scaling Factor (Power) | Scaling Factor (Duty Cycle) | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |
| MHz                                      | Ch. |          |         |                 |                             |                       |                  |                      |                 |         |                      |                  |        |                | (W/kg)   |                        |                             | (W/kg)            | (W/kg)    | (W/kg)             |        |
| 5230                                     | 46  | 802.11n  | OFDM    | 40              | 17.25                       | 17.25                 | 0.12             | 0 mm                 | WF2             | V2      | DLXXT00YL765         | 13.5             | back   | 97.6           | 0.163    | 1.000                  | 1.025                       | 0.167             | 0.061     | 0.063              |        |
| 5230                                     | 46  | 802.11n  | OFDM    | 40              | 17.25                       | 17.25                 | 0.13             | 0 mm                 | WF2             | V2      | DLXXT00YL765         | 13.5             | top    | 97.6           | 0.055    | 1.000                  | 1.025                       | 0.056             | 0.014     | 0.014              |        |
| 5190                                     | 38  | 802.11n  | OFDM    | 40              | 14.50                       | 14.45                 | 0.10             | 0 mm                 | WF2             | V2      | DLXXT00YL765         | 13.5             | bottom | 97.6           | 0.515    | 1.012                  | 1.025                       | 0.534             | 0.164     | 0.170              |        |
| 5230                                     | 46  | 802.11n  | OFDM    | 40              | 17.25                       | 17.25                 | 0.05             | 0 mm                 | WF2             | V2      | DLXXT00YL765         | 13.5             | bottom | 97.6           | 1.160    | 1.000                  | 1.025                       | 1.189             | 0.382     | 0.392              | A18    |
| 5230                                     | 46  | 802.11n  | OFDM    | 40              | 17.25                       | 16.91                 | 0.09             | 0 mm                 | WF2             | V1      | DLXXT00QL765         | 13.5             | bottom | 97.6           | 1.070    | 1.081                  | 1.025                       | 1.186             | 0.353     | 0.391              |        |
| 5230                                     | 46  | 802.11n  | OFDM    | 40              | 17.25                       | 17.25                 | -0.12            | 0 mm                 | WF2             | V2      | DLXXT00YL765         | 13.5             | right  | 97.6           | 0.302    | 1.000                  | 1.025                       | 0.310             | 0.107     | 0.110              |        |
| 5230                                     | 46  | 802.11n  | OFDM    | 40              | 17.25                       | 17.25                 | 0.17             | 0 mm                 | WF2             | V2      | DLXXT00YL765         | 13.5             | left   | 97.6           | 0.000    | 1.000                  | 1.025                       | 0.000             | 0.000     | 0.000              |        |
| 5610                                     | 122 | 802.11ac | OFDM    | 80              | 15.50                       | 15.50                 | 0.05             | 0 mm                 | WF2             | V1      | DLXXT00QL765         | 29.3             | back   | 94.9           | 0.151    | 1.000                  | 1.054                       | 0.159             | 0.056     | 0.059              |        |
| 5610                                     | 122 | 802.11ac | OFDM    | 80              | 15.50                       | 15.50                 | 0.16             | 0 mm                 | WF2             | V1      | DLXXT00QL765         | 29.3             | top    | 94.9           | 0.041    | 1.000                  | 1.054                       | 0.043             | 0.011     | 0.012              |        |
| 5530                                     | 106 | 802.11ac | OFDM    | 80              | 13.50                       | 13.50                 | 0.06             | 0 mm                 | WF2             | V1      | DLXXT00QL765         | 29.3             | bottom | 94.9           | 0.549    | 1.000                  | 1.054                       | 0.579             | 0.169     | 0.178              |        |
| 5610                                     | 122 | 802.11ac | OFDM    | 80              | 15.50                       | 15.50                 | -0.01            | 0 mm                 | WF2             | V1      | DLXXT00QL765         | 29.3             | bottom | 94.9           | 0.998    | 1.000                  | 1.054                       | 1.052             | 0.328     | 0.346              |        |
| 5610                                     | 122 | 802.11ac | OFDM    | 80              | 15.50                       | 15.40                 | 0.00             | 0 mm                 | WF2             | V2      | DLXXT00SL764         | 29.3             | bottom | 94.9           | 0.915    | 1.023                  | 1.054                       | 0.987             | 0.299     | 0.322              |        |
| 5690                                     | 138 | 802.11ac | OFDM    | 80              | 15.50                       | 15.45                 | -0.04            | 0 mm                 | WF2             | V1      | DLXXT00QL765         | 29.3             | bottom | 94.9           | 0.831    | 1.012                  | 1.054                       | 0.886             | 0.263     | 0.281              |        |
| 5610                                     | 122 | 802.11ac | OFDM    | 80              | 15.50                       | 15.50                 | 0.10             | 0 mm                 | WF2             | V1      | DLXXT00QL765         | 29.3             | right  | 94.9           | 0.161    | 1.000                  | 1.054                       | 0.170             | 0.055     | 0.058              |        |
| 5610                                     | 122 | 802.11ac | OFDM    | 80              | 15.50                       | 15.50                 | 0.20             | 0 mm                 | WF2             | V1      | DLXXT00QL765         | 29.3             | left   | 94.9           | 0.000    | 1.000                  | 1.054                       | 0.000             | 0.000     | 0.000              |        |
| 5775                                     | 155 | 802.11ac | OFDM    | 80              | 15.75                       | 15.75                 | 0.12             | 0 mm                 | WF2             | V2      | DLXXT00SL764         | 29.3             | back   | 94.9           | 0.119    | 1.000                  | 1.054                       | 0.125             | 0.045     | 0.047              |        |
| 5775                                     | 155 | 802.11ac | OFDM    | 80              | 15.75                       | 15.75                 | 0.15             | 0 mm                 | WF2             | V2      | DLXXT00SL764         | 29.3             | top    | 94.9           | 0.034    | 1.000                  | 1.054                       | 0.036             | 0.008     | 0.008              |        |
| 5775                                     | 155 | 802.11ac | OFDM    | 80              | 15.75                       | 15.75                 | -0.14            | 0 mm                 | WF2             | V2      | DLXXT00SL764         | 29.3             | bottom | 94.9           | 1.070    | 1.000                  | 1.054                       | 1.128             | 0.345     | 0.364              |        |
| 5775                                     | 155 | 802.11ac | OFDM    | 80              | 15.75                       | 15.75                 | 0.01             | 0 mm                 | WF2             | V1      | DLXXT00QL765         | 29.3             | bottom | 94.9           | 1.000    | 1.000                  | 1.054                       | 1.054             | 0.324     | 0.341              |        |
| 5775                                     | 155 | 802.11ac | OFDM    | 80              | 15.75                       | 15.75                 | 0.18             | 0 mm                 | WF2             | V2      | DLXXT00SL764         | 29.3             | right  | 94.9           | 0.129    | 1.000                  | 1.054                       | 0.136             | 0.046     | 0.048              |        |
| 5775                                     | 155 | 802.11ac | OFDM    | 80              | 15.75                       | 15.75                 | 0.19             | 0 mm                 | WF2             | V2      | DLXXT00SL764         | 29.3             | left   | 94.9           | 0.000    | 1.000                  | 1.054                       | 0.000             | 0.000     | 0.000              |        |
| 5230                                     | 46  | 802.11n  | OFDM    | 40              | 17.25                       | 17.25                 | -0.04            | 0 mm                 | WF2             | V2      | DLXXT00YL765         | 13.5             | bottom | 97.6           | 1.110    | 1.000                  | 1.025                       | 1.138             | 0.361     | 0.370              |        |
| 5775                                     | 155 | 802.11ac | OFDM    | 80              | 15.75                       | 15.75                 | -0.18            | 0 mm                 | WF2             | V2      | DLXXT00SL764         | 29.3             | bottom | 94.9           | 1.050    | 1.000                  | 1.054                       | 1.107             | 0.340     | 0.358              |        |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT    |     |          |         |                 |                             |                       |                  | Body                 |                 |         |                      |                  |        |                |          |                        |                             |                   |           |                    |        |
| Spatial Peak                             |     |          |         |                 |                             |                       |                  | 1.6 W/kg (mW/g)      |                 |         |                      |                  |        |                |          |                        |                             |                   |           |                    |        |
| Uncontrolled Exposure/General Population |     |          |         |                 |                             |                       |                  | averaged over 1 gram |                 |         |                      |                  |        |                |          |                        |                             |                   |           |                    |        |

**Note: Blue entry represents variability measurement.**

**Table 10-37**  
**Bluetooth Body SAR – Ant WF1**

| MEASUREMENT RESULTS                      |     |           |         |                             |                       |                  |                      |                 |         |                      |                  |        |                |          |                             |                             |                   |           |                    |        |  |
|------------------------------------------|-----|-----------|---------|-----------------------------|-----------------------|------------------|----------------------|-----------------|---------|----------------------|------------------|--------|----------------|----------|-----------------------------|-----------------------------|-------------------|-----------|--------------------|--------|--|
| FREQUENCY                                |     | Mode      | Service | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | Spacing              | Antenna Config. | Variant | Device Serial Number | Data Rate (Mbps) | Side   | Duty Cycle (%) | SAR (1g) | Scaling Factor (Cond Power) | Scaling Factor (Duty Cycle) | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |  |
| MHz                                      | Ch. |           |         |                             |                       |                  |                      |                 |         |                      |                  |        |                | (W/kg)   |                             |                             | (W/kg)            | (W/kg)    |                    |        |  |
| 2402                                     | 0   | Bluetooth | FHSS    | 20.0                        | 19.85                 | 0.15             | 0 mm                 | WF1             | V2      | DLXXT00YL765         | 1                | back   | 76.9           | 0.143    | 1.035                       | 1.008                       | 0.149             | 0.066     | 0.069              |        |  |
| 2402                                     | 0   | Bluetooth | FHSS    | 20.0                        | 19.85                 | -0.15            | 0 mm                 | WF1             | V2      | DLXXT00YL765         | 1                | top    | 76.9           | 0.016    | 1.035                       | 1.008                       | 0.017             | 0.007     | 0.007              |        |  |
| 2402                                     | 0   | Bluetooth | FHSS    | 20.0                        | 19.85                 | -0.12            | 0 mm                 | WF1             | V2      | DLXXT00YL765         | 1                | bottom | 76.9           | 1.140    | 1.035                       | 1.008                       | 1.189             | 0.405     | 0.423              | A19    |  |
| 2402                                     | 0   | Bluetooth | FHSS    | 20.0                        | 19.70                 | -0.12            | 0 mm                 | WF1             | V1      | DLXXT01EL765         | 1                | bottom | 76.9           | 1.070    | 1.072                       | 1.008                       | 1.156             | 0.376     | 0.406              |        |  |
| 2441                                     | 39  | Bluetooth | FHSS    | 20.0                        | 19.55                 | -0.12            | 0 mm                 | WF1             | V2      | DLXXT00YL765         | 1                | bottom | 76.9           | 0.968    | 1.109                       | 1.008                       | 1.082             | 0.348     | 0.389              |        |  |
| 2480                                     | 78  | Bluetooth | FHSS    | 20.0                        | 19.36                 | 0.01             | 0 mm                 | WF1             | V2      | DLXXT00YL765         | 1                | bottom | 76.9           | 0.732    | 1.159                       | 1.008                       | 0.855             | 0.273     | 0.319              |        |  |
| 2402                                     | 0   | Bluetooth | FHSS    | 20.0                        | 19.85                 | 0.16             | 0 mm                 | WF1             | V2      | DLXXT00YL765         | 1                | right  | 76.9           | 0.008    | 1.035                       | 1.008                       | 0.008             | 0.003     | 0.003              |        |  |
| 2402                                     | 0   | Bluetooth | FHSS    | 20.0                        | 19.85                 | 0.10             | 0 mm                 | WF1             | V2      | DLXXT00YL765         | 1                | left   | 76.9           | 0.178    | 1.035                       | 1.008                       | 0.186             | 0.076     | 0.079              |        |  |
| 2402                                     | 0   | Bluetooth | FHSS    | 13.0                        | 12.83                 | 0.20             | 0 mm                 | WF1             | V2      | DLXXT00YL765         | 1                | back   | 76.9           | 0.022    | 1.040                       | 1.008                       | 0.023             | 0.009     | 0.009              |        |  |
| 2402                                     | 0   | Bluetooth | FHSS    | 13.0                        | 12.83                 | 0.14             | 0 mm                 | WF1             | V2      | DLXXT00YL765         | 1                | top    | 76.9           | 0.002    | 1.040                       | 1.008                       | 0.002             | 0.000     | 0.000              |        |  |
| 2402                                     | 0   | Bluetooth | FHSS    | 13.0                        | 12.83                 | -0.05            | 0 mm                 | WF1             | V2      | DLXXT00YL765         | 1                | bottom | 76.9           | 0.206    | 1.040                       | 1.008                       | 0.216             | 0.075     | 0.079              |        |  |
| 2402                                     | 0   | Bluetooth | FHSS    | 13.0                        | 12.83                 | 0.12             | 0 mm                 | WF1             | V2      | DLXXT00YL765         | 1                | right  | 76.9           | 0.000    | 1.040                       | 1.008                       | 0.000             | 0.000     | 0.000              |        |  |
| 2402                                     | 0   | Bluetooth | FHSS    | 13.0                        | 12.83                 | 0.12             | 0 mm                 | WF1             | V2      | DLXXT00YL765         | 1                | left   | 76.9           | 0.032    | 1.040                       | 1.008                       | 0.034             | 0.013     | 0.014              |        |  |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT    |     |           |         |                             |                       |                  | Body                 |                 |         |                      |                  |        |                |          |                             |                             |                   |           |                    |        |  |
| Spatial Peak                             |     |           |         |                             |                       |                  | 1.6 W/kg (mW/g)      |                 |         |                      |                  |        |                |          |                             |                             |                   |           |                    |        |  |
| Uncontrolled Exposure/General Population |     |           |         |                             |                       |                  | averaged over 1 gram |                 |         |                      |                  |        |                |          |                             |                             |                   |           |                    |        |  |

Note: The reported SAR was scaled to the 77.5% transmission duty factor to determine compliance since the duty factor of the device is permanently limited to 77.5% per the manufacturer.

|                                         |                                                                                     |                              |                                        |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|----------------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | <b>Approved by:</b><br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 105 of 120                        |

**Table 10-38**  
**Bluetooth Body SAR – Ant WF2**

| MEASUREMENT RESULTS                      |     |           |         |                             |                       |                  |                      |                 |         |                      |                  |        |                |          |                             |                             |                   |           |                    |        |
|------------------------------------------|-----|-----------|---------|-----------------------------|-----------------------|------------------|----------------------|-----------------|---------|----------------------|------------------|--------|----------------|----------|-----------------------------|-----------------------------|-------------------|-----------|--------------------|--------|
| FREQUENCY                                |     | Mode      | Service | Maximum Allowed Power [dBm] | Conducted Power [dBm] | Power Drift [dB] | Spacing              | Antenna Config. | Variant | Device Serial Number | Data Rate (Mbps) | Side   | Duty Cycle (%) | SAR (1g) | Scaling Factor (Cond Power) | Scaling Factor (Duty Cycle) | Reported SAR (1g) | SAR (10g) | Reported SAR (10g) | Plot # |
| MHz                                      | Ch. |           |         |                             |                       |                  |                      |                 |         |                      |                  |        |                | (W/kg)   |                             |                             | (W/kg)            | (W/kg)    |                    |        |
| 2402                                     | 0   | Bluetooth | FHSS    | 20.0                        | 19.84                 | 0.05             | 0 mm                 | WF2             | V1      | DLXXT01FLT65         | 1                | back   | 76.9           | 0.118    | 1.038                       | 1.008                       | 0.123             | 0.054     | 0.057              |        |
| 2402                                     | 0   | Bluetooth | FHSS    | 20.0                        | 19.84                 | 0.14             | 0 mm                 | WF2             | V1      | DLXXT01FLT65         | 1                | top    | 76.9           | 0.033    | 1.038                       | 1.008                       | 0.035             | 0.014     | 0.015              |        |
| 2402                                     | 0   | Bluetooth | FHSS    | 20.0                        | 19.84                 | 0.03             | 0 mm                 | WF2             | V1      | DLXXT01FLT65         | 1                | bottom | 76.9           | 0.865    | 1.038                       | 1.008                       | 0.905             | 0.313     | 0.327              |        |
| 2402                                     | 0   | Bluetooth | FHSS    | 20.0                        | 19.81                 | -0.03            | 0 mm                 | WF2             | V2      | DLXXT00YLT65         | 1                | bottom | 76.9           | 0.724    | 1.045                       | 1.008                       | 0.763             | 0.259     | 0.273              |        |
| 2441                                     | 39  | Bluetooth | FHSS    | 20.0                        | 19.60                 | -0.08            | 0 mm                 | WF2             | V1      | DLXXT01FLT65         | 1                | bottom | 76.9           | 0.818    | 1.096                       | 1.008                       | 0.904             | 0.299     | 0.330              |        |
| 2480                                     | 78  | Bluetooth | FHSS    | 20.0                        | 19.74                 | -0.15            | 0 mm                 | WF2             | V1      | DLXXT01FLT65         | 1                | bottom | 76.9           | 0.809    | 1.062                       | 1.008                       | 0.866             | 0.300     | 0.321              |        |
| 2402                                     | 0   | Bluetooth | FHSS    | 20.0                        | 19.84                 | 0.00             | 0 mm                 | WF2             | V1      | DLXXT01FLT65         | 1                | right  | 76.9           | 0.188    | 1.038                       | 1.008                       | 0.197             | 0.075     | 0.078              |        |
| 2402                                     | 0   | Bluetooth | FHSS    | 20.0                        | 19.84                 | 0.15             | 0 mm                 | WF2             | V1      | DLXXT01FLT65         | 1                | left   | 76.9           | 0.006    | 1.038                       | 1.008                       | 0.006             | 0.002     | 0.002              |        |
| 2402                                     | 0   | Bluetooth | FHSS    | 13.0                        | 12.78                 | 0.17             | 0 mm                 | WF2             | V1      | DLXXT01FLT65         | 1                | back   | 76.9           | 0.018    | 1.052                       | 1.008                       | 0.019             | 0.007     | 0.007              |        |
| 2402                                     | 0   | Bluetooth | FHSS    | 13.0                        | 12.78                 | 0.19             | 0 mm                 | WF2             | V1      | DLXXT01FLT65         | 1                | top    | 76.9           | 0.005    | 1.052                       | 1.008                       | 0.005             | 0.001     | 0.001              |        |
| 2402                                     | 0   | Bluetooth | FHSS    | 13.0                        | 12.78                 | 0.15             | 0 mm                 | WF2             | V1      | DLXXT01FLT65         | 1                | bottom | 76.9           | 0.149    | 1.052                       | 1.008                       | 0.158             | 0.053     | 0.056              |        |
| 2402                                     | 0   | Bluetooth | FHSS    | 13.0                        | 12.78                 | 0.15             | 0 mm                 | WF2             | V1      | DLXXT01FLT65         | 1                | right  | 76.9           | 0.033    | 1.052                       | 1.008                       | 0.035             | 0.012     | 0.013              |        |
| 2402                                     | 0   | Bluetooth | FHSS    | 13.0                        | 12.78                 | 0.01             | 0 mm                 | WF2             | V1      | DLXXT01FLT65         | 1                | left   | 76.9           | 0.000    | 1.052                       | 1.008                       | 0.000             | 0.000     | 0.000              |        |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT    |     |           |         |                             |                       |                  | Body                 |                 |         |                      |                  |        |                |          |                             |                             |                   |           |                    |        |
| Spatial Peak                             |     |           |         |                             |                       |                  | 1.6 W/kg (mW/g)      |                 |         |                      |                  |        |                |          |                             |                             |                   |           |                    |        |
| Uncontrolled Exposure/General Population |     |           |         |                             |                       |                  | averaged over 1 gram |                 |         |                      |                  |        |                |          |                             |                             |                   |           |                    |        |

Note: The reported SAR was scaled to the 77.5% transmission duty factor to determine compliance since the duty factor of the device is permanently limited to 77.5% per the manufacturer.

## 10.2 SAR Test Notes

### General Notes:

- The test data reported are the worst-case SAR values according to test procedures specified in FCC KDB Publication 616217 D04v01r02 and FCC KDB Publication 447498 D01v06.
- Batteries are fully charged at the beginning of the SAR measurements.
- Liquid tissue depth was at least 15.0 cm for all frequencies.
- The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
- SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D01v06.
- Per FCC KDB 865664 D01v01r04, variability SAR tests were performed when the measured SAR results for a frequency band were greater than or equal to 0.8 W/kg. Repeated SAR measurements are highlighted in the tables above for clarity. Please see Section 12 for variability analysis.
- FCC KDB Publication 616217 D04v01r02 Section 4.3, SAR tests are required for the back surface and edges of the tablet with the tablet touching the phantom. The SAR Exclusion Threshold in FCC KDB 447498 D01v06 was applied to determine SAR test exclusion for adjacent edge configurations.

### GSM Test Notes:

- Justification for reduced test configurations per KDB Publication 941225 D01v03r01 and October 2013 TCB Workshop Notes: The source-based frame-averaged output power was evaluated for all GPRS/EDGE slot configurations. The configuration with the highest target frame averaged output power was evaluated for SAR. When the maximum frame-averaged powers are equivalent across two or more slots (within 0.25 dB), the configuration with the most number of time slots was tested.
- Per FCC KDB Publication 447498 D01v06, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg for 1g evaluations then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the required test channels is  $> \frac{1}{2}$  dB, instead of the middle channel, the highest output power channel was used.

|                                         |                                                                                     |                              |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  | <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                    | DUT Type:<br>Tablet Device   | Page 106 of 120                 |

#### UMTS Notes:

1. UMTS mode in was tested under RMC 12.2 kbps with HSPA Inactive per KDB Publication 941225 D01v03r01. HSPA SAR was not required per the 3G Test Reduction Procedure in KDB Publication 941225 D01v03r01.
2. Per FCC KDB Publication 447498 D01v06, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg for 1g evaluations then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the required test channels is  $> \frac{1}{2}$  dB, instead of the middle channel, the highest output power channel was used.

#### LTE Notes:

1. LTE Considerations: LTE test configurations are determined according to SAR Evaluation Considerations for LTE Devices in FCC KDB Publication 941225 D05v02r04. The general test procedures used for testing can be found in Section 7.5.4.
2. MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.
3. A-MPR was disabled for all SAR tests by setting NS=01 and MCC=001 on the base station simulator. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).
4. Per FCC KDB Publication 447498 D01v06, when the reported (scaled) for LTE Band 41 SAR measured at the highest output power channel in a given a test configuration was  $> 0.6$  W/kg for 1g evaluations, testing at the other channels was required for such test configurations.
5. TDD LTE was tested per the guidance provided in FCC KDB Publication 941225 D05v02r04. Testing was performed using UL-DL configuration 0 with 6 UL subframes and 2 S subframes using extended cyclic prefix only and special subframe configuration 6. SAR tests were performed at maximum output power and worst-case transmission duty factor in extended cyclic prefix. Per 3GPP 36.211 Section 4, the duty factor for special subframe configuration 6 using extended cyclic prefix is 0.633.
6. Per KDB Publication 941225 D05Av01r02, SAR for downlink only LTE CA operations was not needed since the maximum average output power in LTE CA mode was not  $> 0.25$  dB higher than the maximum output power when downlink carrier aggregation was inactive.
7. This device supports Power Class 2 and Power Class 3 operations for LTE Band 41. The highest available duty cycle for Power Class 2 operations is 43.3 % using UL-DL configuration 1. Per FCC Guidance, all SAR tests were performed using Power Class 3. SAR with power class 2 at the available duty factor was additionally performed for the power class 3 configuration with the highest SAR configuration for each exposure conditions. Please see Section 13 for linearity results.
8. For LTE Band 7 and LTE Band 41, per Fall 2017 TCB Workshop Notes, SAR was first measured with only a single carrier active in the uplink (carrier aggregation not active). For each exposure condition, the uplink CA scenario with two component carriers was additionally tested for the configuration with the highest SAR when carrier aggregation was not active. The SCC was configured with the closest available contiguous channel. The two component carriers were configured so the resource blocks are physically allocated side by side to achieve the maximum output power. When the reported 1g SAR was  $> 1.2$  W/kg or the reported 10g SAR was  $> 3.0$  W/kg, all required test channels were additionally evaluated.

#### WLAN Notes:

1. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 2.4 GHz WIFI single transmission chain operations, the highest measured maximum output power channel for DSSS was selected for SAR measurement. SAR for OFDM modes (2.4 GHz 802.11g/n) was not required due to the maximum allowed powers and the highest reported DSSS SAR. See Section 7.6.4 for more information.
2. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 5 GHz WIFI single transmission chain operations, the initial test configuration was selected according to the transmission mode with the highest maximum allowed powers. Other transmission modes were not

|                                         |                                                                                                                  |                            |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
| FCC ID: BCGA2153                        |  <b>SAR EVALUATION REPORT</b> |                            | Approved by:<br>Quality Manager |
| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device | Page 107 of 120                 |

investigated since the highest reported SAR for initial test configuration adjusted by the ratio of maximum output powers is less than 1.2 W/kg for 1g evaluations. See Section 7.6.5 for more information.

3. Per KDB Publication 248227 D01v02r02, SAR for MIMO was evaluated by following the simultaneous SAR provisions from KDB Publication 447498 D01v06 by either evaluating the sum of the 1g SAR values of each antenna transmitting independently or making a SAR measurement with both antennas transmitting simultaneously. Please see Section 11 for complete analysis.
4. When the maximum reported 1g averaged SAR is  $\leq 0.8$  W/kg, SAR testing on additional channels was not required. Otherwise, SAR for the next highest output power channel was required until the reported SAR result was  $\leq 1.20$  W/kg for 1g evaluations or all test channels were measured.
5. The device was configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools. The reported SAR was scaled to the 100% transmission duty factor to determine compliance. Procedures used to measure the duty factor are identical to that in the associated EMC test reports.

#### Bluetooth Notes

1. Bluetooth SAR was evaluated with a test mode with hopping disabled with DH5 operation. The reported SAR was scaled to the 77.5% transmission duty factor to determine compliance since the duty factor of the device is limited to 77.5% per the manufacturer. See Section 8.6 for the time domain plot and calculation for the duty factor of the device.

|                                         |                                                                                                                  |                            |                                 |
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# 11 FCC MULTI-TX AND ANTENNA SAR CONSIDERATIONS

## 11.1 Introduction

The following procedures adopted from FCC KDB Publication 447498 D01v06 are applicable to devices with built-in unlicensed transmitters such as 802.11 and Bluetooth devices which may simultaneously transmit with the licensed transmitter.

## 11.2 Simultaneous Transmission Procedures

This device contains transmitters that may operate simultaneously. Therefore, simultaneous transmission analysis is required. Per FCC KDB Publication 447498 D01v06 4.3.2 and IEEE 1528-2013 Section 6.3.4.1.2, simultaneous transmission SAR test exclusion may be applied when the sum of the 1g SAR for all the simultaneous transmitting antennas in a specific physical test configuration is  $\leq 1.6$  W/kg. The different test positions in an exposure condition may be considered collectively to determine SAR test exclusion according to the sum of 1g or 10g SAR.

\* The SAR distributions for at least one of the antennas are spatially separated from the other antennas per FCC KDB Publication 248227 Section 6.1 procedures. Therefore, the simultaneous transmission were treated independently for this configuration. See Section 11.4 for more information about the Spatial Separation Analysis.

## 11.3 Body SAR Simultaneous Transmission Analysis

**Table 11-1**  
**Cellular Ant WF3 Simultaneous Transmission Scenario with 2.4 GHz WLAN**

| Simult Tx | Configuration | Cellular Antenna<br>WF3 SAR (W/kg) | 2.4 GHz WLAN<br>Ant WF1 SAR (W/Kg) | 2.4 GHz WLAN<br>Ant WF2 SAR (W/Kg) | $\Sigma$ SAR (W/kg) |       |              |
|-----------|---------------|------------------------------------|------------------------------------|------------------------------------|---------------------|-------|--------------|
|           |               | 1                                  | 2                                  | 3                                  | 1+2                 | 1+3   | 1+2+3        |
| Body SAR  | Back          | 1.188                              | 0.120                              | 0.111                              | 1.308               | 1.299 | <b>1.419</b> |
|           | Top           | 0.872                              | 0.016                              | 0.025                              | 0.888               | 0.897 | 0.913        |
|           | Bottom        | 0.017                              | 1.120                              | 1.178                              | 1.137               | 1.195 | 1.195*       |
|           | Right         | 0.105                              | 0.007                              | 0.208                              | 0.112               | 0.313 | 0.320        |
|           | Left          | 0.038                              | 0.222                              | 0.007                              | 0.260               | 0.045 | 0.267        |

**Table 11-2**  
**Cellular Ant WF5 Simultaneous Transmission Scenario with 2.4 GHz WLAN**

| Simult Tx | Configuration | Cellular Antenna<br>WF5 SAR (W/kg) | 2.4 GHz WLAN<br>Ant WF1 SAR (W/Kg) | 2.4 GHz WLAN<br>Ant WF2 SAR (W/Kg) | $\Sigma$ SAR (W/kg) |       |              |
|-----------|---------------|------------------------------------|------------------------------------|------------------------------------|---------------------|-------|--------------|
|           |               | 1                                  | 2                                  | 3                                  | 1+2                 | 1+3   | 1+2+3        |
| Body SAR  | Back          | 1.189                              | 0.120                              | 0.111                              | 1.309               | 1.300 | <b>1.420</b> |
|           | Top           | 0.932                              | 0.016                              | 0.025                              | 0.948               | 0.957 | 0.973        |
|           | Bottom        | 0.029                              | 1.120                              | 1.178                              | 1.149               | 1.207 | 1.207*       |
|           | Right         | 0.058                              | 0.007                              | 0.208                              | 0.065               | 0.266 | 0.273        |
|           | Left          | 0.144                              | 0.222                              | 0.007                              | 0.366               | 0.151 | 0.373        |

|                                         |                                                                                                                  |                            |                                 |
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**Table 11-3**  
**Cellular Ant WF3 Simultaneous Transmission Scenario with 5 GHz WLAN**

| Simult Tx | Configuration | Cellular Antenna<br>WF3 SAR (W/kg) | 5 GHz WLAN<br>Ant WF1 SAR (W/kg) | 5 GHz WLAN<br>Ant WF2 SAR (W/kg) | $\Sigma$ SAR (W/kg) |       |              |
|-----------|---------------|------------------------------------|----------------------------------|----------------------------------|---------------------|-------|--------------|
|           |               | 1                                  | 2                                | 3                                | 1+2                 | 1+3   | 1+2+3        |
| Body SAR  | Back          | 1.188                              | 0.184                            | 0.167                            | 1.372               | 1.355 | <b>1.539</b> |
|           | Top           | 0.872                              | 0.038                            | 0.056                            | 0.910               | 0.928 | 0.966        |
|           | Bottom        | 0.017                              | 1.141                            | 1.189                            | 1.158               | 1.206 | 1.206*       |
|           | Right         | 0.105                              | 0.000                            | 0.310                            | 0.105               | 0.415 | 0.415        |
|           | Left          | 0.038                              | 0.299                            | 0.000                            | 0.337               | 0.038 | 0.337        |

**Table 11-4**  
**Cellular Ant WF5 Simultaneous Transmission Scenario with 5 GHz WLAN**

| Simult Tx | Configuration | Cellular Antenna<br>WF5 SAR (W/kg) | 5 GHz WLAN<br>Ant WF1 SAR (W/kg) | 5 GHz WLAN<br>Ant WF2 SAR (W/kg) | $\Sigma$ SAR (W/kg) |       |              |
|-----------|---------------|------------------------------------|----------------------------------|----------------------------------|---------------------|-------|--------------|
|           |               | 1                                  | 2                                | 3                                | 1+2                 | 1+3   | 1+2+3        |
| Body SAR  | Back          | 1.189                              | 0.184                            | 0.167                            | 1.373               | 1.356 | <b>1.540</b> |
|           | Top           | 0.932                              | 0.038                            | 0.056                            | 0.970               | 0.988 | 1.026        |
|           | Bottom        | 0.029                              | 1.141                            | 1.189                            | 1.170               | 1.218 | 1.218*       |
|           | Right         | 0.058                              | 0.000                            | 0.310                            | 0.058               | 0.368 | 0.368        |
|           | Left          | 0.144                              | 0.299                            | 0.000                            | 0.443               | 0.144 | 0.443        |

**Table 11-5**  
**Cellular Ant WF3 Simultaneous Transmission Scenario with Bluetooth**

| Simult Tx | Configuration | Cellular Antenna<br>WF3 SAR (W/kg) | Bluetooth<br>Ant WF1 SAR (W/kg) | Bluetooth<br>Ant WF2 SAR (W/kg) | $\Sigma$ SAR (W/kg) |       |
|-----------|---------------|------------------------------------|---------------------------------|---------------------------------|---------------------|-------|
|           |               | 1                                  | 2                               | 3                               | 1+2                 | 1+3   |
| Body SAR  | Back          | 1.188                              | 0.149                           | 0.123                           | <b>1.337</b>        | 1.311 |
|           | Top           | 0.872                              | 0.017                           | 0.035                           | 0.889               | 0.907 |
|           | Bottom        | 0.017                              | 1.189                           | 0.905                           | 1.206               | 0.922 |
|           | Right         | 0.105                              | 0.008                           | 0.197                           | 0.113               | 0.302 |
|           | Left          | 0.038                              | 0.186                           | 0.006                           | 0.224               | 0.044 |

**Table 11-6**  
**Cellular Ant WF5 Simultaneous Transmission Scenario with Bluetooth**

| Simult Tx | Configuration | Cellular Antenna<br>WF5 SAR (W/kg) | Bluetooth<br>Ant WF1 SAR (W/kg) | Bluetooth<br>Ant WF2 SAR (W/kg) | $\Sigma$ SAR (W/kg) |       |
|-----------|---------------|------------------------------------|---------------------------------|---------------------------------|---------------------|-------|
|           |               | 1                                  | 2                               | 3                               | 1+2                 | 1+3   |
| Body SAR  | Back          | 1.189                              | 0.149                           | 0.123                           | <b>1.338</b>        | 1.312 |
|           | Top           | 0.932                              | 0.017                           | 0.035                           | 0.949               | 0.967 |
|           | Bottom        | 0.029                              | 1.189                           | 0.905                           | 1.218               | 0.934 |
|           | Right         | 0.058                              | 0.008                           | 0.197                           | 0.066               | 0.255 |
|           | Left          | 0.144                              | 0.186                           | 0.006                           | 0.330               | 0.150 |

|                                         |                                                                                                                                   |                              |  |                                        |
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**Table 11-7**  
**Cellular Ant WF3 Simultaneous Transmission Scenario with Bluetooth and 5 GHz WLAN**

| Simult Tx | Configuration | Cellular Antenna<br>WF3 SAR (W/kg) | Bluetooth Ant WF1<br>Reduced at 13 dBm<br>SAR (W/kg) | 5 GHz WLAN<br>Ant WF1 SAR (W/kg) | 5 GHz WLAN<br>Ant WF2 SAR (W/kg) | $\Sigma$ SAR (W/kg) |       |              |
|-----------|---------------|------------------------------------|------------------------------------------------------|----------------------------------|----------------------------------|---------------------|-------|--------------|
|           |               | 1                                  | 2                                                    | 3                                | 4                                | 1+2+3               | 1+2+4 | 1+2+3+4      |
| Body SAR  | Back          | 1.188                              | 0.023                                                | 0.184                            | 0.167                            | 1.395               | 1.378 | <b>1.562</b> |
|           | Top           | 0.872                              | 0.002                                                | 0.038                            | 0.056                            | 0.912               | 0.93  | 0.968        |
|           | Bottom        | 0.017                              | 0.216                                                | 1.141                            | 1.189                            | 1.374               | 1.422 | 1.374*       |
|           | Right         | 0.105                              | 0.000                                                | 0.000                            | 0.310                            | 0.105               | 0.415 | 0.415        |
|           | Left          | 0.038                              | 0.034                                                | 0.299                            | 0.000                            | 0.371               | 0.072 | 0.371        |
| Simult Tx | Configuration | Cellular Antenna<br>WF3 SAR (W/kg) | Bluetooth Ant WF2<br>Reduced at 13 dBm<br>SAR (W/kg) | 5 GHz WLAN<br>Ant WF1 SAR (W/kg) | 5 GHz WLAN<br>Ant WF2 SAR (W/kg) | $\Sigma$ SAR (W/kg) |       |              |
|           |               | 1                                  | 2                                                    | 3                                | 4                                | 1+2+3               | 1+2+4 | 1+2+3+4      |
| Body SAR  | Back          | 1.188                              | 0.019                                                | 0.184                            | 0.167                            | 1.391               | 1.374 | <b>1.558</b> |
|           | Top           | 0.872                              | 0.005                                                | 0.038                            | 0.056                            | 0.915               | 0.933 | 0.971        |
|           | Bottom        | 0.017                              | 0.158                                                | 1.141                            | 1.189                            | 1.316               | 1.364 | 1.364*       |
|           | Right         | 0.105                              | 0.035                                                | 0.000                            | 0.310                            | 0.140               | 0.450 | 0.450        |
|           | Left          | 0.038                              | 0.000                                                | 0.299                            | 0.000                            | 0.337               | 0.038 | 0.337        |

**Table 11-8**  
**Cellular Ant WF5 Simultaneous Transmission Scenario with Bluetooth and 5 GHz WLAN**

| Simult Tx | Configuration | Cellular Antenna<br>WF5 SAR (W/kg) | Bluetooth Ant WF1<br>Reduced at 13 dBm<br>SAR (W/kg) | 5 GHz WLAN<br>Ant WF1 SAR (W/kg) | 5 GHz WLAN<br>Ant WF2 SAR (W/kg) | $\Sigma$ SAR (W/kg) |       |              |
|-----------|---------------|------------------------------------|------------------------------------------------------|----------------------------------|----------------------------------|---------------------|-------|--------------|
|           |               | 1                                  | 2                                                    | 3                                | 4                                | 1+2+3               | 1+2+4 | 1+2+3+4      |
| Body SAR  | Back          | 1.189                              | 0.023                                                | 0.184                            | 0.167                            | 1.396               | 1.379 | <b>1.563</b> |
|           | Top           | 0.932                              | 0.002                                                | 0.038                            | 0.056                            | 0.972               | 0.99  | 1.028        |
|           | Bottom        | 0.029                              | 0.216                                                | 1.141                            | 1.189                            | 1.386               | 1.434 | 1.386*       |
|           | Right         | 0.058                              | 0.000                                                | 0.000                            | 0.310                            | 0.058               | 0.368 | 0.368        |
|           | Left          | 0.144                              | 0.034                                                | 0.299                            | 0.000                            | 0.477               | 0.178 | 0.477        |
| Simult Tx | Configuration | Cellular Antenna<br>WF5 SAR (W/kg) | Bluetooth Ant WF2<br>Reduced at 13 dBm<br>SAR (W/kg) | 5 GHz WLAN<br>Ant WF1 SAR (W/kg) | 5 GHz WLAN<br>Ant WF2 SAR (W/kg) | $\Sigma$ SAR (W/kg) |       |              |
|           |               | 1                                  | 2                                                    | 3                                | 4                                | 1+2+3               | 1+2+4 | 1+2+3+4      |
| Body SAR  | Back          | 1.189                              | 0.019                                                | 0.184                            | 0.167                            | 1.392               | 1.375 | <b>1.559</b> |
|           | Top           | 0.932                              | 0.005                                                | 0.038                            | 0.056                            | 0.975               | 0.993 | 1.031        |
|           | Bottom        | 0.029                              | 0.158                                                | 1.141                            | 1.189                            | 1.328               | 1.376 | 1.376*       |
|           | Right         | 0.058                              | 0.035                                                | 0.000                            | 0.310                            | 0.093               | 0.403 | 0.403        |
|           | Left          | 0.144                              | 0.000                                                | 0.299                            | 0.000                            | 0.443               | 0.144 | 0.443        |

**Table 11-9**  
**Simultaneous Transmission Scenario with Bluetooth and 5 GHz WLAN**

| Simult Tx | Configuration | Bluetooth Ant WF1<br>Reduced at 13 dBm<br>SAR (W/kg) | 5 GHz WLAN<br>Ant WF1 SAR (W/kg) | 5 GHz WLAN<br>Ant WF2 SAR (W/kg) | $\Sigma$ SAR (W/kg) |              |        |
|-----------|---------------|------------------------------------------------------|----------------------------------|----------------------------------|---------------------|--------------|--------|
|           |               | 1                                                    | 2                                | 3                                | 1+2                 | 1+3          | 1+2+3  |
| Body SAR  | Back          | 0.023                                                | 0.184                            | 0.167                            | 0.207               | 0.190        | 0.374  |
|           | Top           | 0.002                                                | 0.038                            | 0.056                            | 0.040               | 0.058        | 0.096  |
|           | Bottom        | 0.216                                                | 1.141                            | 1.189                            | 1.357               | <b>1.405</b> | 1.357* |
|           | Right         | 0.000                                                | 0.000                            | 0.310                            | 0.000               | 0.310        | 0.310  |
|           | Left          | 0.034                                                | 0.299                            | 0.000                            | 0.333               | 0.034        | 0.333  |
| Simult Tx | Configuration | Bluetooth Ant WF2<br>Reduced at 13 dBm<br>SAR (W/kg) | 5 GHz WLAN<br>Ant WF1 SAR (W/kg) | 5 GHz WLAN<br>Ant WF2 SAR (W/kg) | $\Sigma$ SAR (W/kg) |              |        |
|           |               | 1                                                    | 2                                | 3                                | 1+2                 | 1+3          | 1+2+3  |
| Body SAR  | Back          | 0.019                                                | 0.184                            | 0.167                            | 0.203               | 0.186        | 0.370  |
|           | Top           | 0.005                                                | 0.038                            | 0.056                            | 0.043               | 0.061        | 0.099  |
|           | Bottom        | 0.158                                                | 1.141                            | 1.189                            | 1.299               | <b>1.347</b> | 1.347* |
|           | Right         | 0.035                                                | 0.000                            | 0.310                            | 0.035               | 0.345        | 0.345  |
|           | Left          | 0.000                                                | 0.299                            | 0.000                            | 0.299               | 0.000        | 0.299  |

|                                         |                                                                                                                               |                              |                                 |
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Notes:

1. For each position, the highest SAR value across all modes for the applicable cellular band antenna was considered for summation to determine simultaneous SAR test exclusion.

## 11.4 Spatial Separation Analysis

Per FCC KDB Publication 248227, antennas may be considered spatially separated when the aggregate SAR from multiple antennas at any location in the combined SAR distribution is either  $\leq 1.2$  W/kg where at least 90% of the SAR is attributed to a single SAR distribution or  $\leq 0.4$  W/kg where no more than one SAR distribution is contributing  $> 0.1$  W/kg.

Spatial separation was determined by inspection of the area scan SAR distributions to confirm that at all locations, SAR was  $< 1.2$  W/kg, where at least 90% of the SAR is attributed to a single SAR distribution. See below for illustrations of the spatial separated antennas considered.

### 11.4.1 Bottom Edge Spatial Separation Analysis

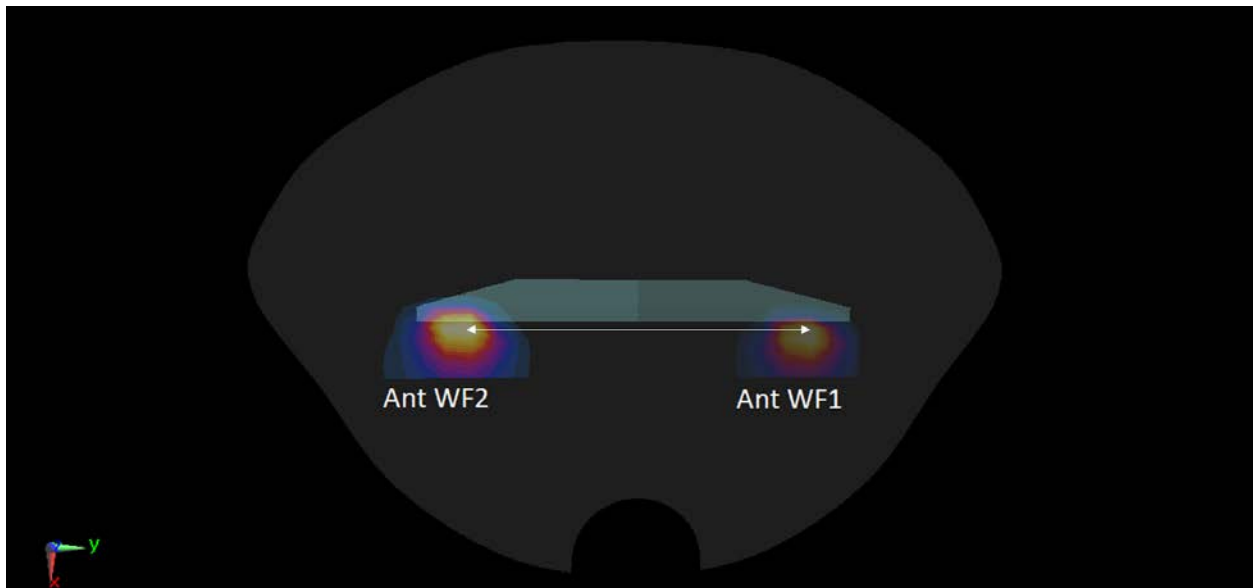


**Figure 11-1**  
**Bottom Edge Spatial Separation for Antenna WF1 and Antenna WF2**

## 11.5 Simultaneous Transmission Conclusion

The above numerical summed SAR results and spatial separation analysis for all the worst-case simultaneous transmission conditions were below the SAR limit. Therefore, the above analysis is sufficient to determine that simultaneous transmission cases will not exceed the SAR limit and therefore no measured volumetric simultaneous SAR summation is required per FCC KDB Publication 447498 D01v06 and IEEE 1528-2013 Section 6.3.4.1.2.

|                                         |                                                                                                                  |                            |                                 |
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## 12 SAR MEASUREMENT VARIABILITY

### 12.1 Measurement Variability

Per FCC KDB Publication 865664 D01v01r04, SAR measurement variability was assessed for each frequency band, which was determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media were required for SAR measurements in a frequency band, the variability measurement procedures were applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. These additional measurements were repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device was returned to ambient conditions (normal room temperature) with the battery fully charged before it was re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

SAR Measurement Variability was assessed using the following procedures for each frequency band:

- 1) When the original highest measured SAR is  $\geq 0.80$  W/kg, the measurement was repeated once.
- 2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was  $> 1.20$  or when the original or repeated measurement was  $\geq 1.45$  W/kg (~ 10% from the 1g SAR limit).
- 3) A third repeated measurement was performed only if the original, first or second repeated measurement was  $\geq 1.5$  W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is  $> 1.20$ .
- 4) Repeated measurements are not required when the original highest measured SAR is  $< 0.80$  W/kg

**Table 12-1**  
**Body SAR Measurement Variability Results**

| BODY VARIABILITY RESULTS                                                                          |           |       |                                     |                          |                |                  |        |                                                 |                   |                       |       |                       |       |                       |       |
|---------------------------------------------------------------------------------------------------|-----------|-------|-------------------------------------|--------------------------|----------------|------------------|--------|-------------------------------------------------|-------------------|-----------------------|-------|-----------------------|-------|-----------------------|-------|
| Band                                                                                              | FREQUENCY |       | Mode                                | Service                  | Antenna Config | Data Rate (Mbps) | Side   | Spacing                                         | Measured SAR (1g) | 1st Repeated SAR (1g) | Ratio | 2nd Repeated SAR (1g) | Ratio | 3rd Repeated SAR (1g) | Ratio |
|                                                                                                   | MHz       | Ch.   |                                     |                          |                |                  |        |                                                 | (W/kg)            | (W/kg)                |       | (W/kg)                |       | (W/kg)                |       |
| 750                                                                                               | 707.50    | 23095 | LTE Band 12, 10 MHz Bandwidth       | QPSK, 1 RB, 0 RB Offset  | WF3            | N/A              | back   | 0 mm                                            | 1.180             | 1.180                 | 1.00  | N/A                   | N/A   | N/A                   | N/A   |
| 835                                                                                               | 836.50    | 20525 | LTE Band 5 (Cell), 10 MHz Bandwidth | QPSK, 50 RB, 0 RB Offset | WF3            | N/A              | back   | 0 mm                                            | 1.180             | 1.180                 | 1.00  | N/A                   | N/A   | N/A                   | N/A   |
| 1750                                                                                              | 1732.40   | 1412  | UMTS 1750                           | RMC                      | WF3            | N/A              | back   | 0 mm                                            | 1.170             | 1.170                 | 1.00  | N/A                   | N/A   | N/A                   | N/A   |
| 1900                                                                                              | 1852.40   | 9262  | UMTS 1900                           | RMC                      | WF5            | N/A              | back   | 0 mm                                            | 1.040             | 0.968                 | 1.07  | N/A                   | N/A   | N/A                   | N/A   |
| 2300                                                                                              | 2310.00   | 27710 | LTE Band 30, 10 MHz Bandwidth       | QPSK, 50 RB, 0 RB Offset | WF3            | N/A              | back   | 0 mm                                            | 1.000             | 0.891                 | 1.12  | N/A                   | N/A   | N/A                   | N/A   |
| 2450                                                                                              | 2437.00   | 6     | 802.11b, 22 MHz Bandwidth           | DSSS                     | WF2            | 1                | bottom | 0 mm                                            | 1.170             | 1.060                 | 1.10  | N/A                   | N/A   | N/A                   | N/A   |
| 2600                                                                                              | 2560.00   | 21350 | LTE Band 7, 20 MHz Bandwidth        | QPSK, 50 RB, 0 RB Offset | WF3            | N/A              | back   | 0 mm                                            | 1.120             | 1.090                 | 1.03  | N/A                   | N/A   | N/A                   | N/A   |
| 5250                                                                                              | 5230.00   | 46    | 802.11n, 40 MHz Bandwidth           | OFDM                     | WF2            | 13.5             | bottom | 0 mm                                            | 1.160             | 1.110                 | 1.05  | N/A                   | N/A   | N/A                   | N/A   |
| 5600                                                                                              | 5610.00   | 122   | 802.11ac, 80 MHz Bandwidth          | OFDM                     | WF1            | 29.3             | bottom | 0 mm                                            | 1.030             | 1.030                 | 1.00  | N/A                   | N/A   | N/A                   | N/A   |
| 5750                                                                                              | 5775.00   | 155   | 802.11ac, 80 MHz Bandwidth          | OFDM                     | WF2            | 29.3             | bottom | 0 mm                                            | 1.070             | 1.050                 | 1.02  | N/A                   | N/A   | N/A                   | N/A   |
| ANSI / IEEE C95.1 1992 - SAFETY LIMIT<br>Spatial Peak<br>Uncontrolled Exposure/General Population |           |       |                                     |                          |                |                  |        | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |                   |                       |       |                       |       |                       |       |

### 12.2 Measurement Uncertainty

The measured SAR was  $< 1.5$  W/kg for all frequency bands. Therefore, per KDB Publication 865664 D01v01r04, the extended measurement uncertainty analysis per IEEE 1528-2013 was not required.

|                                         |                                                                                                                  |                            |                                 |
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## 13 ADDITIONAL TESTING PER FCC GUIDANCE

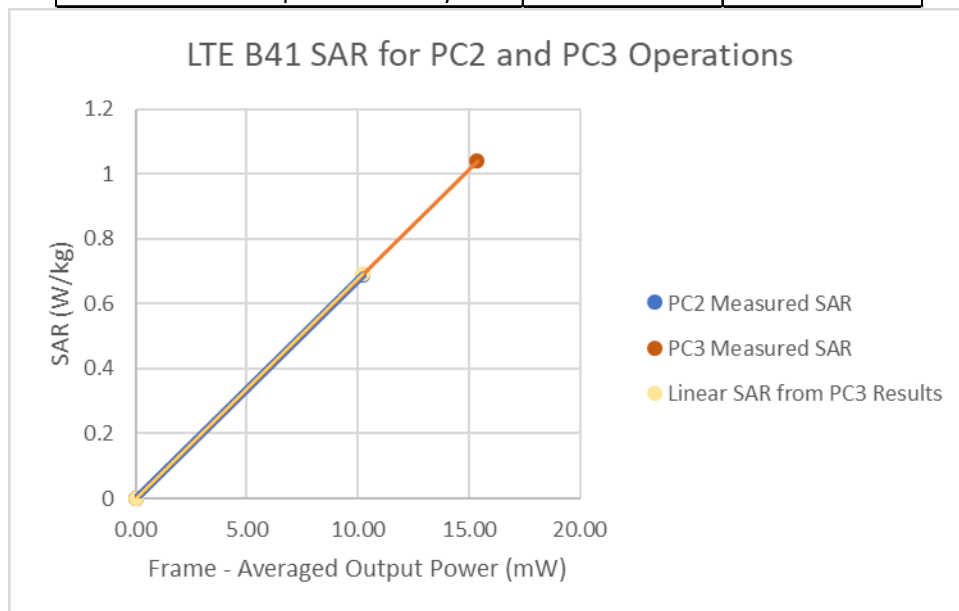
### 13.1 LTE Band 41 Power Class 2 and Power Class 3 Linearity

This device supports Power Class 2 and Power Class 3 operations for LTE Band 41. The highest available duty cycle for Power Class 2 operations is 43.3 % using UL-DL configuration 1. Per May 2017 TCB Workshop Notes based on the device behavior, all SAR tests were performed using Power Class 3. SAR with Power Class 2 at the highest power and available duty factor was additionally performed for the Power Class 3 configuration with the highest SAR for each exposure condition. The linearity between the Power Class 2 and Power Class 3 SAR results and the respective frame averaged powers was calculated to determine that the results were linear. Per May 2017 TCB Workshop, no additional SAR measurements were required since the linearity between power classes as < 10% and all reported SAR values were < 1.4 W/kg for 1g and < 3.5 W/kg for 10g.

LTE Band 41 SAR testing with power class 2 at the highest power and available duty factor was additionally performed for the power class 3 configuration with the highest SAR for each exposure condition.

**Table 13-1**  
**LTE Band 41 Body Linearity Data – Ant WF3**

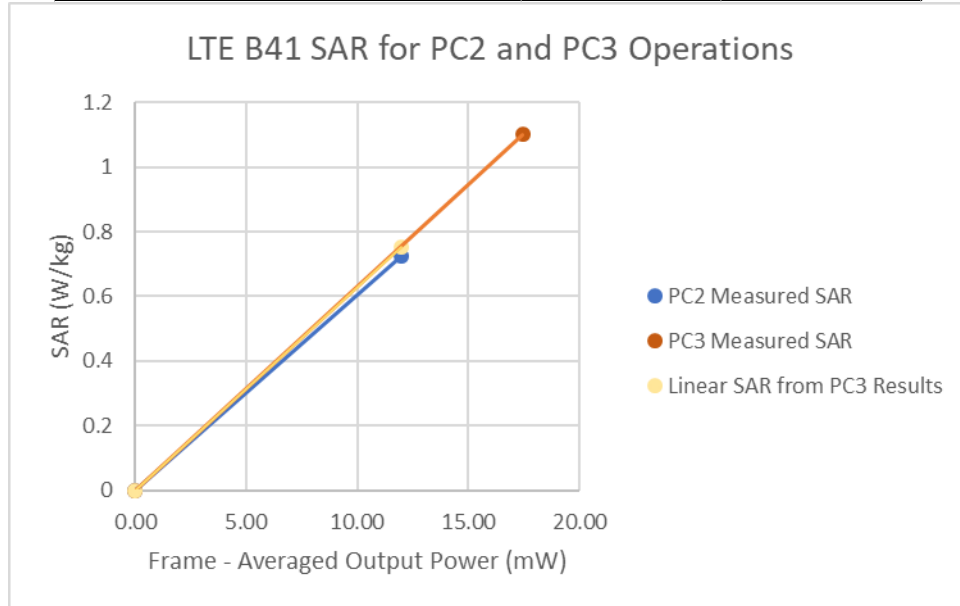
|                                     | LTE Band 41 PC3 | LTE Band 41 PC2 |
|-------------------------------------|-----------------|-----------------|
| Maximum Allowed Output Power (dBm)  | 14              | 14              |
| Measured Output Power (dBm)         | 13.85           | 13.72           |
| Measured SAR (W/kg)                 | 1.04            | 0.69            |
| Measured Power (mW)                 | 24.27           | 23.55           |
| Duty Cycle                          | 63.3%           | 43.3%           |
| Frame Averaged Output Power (mW)    | 15.36           | 10.20           |
| % deviation from expected linearity |                 | -0.06%          |



|                                         |                                                                                     |                              |                                        |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|----------------------------------------|
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**Table 13-2**  
**LTE Band 41 Body Linearity Data – Ant WF5**

|                                     | LTE Band 41 PC3 | LTE Band 41 PC2 |
|-------------------------------------|-----------------|-----------------|
| Maximum Allowed Output Power (dBm)  | 14.5            | 14.5            |
| Measured Output Power (dBm)         | 14.4            | 14.41           |
| Measured SAR (W/kg)                 | 1.1             | 0.724           |
| Measured Power (mW)                 | 27.54           | 27.61           |
| Duty Cycle                          | 63.3%           | 43.3%           |
| Frame Averaged Output Power (mW)    | 17.43           | 11.95           |
| % deviation from expected linearity |                 | -4.00%          |



|                                         |                                                                                     |                              |                                        |
|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------|----------------------------------------|
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# 14 EQUIPMENT LIST

| Manufacturer       | Model     | Description                                   | Cal Date   | Cal Interval | Cal Due    | Serial Number |
|--------------------|-----------|-----------------------------------------------|------------|--------------|------------|---------------|
| Agilent            | 85033E    | 3.5mm Standard Calibration Kit                | 8/13/2018  | Annual       | 8/13/2019  | MY53402352    |
| Agilent            | 8753ES    | S-Parameter Network Analyzer                  | 10/2/2018  | Annual       | 10/2/2019  | US39170118    |
| Agilent            | 8753ES    | Network Analyzer                              | 2/21/2018  | Annual       | 2/21/2019  | MY40001472    |
| Agilent            | E4438C    | ESG Vector Signal Generator                   | 6/22/2018  | Annual       | 6/22/2019  | MY53401181    |
| Agilent            | E4440A    | PSA Series Spectrum Analyzer                  | 11/14/2018 | Annual       | 11/14/2019 | MY46186272    |
| Agilent            | E5515C    | Wireless Communications Test Set              | 2/28/2018  | Biennial     | 2/28/2020  | GB41450275    |
| Agilent            | N5182A    | MXG Vector Signal Generator                   | 6/15/2018  | Annual       | 6/15/2019  | MY47420837    |
| Agilent            | N9020A    | MXA Signal Analyzer                           | 1/24/2018  | Annual       | 1/24/2019  | US46470561    |
| Amplifier Research | 150A100C  | Amplifier                                     | CBT        | N/A          | CBT        | 350132        |
| Amplifier Research | 15S1G6    | Amplifier                                     | CBT        | N/A          | CBT        | 343972        |
| Amplifier Research | 15S1G6    | Amplifier                                     | CBT        | N/A          | CBT        | 343971        |
| Anritsu            | MA24106A  | USB Power Sensor                              | 7/17/2018  | Annual       | 7/17/2019  | 1827527       |
| Anritsu            | MA24106A  | USB Power Sensor                              | 6/5/2018   | Annual       | 6/5/2019   | 1248508       |
| Anritsu            | MA2411B   | Pulse Power Sensor                            | 10/30/2018 | Annual       | 10/30/2019 | 1207470       |
| Anritsu            | MA2411B   | Pulse Power Sensor                            | 11/20/2018 | Annual       | 11/20/2019 | 1339007       |
| Anritsu            | ML2495A   | Power Meter                                   | 10/21/2018 | Annual       | 10/21/2019 | 941001        |
| Anritsu            | ML2496A   | Power Meter                                   | 10/21/2018 | Annual       | 10/21/2019 | 1138001       |
| Anritsu            | MT8820C   | Radio Communication Analyzer                  | 6/27/2018  | Annual       | 6/27/2019  | 6201240328    |
| Anritsu            | MT8821C   | Radio Communication Analyzer                  | 3/20/2018  | Annual       | 3/20/2019  | 6201144419    |
| Control Company    | 4040      | Digital Thermometer                           | 4/7/2015   | Biennial     | 4/7/2017   | 150286298     |
| Control Company    | 4040      | Temperature / Humidity Monitor                | 2/28/2018  | Biennial     | 2/28/2020  | 150761911     |
| Control Company    | 4352      | Ultra Long Stem Thermometer                   | 6/6/2018   | Biennial     | 6/6/2020   | 181334694     |
| Control Company    | 4352      | Ultra Long Stem Thermometer                   | 5/21/2018  | Biennial     | 5/21/2020  | 181292000     |
| MCL                | BW-N6W5+  | 6dB Attenuator                                | CBT        | N/A          | CBT        | 1139          |
| Mini-Circuits      | BW-N20W5+ | DC to 18 GHz Precision Fixed 20 dB Attenuator | CBT        | N/A          | CBT        | N/A           |
| Mini-Circuits      | NLP-1200+ | Low Pass Filter DC to 1000 MHz                | CBT        | N/A          | CBT        | N/A           |
| Mini-Circuits      | NLP-2950+ | Low Pass Filter DC to 2700 MHz                | CBT        | N/A          | CBT        | N/A           |
| Mini-Circuits      | VLF-6000+ | Low Pass Filter                               | CBT        | N/A          | CBT        | N/A           |
| Mitutoyo           | CD-6°CSX  | Digital Caliper                               | 4/18/2018  | Biennial     | 4/18/2020  | 13264165      |
| Narda              | 4772-3    | Attenuator (3dB)                              | CBT        | N/A          | CBT        | 9406          |
| Narda              | BW-S3W2   | Attenuator (3dB)                              | CBT        | N/A          | CBT        | 120           |
| Narda              | 4014C-6   | 4 - 8 GHz SMA 6 dB Directional Coupler        | CBT        | N/A          | CBT        | N/A           |
| Pasternack         | PE2208-6  | Bidirectional Coupler                         | CBT        | N/A          | CBT        | N/A           |
| Pasternack         | PE2209-10 | Bidirectional Coupler                         | CBT        | N/A          | CBT        | N/A           |
| Pasternack         | PE5011-1  | Torque Wrench                                 | 7/19/2017  | Biennial     | 7/19/2019  | N/A           |
| Rohde & Schwarz    | CMW500    | Radio Communication Tester                    | 4/20/2018  | Annual       | 4/20/2019  | 128635        |
| Rohde & Schwarz    | CMW500    | Wideband Radio Communication Tester           | 7/6/2018   | Annual       | 7/6/2019   | 151849        |
| Rohde & Schwarz    | CMW500    | Wideband Radio Communication Tester           | 7/5/2018   | Annual       | 7/5/2019   | 145663        |
| SPEAG              | D750V3    | 750 MHz SAR Dipole                            | 6/13/2017  | Biennial     | 6/13/2019  | 1057          |
| SPEAG              | D750V3    | 750 MHz SAR Dipole                            | 9/8/2017   | Biennial     | 9/8/2019   | 1097          |
| SPEAG              | D835V2    | 835 MHz SAR Dipole                            | 5/18/2018  | Annual       | 5/18/2019  | 4d180         |
| SPEAG              | D1750V2   | 1750 MHz SAR Dipole                           | 5/15/2018  | Annual       | 5/15/2019  | 1092          |
| SPEAG              | D1900V2   | 1900 MHz SAR Dipole                           | 5/14/2018  | Annual       | 5/14/2019  | 50226         |
| SPEAG              | D1900V2   | 1900 MHz SAR Dipole                           | 8/16/2017  | Biennial     | 8/16/2019  | 50180         |
| SPEAG              | D2300V2   | 2300 MHz SAR Dipole                           | 3/7/2018   | Annual       | 3/7/2019   | 1038          |
| SPEAG              | D2450V2   | 2450 MHz SAR Dipole                           | 6/7/2017   | Biennial     | 6/7/2019   | 750           |
| SPEAG              | D2450V2   | 2450 MHz SAR Dipole                           | 11/12/2018 | Annual       | 11/12/2019 | 921           |
| SPEAG              | D2450V2   | 2450 MHz SAR Dipole                           | 5/16/2018  | Annual       | 5/16/2019  | 945           |
| SPEAG              | D2600V2   | 2600 MHz SAR Dipole                           | 9/11/2017  | Biennial     | 9/11/2019  | 1069          |
| SPEAG              | D2600V2   | 2600 MHz SAR Dipole                           | 6/7/2017   | Biennial     | 6/7/2019   | 1042          |
| SPEAG              | D5GHzV2   | SAR Dipole                                    | 9/13/2018  | Annual       | 9/13/2019  | 1163          |
| SPEAG              | DAE4      | Dasy Data Acquisition Electronics             | 2/8/2018   | Annual       | 2/8/2019   | 1403          |
| SPEAG              | DAE4      | Dasy Data Acquisition Electronics             | 7/10/2018  | Annual       | 7/10/2019  | 1402          |
| SPEAG              | DAE4      | Dasy Data Acquisition Electronics             | 11/12/2018 | Annual       | 11/12/2019 | 1449          |
| SPEAG              | DAE4      | Dasy Data Acquisition Electronics             | 4/12/2018  | Annual       | 4/12/2019  | 501           |
| SPEAG              | DAE4      | Dasy Data Acquisition Electronics             | 5/17/2018  | Annual       | 5/17/2019  | 728           |
| SPEAG              | DAE4      | Dasy Data Acquisition Electronics             | 3/7/2018   | Annual       | 3/7/2019   | 604           |
| SPEAG              | DAE4      | Dasy Data Acquisition Electronics             | 10/18/2018 | Annual       | 10/18/2019 | 1364          |
| SPEAG              | DAK-3.5   | Dielectric Assessment Kit                     | 5/15/2018  | Annual       | 5/15/2019  | 1070          |
| SPEAG              | ES3DV3    | SAR Probe                                     | 4/12/2018  | Annual       | 4/12/2019  | 3275          |
| SPEAG              | ES3DV3    | SAR Probe                                     | 3/13/2018  | Annual       | 3/13/2019  | 3131          |
| SPEAG              | ES3DV3    | SAR Probe                                     | 2/13/2018  | Annual       | 2/13/2019  | 3329          |
| SPEAG              | EX3DV4    | SAR Probe                                     | 9/18/2018  | Annual       | 9/18/2019  | 7420          |
| SPEAG              | ES3DV3    | SAR Probe                                     | 5/18/2018  | Annual       | 5/18/2019  | 3119          |
| SPEAG              | EX3DV4    | SAR Probe                                     | 7/20/2018  | Annual       | 7/20/2019  | 7416          |
| SPEAG              | EX3DV4    | SAR Probe                                     | 7/20/2018  | Annual       | 7/20/2019  | 7491          |

Note: CBT (Calibrated Before Testing). Prior to testing, the measurement paths containing a cable, amplifier, attenuator, coupler or filter were connected to a calibrated source (i.e. a signal generator) to determine the losses of the measurement path. The power meter offset was then adjusted to compensate for the measurement system losses. This level offset is stored within the power meter before measurements are made. This calibration verification procedure applies to the system verification and output power measurements. The calibrated reading is then taken directly from the power meter after compensation of the losses for all final power measurements. Each equipment item was used solely within its respective calibration period.

|                                         |                                                                                     |                            |                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------|----------------------------|---------------------------------|
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# 15 MEASUREMENT UNCERTAINTIES

| a                                                                             | c             | d              | e=<br>f(d,k) | f                     | g                        | h =<br>c x f/e                 | i =<br>c x g/e                   | k              |
|-------------------------------------------------------------------------------|---------------|----------------|--------------|-----------------------|--------------------------|--------------------------------|----------------------------------|----------------|
| Uncertainty Component                                                         | Tol.<br>(± %) | Prob.<br>Dist. | Div.         | c <sub>i</sub><br>1gm | c <sub>i</sub><br>10 gms | 1gm<br>u <sub>i</sub><br>(± %) | 10gms<br>u <sub>i</sub><br>(± %) | v <sub>i</sub> |
| <b>Measurement System</b>                                                     |               |                |              |                       |                          |                                |                                  |                |
| Probe Calibration                                                             | 6.55          | N              | 1            | 1.0                   | 1.0                      | 6.6                            | 6.6                              | ∞              |
| Axial Isotropy                                                                | 0.25          | N              | 1            | 0.7                   | 0.7                      | 0.2                            | 0.2                              | ∞              |
| Hemishperical Isotropy                                                        | 1.3           | N              | 1            | 0.7                   | 0.7                      | 0.9                            | 0.9                              | ∞              |
| Boundary Effect                                                               | 2.0           | R              | 1.73         | 1.0                   | 1.0                      | 1.2                            | 1.2                              | ∞              |
| Linearity                                                                     | 0.3           | N              | 1            | 1.0                   | 1.0                      | 0.3                            | 0.3                              | ∞              |
| System Detection Limits                                                       | 0.25          | R              | 1.73         | 1.0                   | 1.0                      | 0.1                            | 0.1                              | ∞              |
| Readout Electronics                                                           | 0.3           | N              | 1            | 1.0                   | 1.0                      | 0.3                            | 0.3                              | ∞              |
| Response Time                                                                 | 0.8           | R              | 1.73         | 1.0                   | 1.0                      | 0.5                            | 0.5                              | ∞              |
| Integration Time                                                              | 2.6           | R              | 1.73         | 1.0                   | 1.0                      | 1.5                            | 1.5                              | ∞              |
| RF Ambient Conditions - Noise                                                 | 3.0           | R              | 1.73         | 1.0                   | 1.0                      | 1.7                            | 1.7                              | ∞              |
| RF Ambient Conditions - Reflections                                           | 3.0           | R              | 1.73         | 1.0                   | 1.0                      | 1.7                            | 1.7                              | ∞              |
| Probe Positioner Mechanical Tolerance                                         | 0.4           | R              | 1.73         | 1.0                   | 1.0                      | 0.2                            | 0.2                              | ∞              |
| Probe Positioning w/ respect to Phantom                                       | 6.7           | R              | 1.73         | 1.0                   | 1.0                      | 3.9                            | 3.9                              | ∞              |
| Extrapolation, Interpolation & Integration algorithms for Max. SAR Evaluation | 4.0           | R              | 1.73         | 1.0                   | 1.0                      | 2.3                            | 2.3                              | ∞              |
| <b>Test Sample Related</b>                                                    |               |                |              |                       |                          |                                |                                  |                |
| Test Sample Positioning                                                       | 2.7           | N              | 1            | 1.0                   | 1.0                      | 2.7                            | 2.7                              | 35             |
| Device Holder Uncertainty                                                     | 1.67          | N              | 1            | 1.0                   | 1.0                      | 1.7                            | 1.7                              | 5              |
| Output Power Variation - SAR drift measurement                                | 5.0           | R              | 1.73         | 1.0                   | 1.0                      | 2.9                            | 2.9                              | ∞              |
| SAR Scaling                                                                   | 0.0           | R              | 1.73         | 1.0                   | 1.0                      | 0.0                            | 0.0                              | ∞              |
| <b>Phantom &amp; Tissue Parameters</b>                                        |               |                |              |                       |                          |                                |                                  |                |
| Phantom Uncertainty (Shape & Thickness tolerances)                            | 7.6           | R              | 1.73         | 1.0                   | 1.0                      | 4.4                            | 4.4                              | ∞              |
| Liquid Conductivity - measurement uncertainty                                 | 4.2           | N              | 1            | 0.78                  | 0.71                     | 3.3                            | 3.0                              | 10             |
| Liquid Permittivity - measurement uncertainty                                 | 4.1           | N              | 1            | 0.23                  | 0.26                     | 1.0                            | 1.1                              | 10             |
| Liquid Conductivity - Temperature Uncertainty                                 | 3.4           | R              | 1.73         | 0.78                  | 0.71                     | 1.5                            | 1.4                              | ∞              |
| Liquid Permittivity - Temperature Uncertainty                                 | 0.6           | R              | 1.73         | 0.23                  | 0.26                     | 0.1                            | 0.1                              | ∞              |
| Liquid Conductivity - deviation from target values                            | 5.0           | R              | 1.73         | 0.64                  | 0.43                     | 1.8                            | 1.2                              | ∞              |
| Liquid Permittivity - deviation from target values                            | 5.0           | R              | 1.73         | 0.60                  | 0.49                     | 1.7                            | 1.4                              | ∞              |
| <b>Combined Standard Uncertainty (k=1)</b>                                    | RSS           |                |              |                       |                          | 11.5                           | 11.3                             | 60             |
| <b>Expanded Uncertainty</b><br>(95% CONFIDENCE LEVEL)                         | k=2           |                |              |                       |                          | 23.0                           | 22.6                             |                |

|                                         |                                                                                                                  |                            |                                 |
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## 16 CONCLUSION

### 16.1 Measurement Conclusion

The SAR evaluation indicates that the EUT complies with the RF radiation exposure limits of the FCC and Innovation, Science, and Economic Development Canada, with respect to all parameters subject to this test. These measurements were taken to simulate the RF effects of RF exposure under worst-case conditions. Precise laboratory measures were taken to assure repeatability of the tests. The results and statements relate only to the item(s) tested.

Please note that the absorption and distribution of electromagnetic energy in the body are very complex phenomena that depend on the mass, shape, and size of the body, the orientation of the body with respect to the field vectors, and the electrical properties of both the body and the environment. Other variables that may play a substantial role in possible biological effects are those that characterize the environment (e.g. ambient temperature, air velocity, relative humidity, and body insulation) and those that characterize the individual (e.g. age, gender, activity level, debilitation, or disease). Because various factors may interact with one another to vary the specific biological outcome of an exposure to electromagnetic fields, any protection guide should consider maximal amplification of biological effects as a result of field-body interactions, environmental conditions, and physiological variables. [3]

|                                                |                                                                                                                  |                                   |                                        |
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|                                         |                                                                                                                  |                            |                                 |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------|
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| Document S/N:<br>1C1811080028-01-R1.BCG | Test Dates:<br>01/02/19-01/14/19                                                                                 | DUT Type:<br>Tablet Device | Page 119 of 120                 |

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|                                                |                                                                                                                  |                                   |                                        |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------------------|
| <b>FCC ID:</b> BCGA2153                        |  <b>SAR EVALUATION REPORT</b> |                                   | <b>Approved by:</b><br>Quality Manager |
| <b>Document S/N:</b><br>1C1811080028-01-R1.BCG | <b>Test Dates:</b><br>01/02/19-01/14/19                                                                          | <b>DUT Type:</b><br>Tablet Device | Page 120 of 120                        |

## APPENDIX A: SAR TEST DATA

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: BCGA2153; Type: Tablet Device; Serial: DLXXT00PLT65**

Communication System: UID 0, UMTS; Frequency: 826.4 MHz; Duty Cycle: 1:1

Medium: 835 Body Medium parameters used (interpolated):

$f = 826.4 \text{ MHz}$ ;  $\sigma = 0.993 \text{ S/m}$ ;  $\epsilon_r = 53.272$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-07-2019; Ambient Temp: 21.1°C; Tissue Temp: 19.7°C

Probe: ES3DV3 - SN3131; ConvF(6.14, 6.14, 6.14) @ 826.4 MHz; Calibrated: 3/13/2018;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn604; Calibrated: 3/7/2018

Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

**Mode: UMTS 850 Ant WF3, Body SAR, Back side, Low.ch**

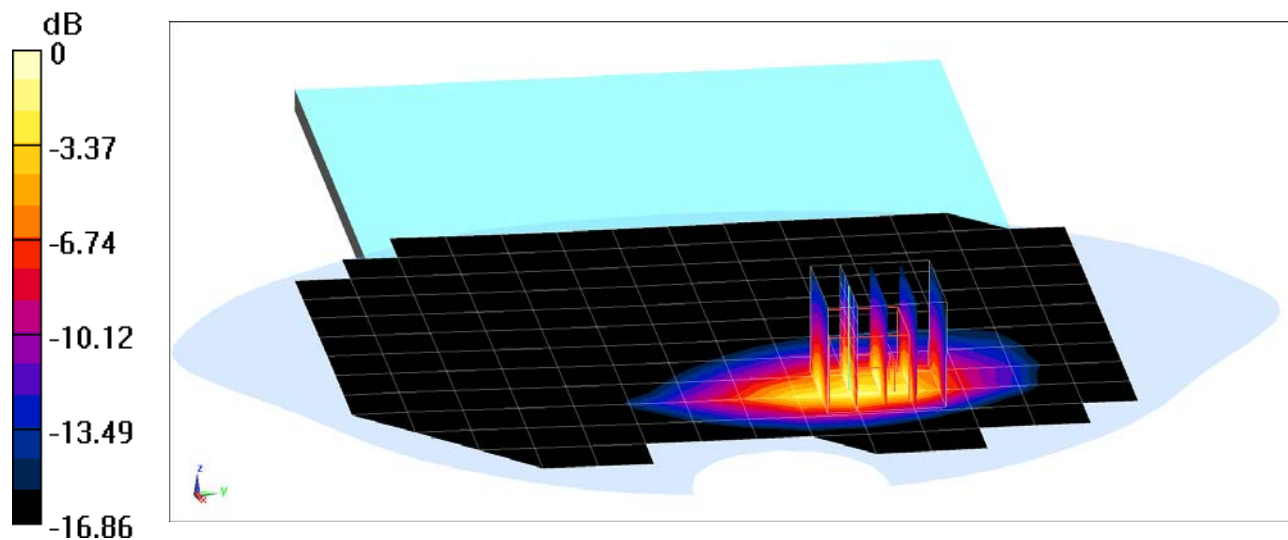
**Area Scan (14x15x1):** Measurement grid: dx=15mm, dy=15mm

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 32.18 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 3.31 W/kg

**SAR(1 g) = 1.11 W/kg; SAR(10 g) = 0.484 W/kg**



0 dB = 1.30 W/kg = 1.14 dBW/kg

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: BCGA2153; Type: Tablet Device; Serial: DLXXT01CLT65**

Communication System: UID 0, UMTS; Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used (interpolated):

$f = 1732.4 \text{ MHz}$ ;  $\sigma = 1.505 \text{ S/m}$ ;  $\epsilon_r = 51.915$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-02-2019; Ambient Temp: 22.2°C; Tissue Temp: 19.0°C

Probe: ES3DV3 - SN3329; ConvF(5.04, 5.04, 5.04) @ 1732.4 MHz; Calibrated: 2/13/2018;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/8/2018

Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

**Mode: UMTS 1750 Ant WF3, Body SAR, Back side, Mid.ch**

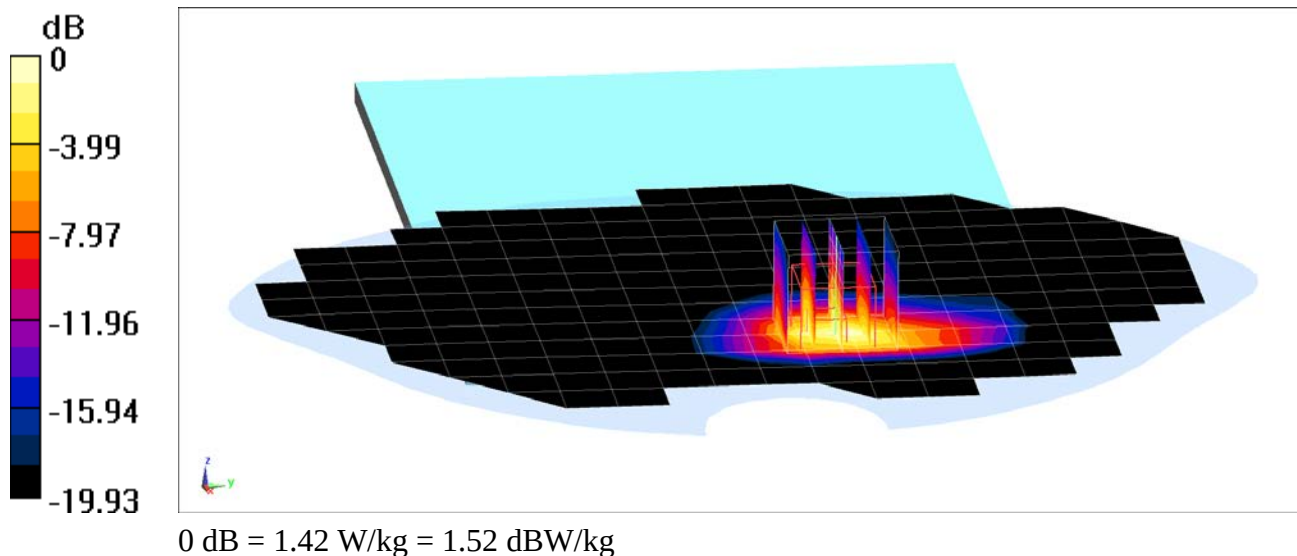
**Area Scan (15x19x1):** Measurement grid: dx=15mm, dy=15mm

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 30.98 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 2.09 W/kg

**SAR(1 g) = 1.17 W/kg; SAR(10 g) = 0.560 W/kg**



# PCTEST ENGINEERING LABORATORY, INC.

**DUT: BCGA2153; Type: Tablet Device; Serial: DLXXT00RLT65**

Communication System: UID 0, UMTS; Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used (interpolated):

$f = 1852.4 \text{ MHz}$ ;  $\sigma = 1.548 \text{ S/m}$ ;  $\epsilon_r = 50.988$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-04-2019; Ambient Temp: 23.5°C; Tissue Temp: 23.4°C

Probe: ES3DV3 - SN3329; ConvF(4.84, 4.84, 4.84) @ 1852.4 MHz; Calibrated: 2/13/2018;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/8/2018

Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

**Mode: UMTS 1900 Ant WF5, Body SAR, Back side, Low.ch**

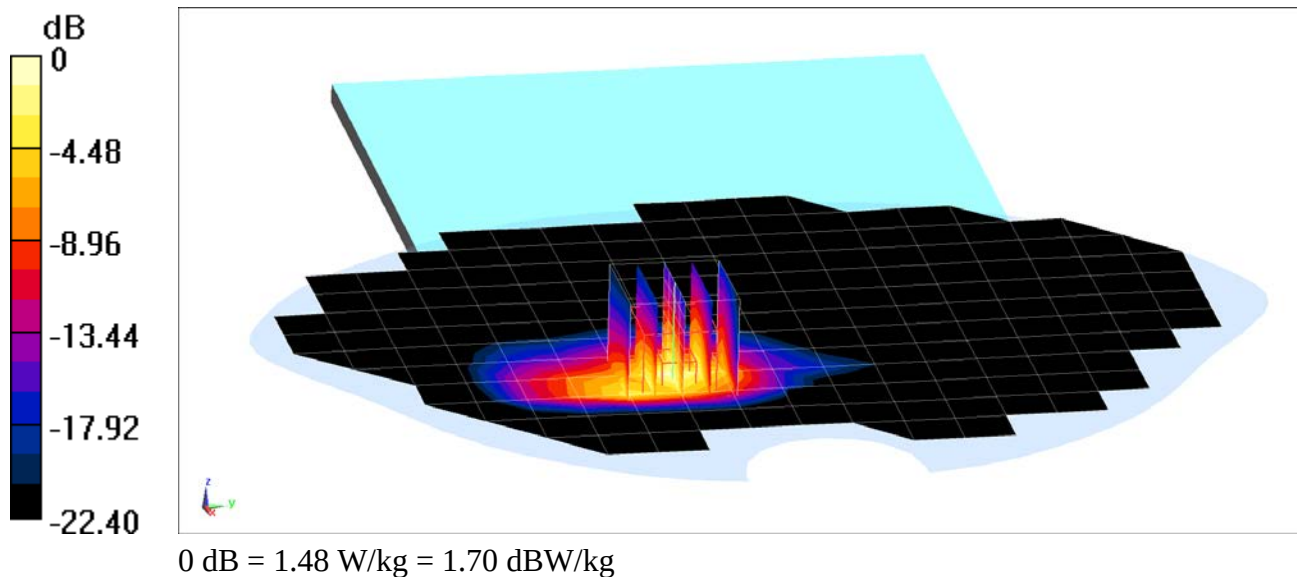
**Area Scan (15x19x1):** Measurement grid: dx=15mm, dy=15mm

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 29.14 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 2.13 W/kg

**SAR(1 g) = 1.04 W/kg; SAR(10 g) = 0.473 W/kg**



# PCTEST ENGINEERING LABORATORY, INC.

**DUT: BCGA2153; Type: Tablet Device; Serial: DLXXT00PLT65**

Communication System: UID 0, GSM GPRS; 2 Tx slots; Frequency: 824.2 MHz; Duty Cycle: 1:4.15

Medium: 835 Body Medium parameters used (interpolated):

$f = 824.2 \text{ MHz}$ ;  $\sigma = 0.991 \text{ S/m}$ ;  $\epsilon_r = 53.298$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-07-2019; Ambient Temp: 21.1°C; Tissue Temp: 19.7°C

Probe: ES3DV3 - SN3131; ConvF(6.14, 6.14, 6.14) @ 824.2 MHz; Calibrated: 3/13/2018;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn604; Calibrated: 3/7/2018

Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

**Mode: GPRS 850 Ant WF3, Body SAR, Back side, Low.ch, 2 Tx Slots**

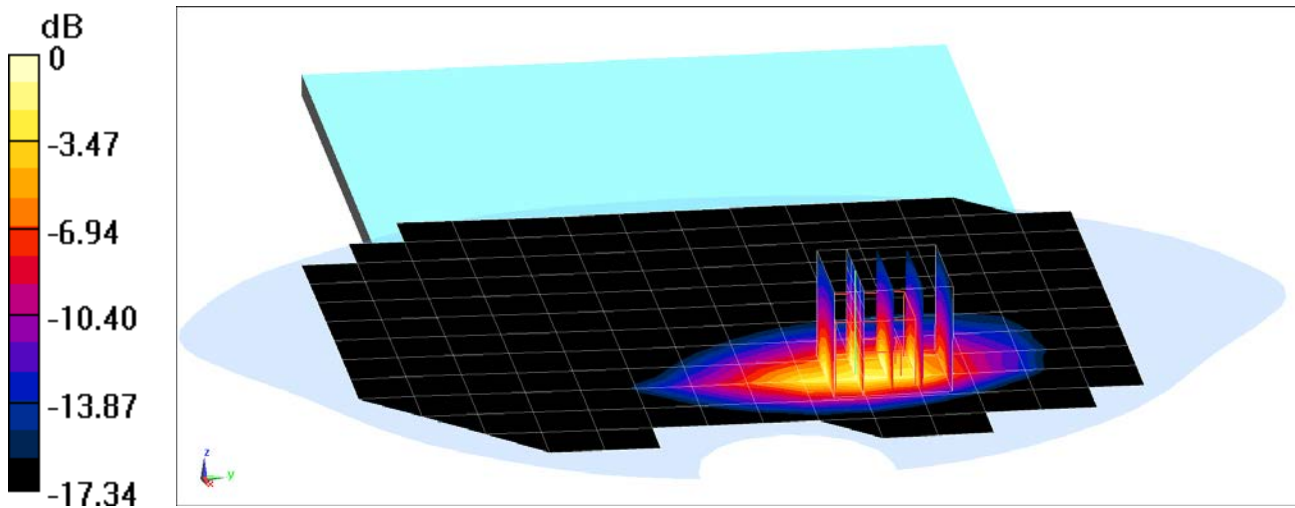
**Area Scan (14x15x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 32.31 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 2.84 W/kg

**SAR(1 g) = 1.03 W/kg; SAR(10 g) = 0.473 W/kg**



0 dB = 1.25 W/kg = 0.97 dBW/kg

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: BCGA2153; Type: Tablet Device; Serial: DLXXT00NLT65**

Communication System: UID 0, GSM GPRS; 2 Tx slots; Frequency: 1909.8 MHz; Duty Cycle: 1:4.15

Medium: 1900 Body Medium parameters used:

$f = 1910 \text{ MHz}$ ;  $\sigma = 1.587 \text{ S/m}$ ;  $\epsilon_r = 53.416$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-03-2019; Ambient Temp: 21.9°C; Tissue Temp: 20.1°C

Probe: EX3DV4 - SN7420; ConvF(7.7, 7.7, 7.7) @ 1909.8 MHz; Calibrated: 9/18/2018;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1449; Calibrated: 11/12/2018

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1596

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

**Mode: GPRS 1900 Ant WF3, Body SAR, Back side, High.ch, 2 Tx Slots**

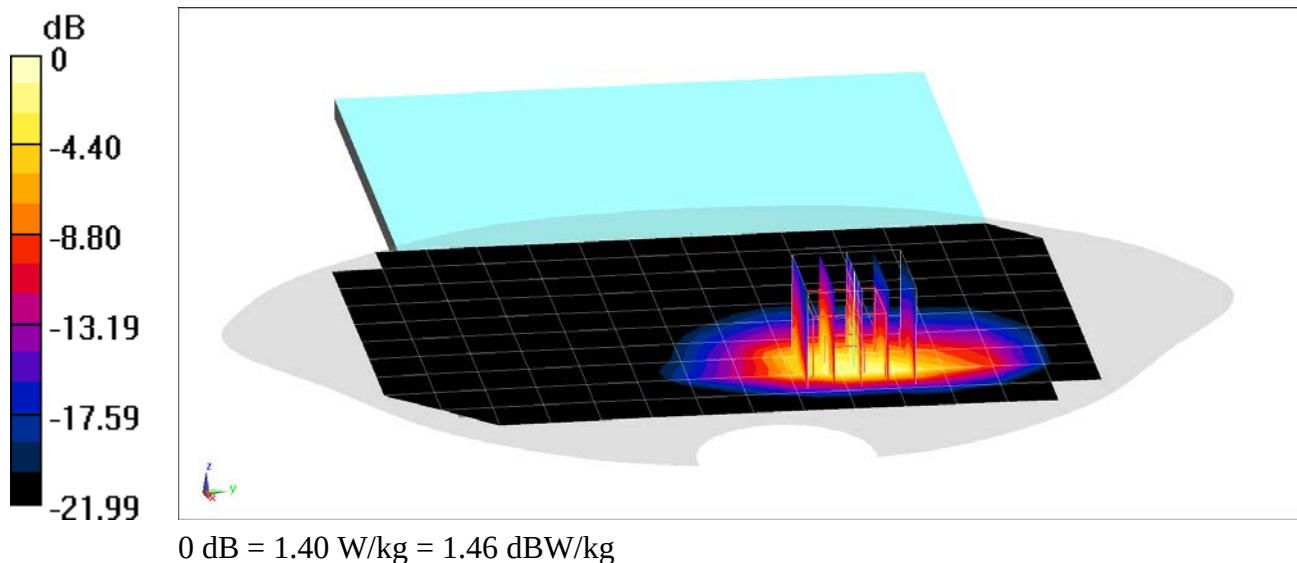
**Area Scan (11x15x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 24.44 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.72 W/kg

**SAR(1 g) = 0.830 W/kg; SAR(10 g) = 0.379 W/kg**



# PCTEST ENGINEERING LABORATORY, INC.

**DUT: BCGA2153; Type: Tablet Device; Serial: DLXXT01CLT65**

Communication System: UID 0, LTE Band 71; Frequency: 680.5 MHz; Duty Cycle: 1:1

Medium: 750 MHz Medium parameters used (interpolated):

$f = 680.5 \text{ MHz}$ ;  $\sigma = 0.92 \text{ S/m}$ ;  $\epsilon_r = 55.054$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-07-2019; Ambient Temp: 21.4°C; Tissue Temp: 19.6°C

Probe: ES3DV3 - SN3275; ConvF(6.34, 6.34, 6.34) @ 680.5 MHz; Calibrated: 4/12/2018;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/12/2018

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CD; Serial: 1736

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 71 Ant WF3, Body SAR, Back side, Mid.ch,  
20 MHz Bandwidth, QPSK, 100 RB, 0 RB Offset**

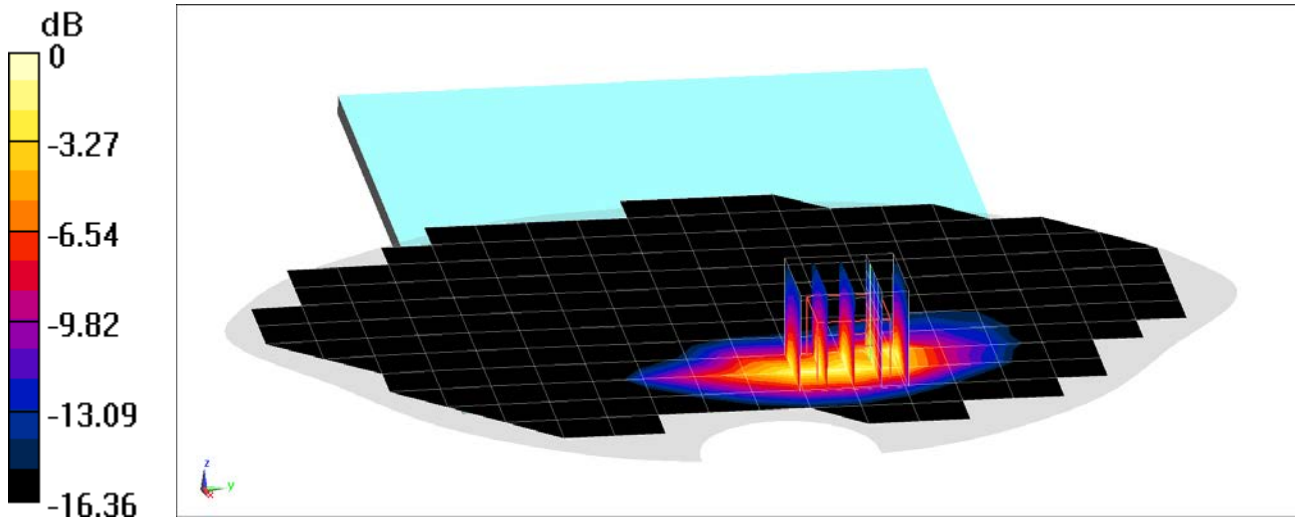
**Area Scan (15x19x1):** Measurement grid: dx=15mm, dy=15mm

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 32.89 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 2.76 W/kg

**SAR(1 g) = 1 W/kg; SAR(10 g) = 0.476 W/kg**



0 dB = 1.35 W/kg = 1.30 dBW/kg

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: BCGA2153; Type: Tablet Device; Serial: DLXXT00PLT65**

Communication System: UID 0, LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1

Medium: 750 MHz Medium parameters used (interpolated):

$f = 707.5 \text{ MHz}$ ;  $\sigma = 0.927 \text{ S/m}$ ;  $\epsilon_r = 55.209$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-04-2019; Ambient Temp: 22.3°C; Tissue Temp: 20.0°C

Probe: ES3DV3 - SN3275; ConvF(6.34, 6.34, 6.34) @ 707.5 MHz; Calibrated: 4/12/2018;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/12/2018

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CD; Serial: 1736

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 12 Ant WF3, Body SAR, Back side, Mid.ch,  
10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

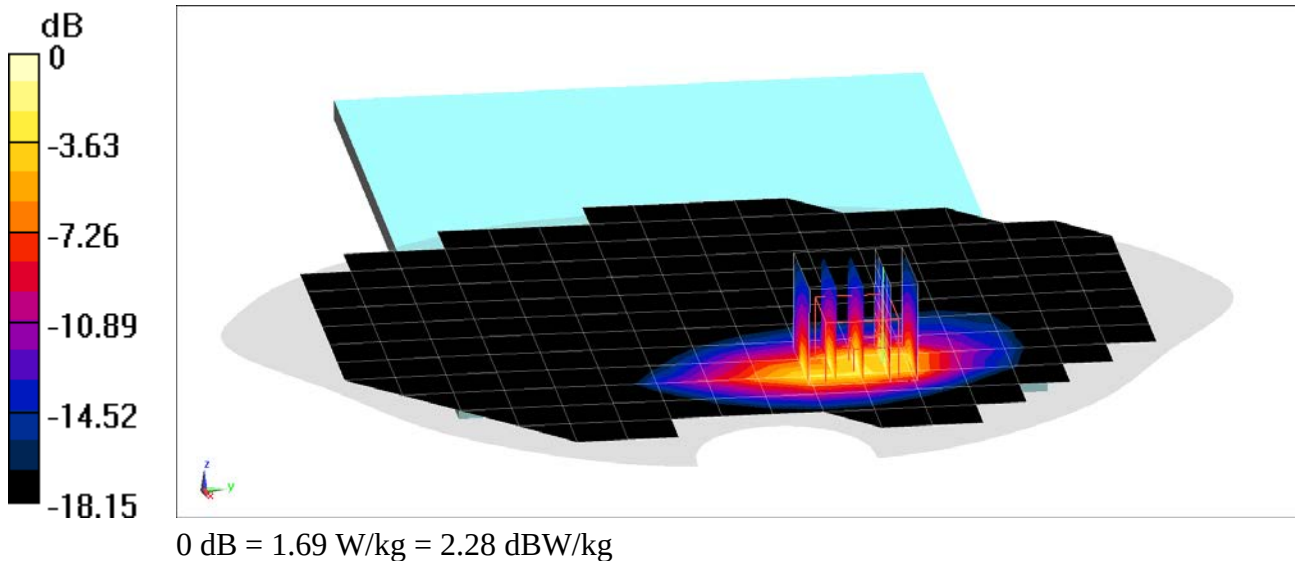
**Area Scan (15x17x1):** Measurement grid: dx=15mm, dy=15mm

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 37.58 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 3.40 W/kg

**SAR(1 g) = 1.18 W/kg; SAR(10 g) = 0.521 W/kg**



# PCTEST ENGINEERING LABORATORY, INC.

**DUT: BCGA2153; Type: Tablet Device; Serial: DLXXT01CLT65**

Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: 750 MHz Medium parameters used (interpolated):

$f = 782 \text{ MHz}$ ;  $\sigma = 0.958 \text{ S/m}$ ;  $\epsilon_r = 54.817$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-07-2019; Ambient Temp: 21.4°C; Tissue Temp: 19.6°C

Probe: ES3DV3 - SN3275; ConvF(6.34, 6.34, 6.34) @ 782 MHz; Calibrated: 4/12/2018;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/12/2018

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CD; Serial: 1736

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 13 Ant WF3, Body SAR, Back side, Mid.ch,  
10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

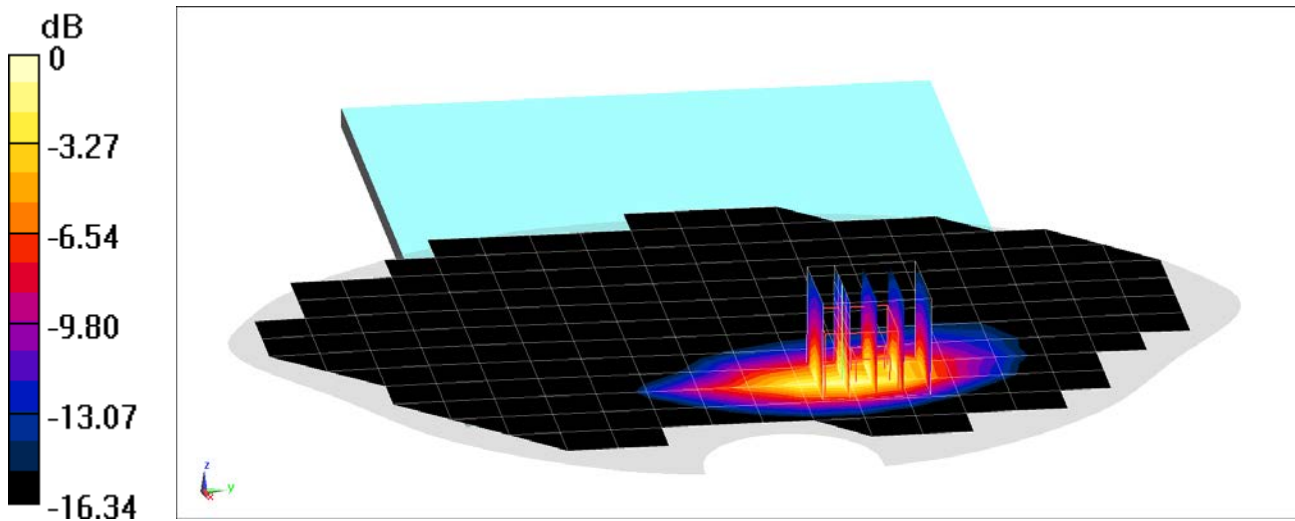
**Area Scan (15x19x1):** Measurement grid: dx=15mm, dy=15mm

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 34.01 V/m; Power Drift = 0.20 dB

Peak SAR (extrapolated) = 2.79 W/kg

**SAR(1 g) = 1.09 W/kg; SAR(10 g) = 0.536 W/kg**



0 dB = 1.35 W/kg = 1.30 dBW/kg

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: BCGA2153; Type: Tablet Device; Serial: DLXXT01CLT65**

Communication System: UID 0, LTE Band 14; Frequency: 793 MHz; Duty Cycle: 1:1

Medium: 750 MHz Medium parameters used (interpolated):

$f = 793 \text{ MHz}$ ;  $\sigma = 0.962 \text{ S/m}$ ;  $\epsilon_r = 54.794$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-07-2019; Ambient Temp: 21.4°C; Tissue Temp: 19.6°C

Probe: ES3DV3 - SN3275; ConvF(6.34, 6.34, 6.34) @ 793 MHz; Calibrated: 4/12/2018;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/12/2018

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CD; Serial: 1736

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 14 Ant WF3, Body SAR, Back side, Mid.ch,  
10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

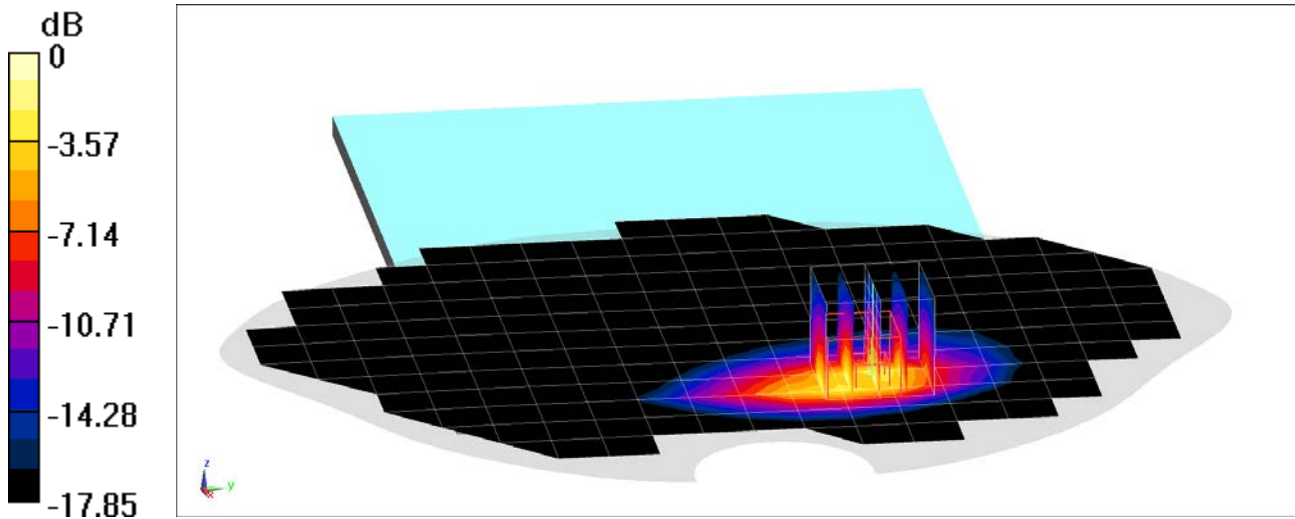
**Area Scan (15x19x1):** Measurement grid: dx=15mm, dy=15mm

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 32.71 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 2.50 W/kg

**SAR(1 g) = 0.918 W/kg; SAR(10 g) = 0.425 W/kg**



0 dB = 1.27 W/kg = 1.04 dBW/kg

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: BCGA2153; Type: Tablet Device; Serial: DLXXT00QLT64**

Communication System: UID 0, LTE Band 5; Frequency: 836.5 MHz; Duty Cycle: 1:1

Medium: 835 Body Medium parameters used (interpolated):

$f = 836.5 \text{ MHz}$ ;  $\sigma = 0.995 \text{ S/m}$ ;  $\epsilon_r = 53.025$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-09-2019; Ambient Temp: 23.4°C; Tissue Temp: 21.5°C

Probe: ES3DV3 - SN3131; ConvF(6.14, 6.14, 6.14) @ 836.5 MHz; Calibrated: 3/13/2018;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn604; Calibrated: 3/7/2018

Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 5 (Cell.) Ant WF3, Body SAR, Back side, Mid.ch,  
10 MHz Bandwidth, QPSK, 50 RB, 0 RB Offset**

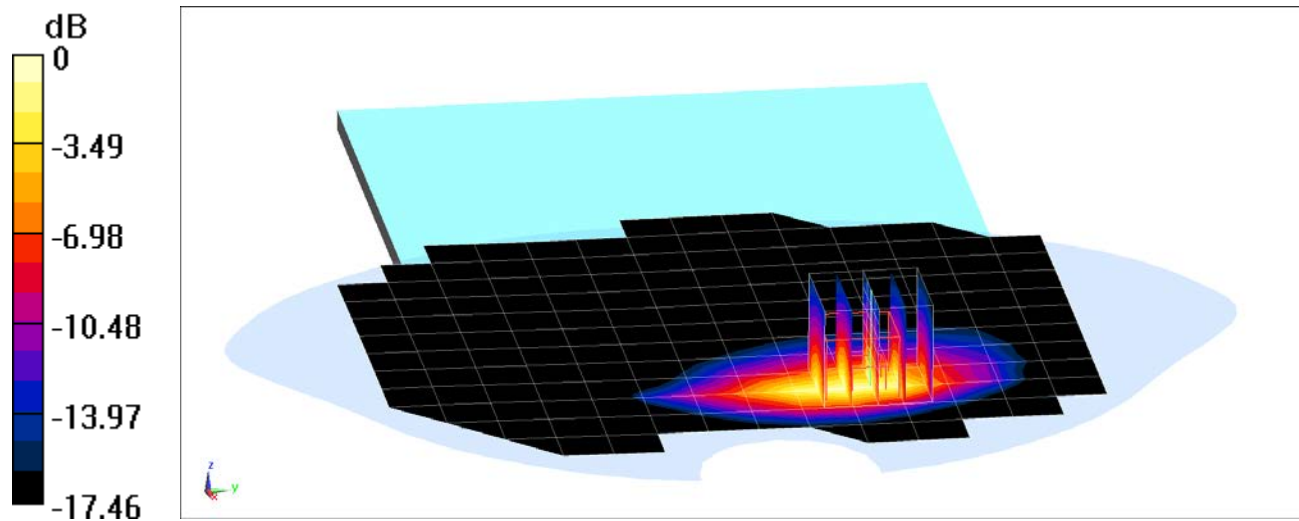
**Area Scan (15x15x1):** Measurement grid: dx=15mm, dy=15mm

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 35.76 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 3.17 W/kg

**SAR(1 g) = 1.18 W/kg; SAR(10 g) = 0.547 W/kg**



0 dB = 1.47 W/kg = 1.67 dBW/kg

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: BCGA2153; Type: Tablet Device; Serial: DLXXT00PLT65**

Communication System: UID 0, \_LTE Band 26; Frequency: 819 MHz; Duty Cycle: 1:1

Medium: 835 Body Medium parameters used (interpolated):

$f = 819 \text{ MHz}$ ;  $\sigma = 0.986 \text{ S/m}$ ;  $\epsilon_r = 53.359$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-07-2019; Ambient Temp: 21.1°C; Tissue Temp: 19.7°C

Probe: ES3DV3 - SN3131; ConvF(6.14, 6.14, 6.14) @ 819 MHz; Calibrated: 3/13/2018;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn604; Calibrated: 3/7/2018

Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 26 (Cell.) Ant WF3, Body SAR, Back side, Low.ch,  
10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

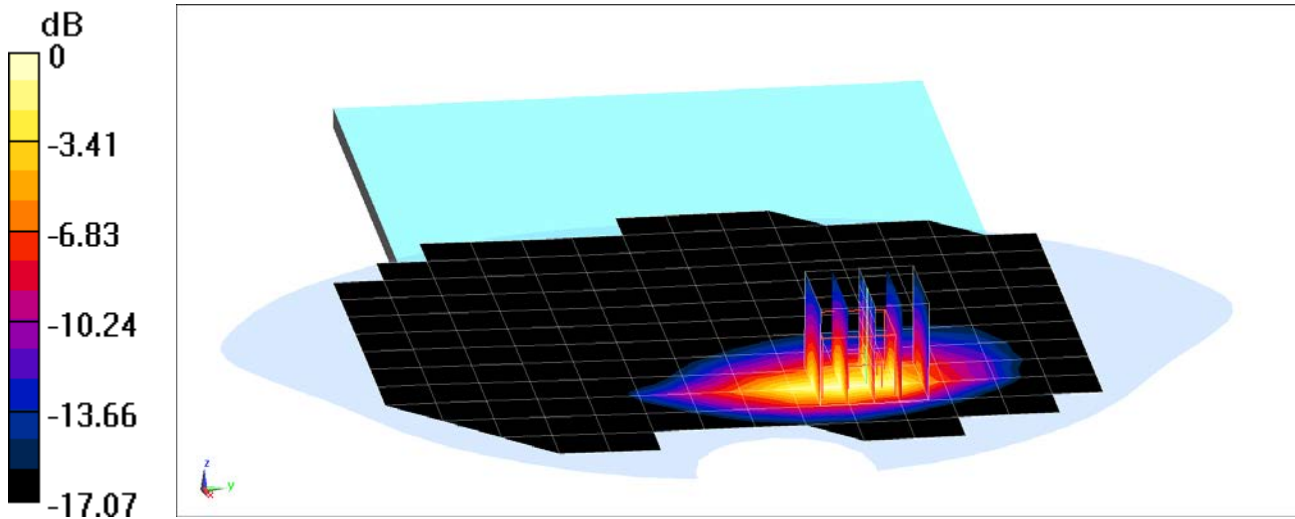
**Area Scan (15x15x1):** Measurement grid: dx=15mm, dy=15mm

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 33.90 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 3.19 W/kg

**SAR(1 g) = 1.15 W/kg; SAR(10 g) = 0.520 W/kg**



0 dB = 1.49 W/kg = 1.73 dBW/kg

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: BCGA2153; Type: Tablet Device; Serial: DLXXT018LT65**

Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1770 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used (interpolated):

$f = 1770 \text{ MHz}$ ;  $\sigma = 1.542 \text{ S/m}$ ;  $\epsilon_r = 51.811$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-02-2019; Ambient Temp: 22.2°C; Tissue Temp: 19.0°C

Probe: ES3DV3 - SN3329; ConvF(5.04, 5.04, 5.04) @ 1770 MHz; Calibrated: 2/13/2018;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/8/2018

Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 66 (AWS) Ant WF3, Body SAR, Back side, High.ch,  
20 MHz Bandwidth, QPSK, 1 RB, 99 RB Offset**

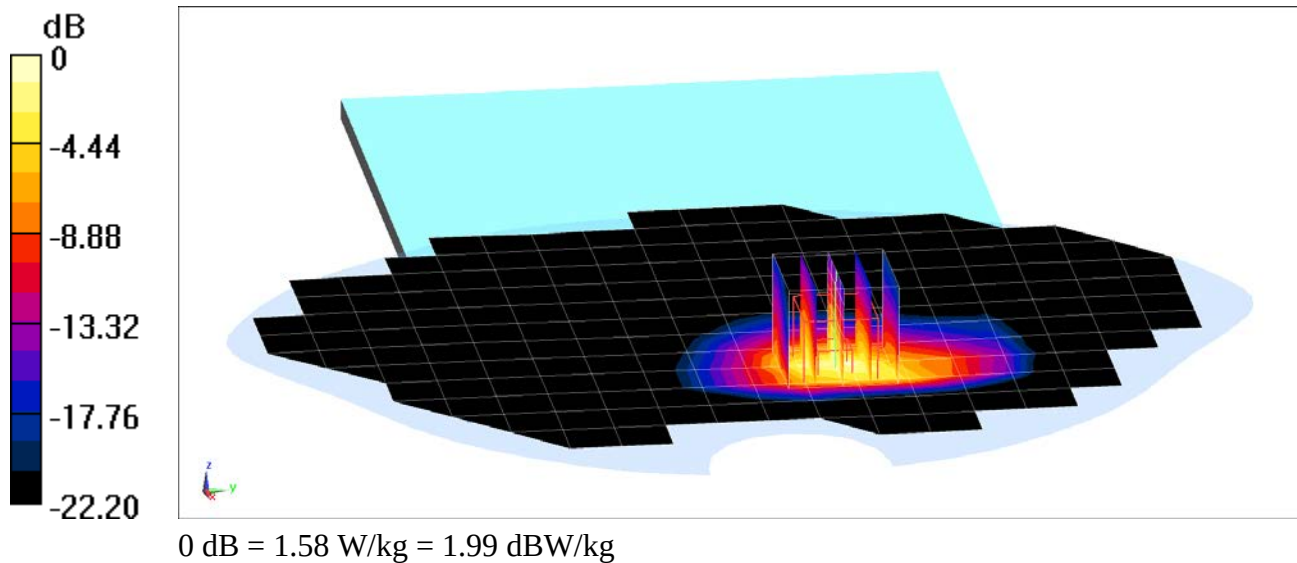
**Area Scan (15x19x1):** Measurement grid: dx=15mm, dy=15mm

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 31.19 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 2.19 W/kg

**SAR(1 g) = 1.17 W/kg; SAR(10 g) = 0.544 W/kg**



# PCTEST ENGINEERING LABORATORY, INC.

**DUT: BCGA2153; Type: Tablet Device; Serial: 0DLXXT00NLT65**

Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1905 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1905 \text{ MHz}$ ;  $\sigma = 1.583 \text{ S/m}$ ;  $\epsilon_r = 53.425$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-03-2019; Ambient Temp: 21.9°C; Tissue Temp: 20.1°C

Probe: EX3DV4 - SN7420; ConvF(7.7, 7.7, 7.7) @ 1905 MHz; Calibrated: 9/18/2018;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1449; Calibrated: 11/12/2018

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1596

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 25 (PCS) Ant WF3, Body SAR, Back side, High.ch,  
20 MHz Bandwidth, QPSK, 1 RB, 99 RB Offset**

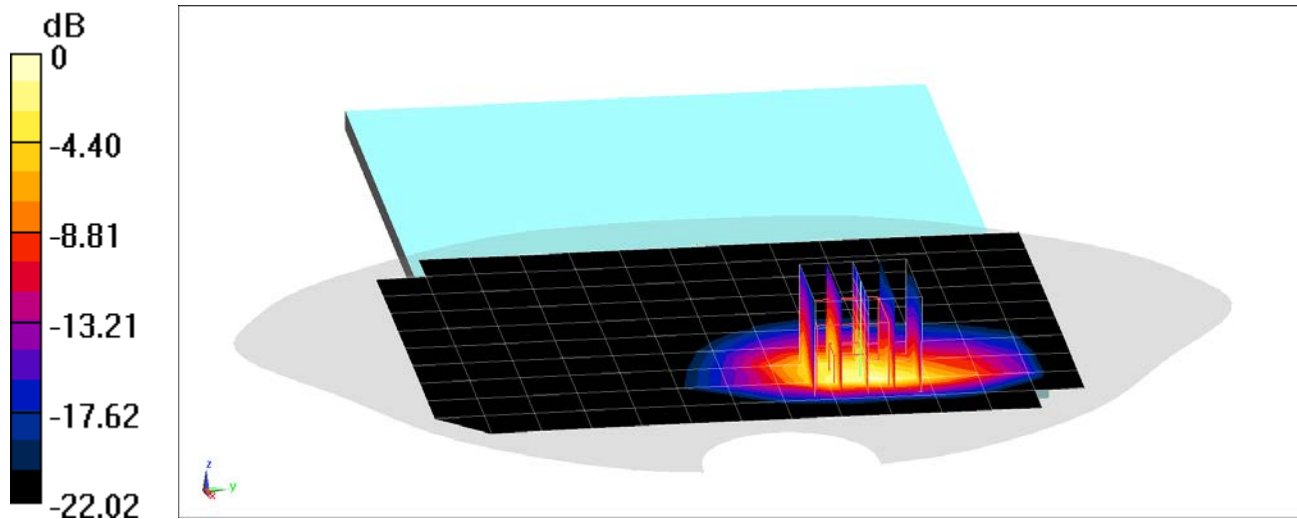
**Area Scan (11x14x1):** Measurement grid: dx=15mm, dy=15mm

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 25.63 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 2.04 W/kg

**SAR(1 g) = 0.960 W/kg; SAR(10 g) = 0.430 W/kg**



0 dB = 1.61 W/kg = 2.07 dBW/kg

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: BCGA2153; Type: Tablet Device; Serial: DLXXT00NLT65**

Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1

Medium: 2300 Body Medium parameters used:

$f = 2310 \text{ MHz}$ ;  $\sigma = 1.866 \text{ S/m}$ ;  $\epsilon_r = 51.801$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-07-2019; Ambient Temp: 24.9°C; Tissue Temp: 20.8°C

Probe: ES3DV3 - SN3119; ConvF(4.52, 4.52, 4.52) @ 2310 MHz; Calibrated: 5/18/2018;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 5/17/2018

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 30 Ant WF3, Body SAR, Back side, Mid.ch,  
10 MHz Bandwidth, QPSK, 50 RB, 0 RB Offset**

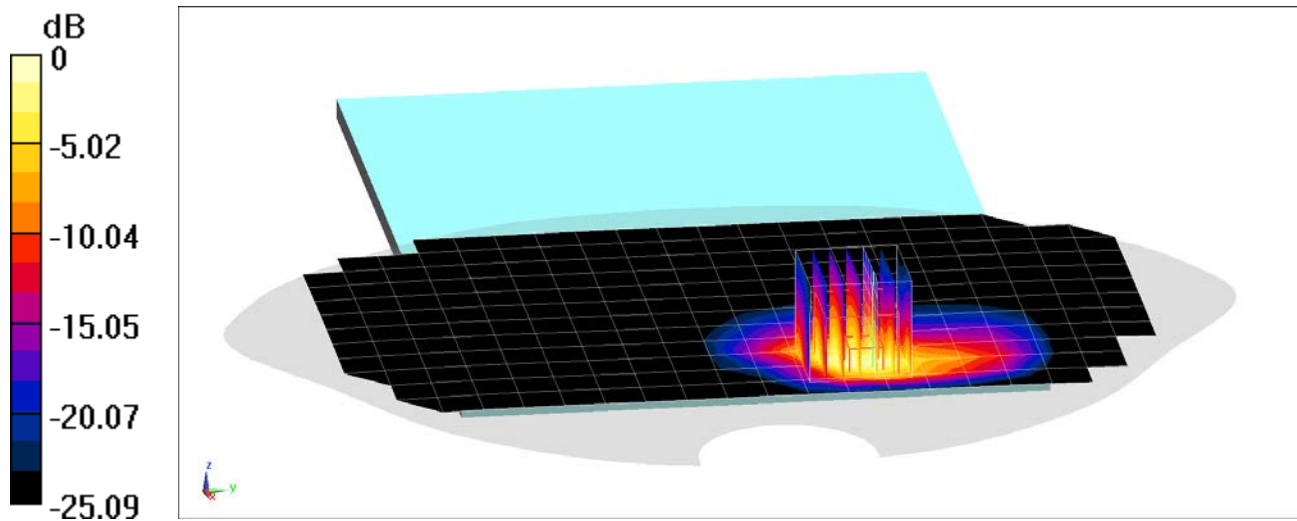
**Area Scan (13x21x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 24.70 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 2.26 W/kg

**SAR(1 g) = 1 W/kg; SAR(10 g) = 0.428 W/kg**



0 dB = 1.45 W/kg = 1.61 dBW/kg

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: BCGA2153; Type: Tablet Device; Serial: DLXXV008LT64**

Communication System: UID 0, LTE Band 7; Frequency: 2560 MHz; Duty Cycle: 1:1

Medium: 2450-2600 Medium parameters used (interpolated):

$f = 2560 \text{ MHz}$ ;  $\sigma = 2.137 \text{ S/m}$ ;  $\epsilon_r = 50.729$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-14-2019; Ambient Temp: 23.0°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7420; ConvF(7.22, 7.22, 7.22) @ 2560 MHz; Calibrated: 9/18/2018;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1449; Calibrated: 11/12/2018

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1596

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 7 Ant WF3, Body SAR, Back side, High.ch,  
20 MHz Bandwidth, QPSK, 50 RB, 0 RB Offset**

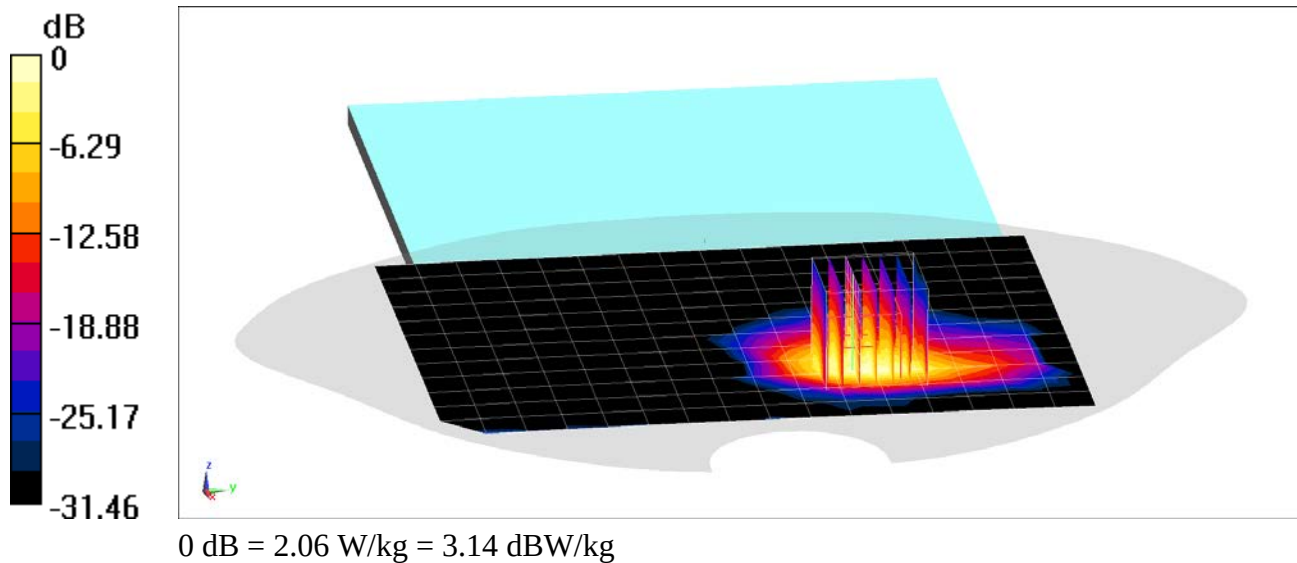
**Area Scan (13x17x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 23.69 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 2.82 W/kg

**SAR(1 g) = 1.12 W/kg; SAR(10 g) = 0.450 W/kg**



# PCTEST ENGINEERING LABORATORY, INC.

**DUT: BCGA2153; Type: Tablet Device; Serial: DLXXT018LT65**

Communication System: UID 0, LTE Band 41; Frequency: 2636.5 MHz; Duty Cycle: 1:1.58

Medium: 2450-2600 Body Medium parameters used (interpolated):

$f = 2636.5$  MHz;  $\sigma = 2.21$  S/m;  $\epsilon_r = 51.31$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-07-2019; Ambient Temp: 21.5°C; Tissue Temp: 20.0°C

Probe: EX3DV4 - SN7416; ConvF(7.23, 7.23, 7.23) @ 2636.5 MHz; Calibrated: 7/20/2018;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1402; Calibrated: 7/10/2018

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CA; Serial: 1275

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

**Mode: LTE Band 41 Ant WF5, Body SAR, Back side, Mid-High.ch,  
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

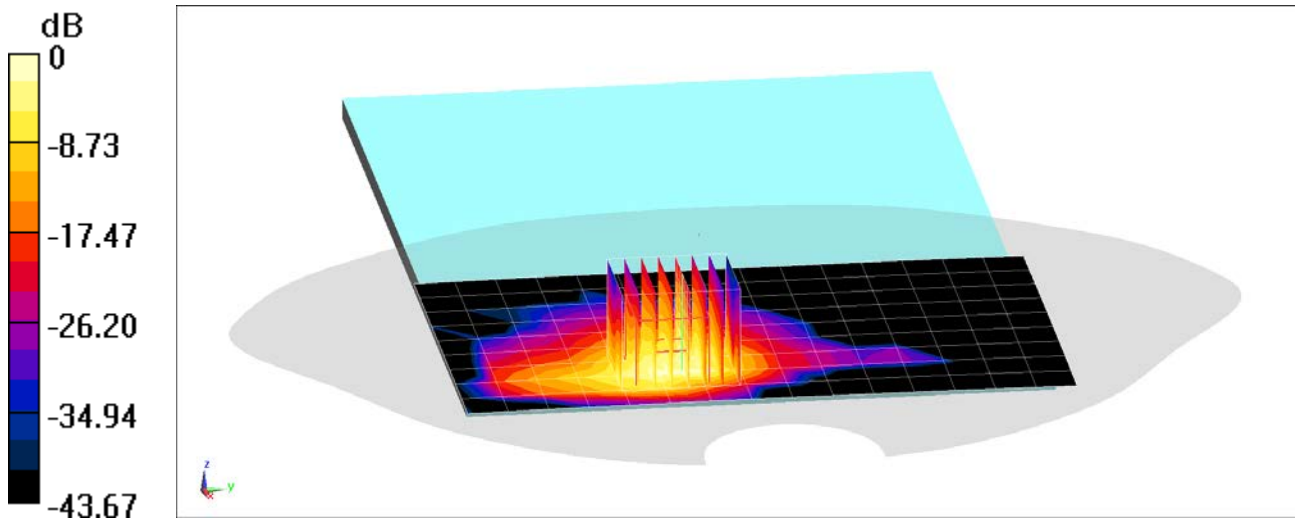
**Area Scan (10x16x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x8x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 23.55 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 3.10 W/kg

**SAR(1 g) = 1.1 W/kg; SAR(10 g) = 0.470 W/kg**



0 dB = 2.29 W/kg = 3.60 dBW/kg

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: BCGA2153; Type: Tablet Device; Serial: DLXXT00YLT65**

Communication System: UID 0, \_IEEE 802.11b; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: 2450 Body Medium parameters used (interpolated):

$f = 2437 \text{ MHz}$ ;  $\sigma = 2.015 \text{ S/m}$ ;  $\epsilon_r = 50.942$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-02-2019; Ambient Temp: 21.7°C; Tissue Temp: 21.6°C

Probe: ES3DV3 - SN3119; ConvF(4.42, 4.42, 4.42) @ 2437 MHz; Calibrated: 5/18/2018;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 5/17/2018

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

**Mode: IEEE 802.11b Ant WF2 Variant 2, 22 MHz Bandwidth,  
Body SAR, Ch 6, 1 Mbps, Bottom Edge**

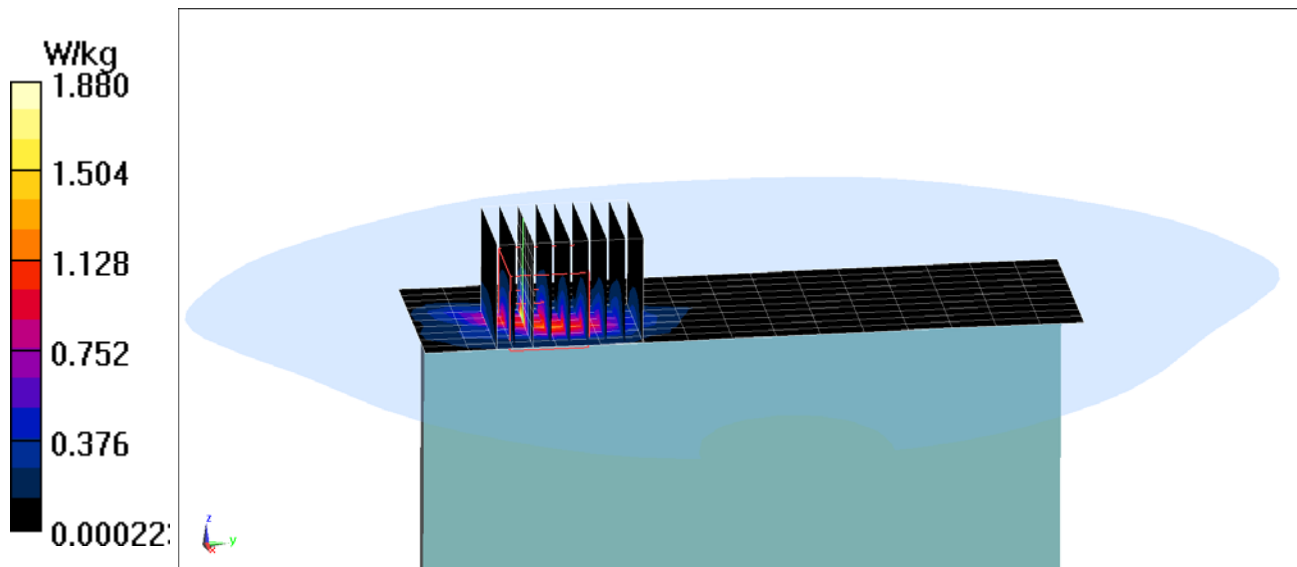
**Area Scan (11x16x1):** Measurement grid: dx=5mm, dy=12mm

**Zoom Scan (8x8x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 28.11 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 3.96 W/kg

**SAR(1 g) = 1.17 W/kg; SAR(10 g) = 0.433 W/kg**



# PCTEST ENGINEERING LABORATORY, INC.

**DUT: BCGA2153; Type: Tablet Device; Serial: DLXXT00YLT65**

Communication System: UID 0, \_IEEE 802.11n; Frequency: 5230 MHz; Duty Cycle: 1:1

Medium: 5GHz Body Medium parameters used (interpolated):

$f = 5230 \text{ MHz}$ ;  $\sigma = 5.484 \text{ S/m}$ ;  $\epsilon_r = 47.873$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-07-2019; Ambient Temp: 22.9°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7491; ConvF(4.82, 4.82, 4.82) @ 5230 MHz; Calibrated: 7/20/2018;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1364; Calibrated: 10/18/2018

Phantom: Twin-SAM V8.0\_Left; Type: QD 000 P41 AA; Serial: 1935

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

**Mode: IEEE 802.11n Ant WF2 Variant 2, U-NII-1, 40 MHz Bandwidth,  
Body SAR, Ch 46, 13.5 Mbps, Bottom Edge**

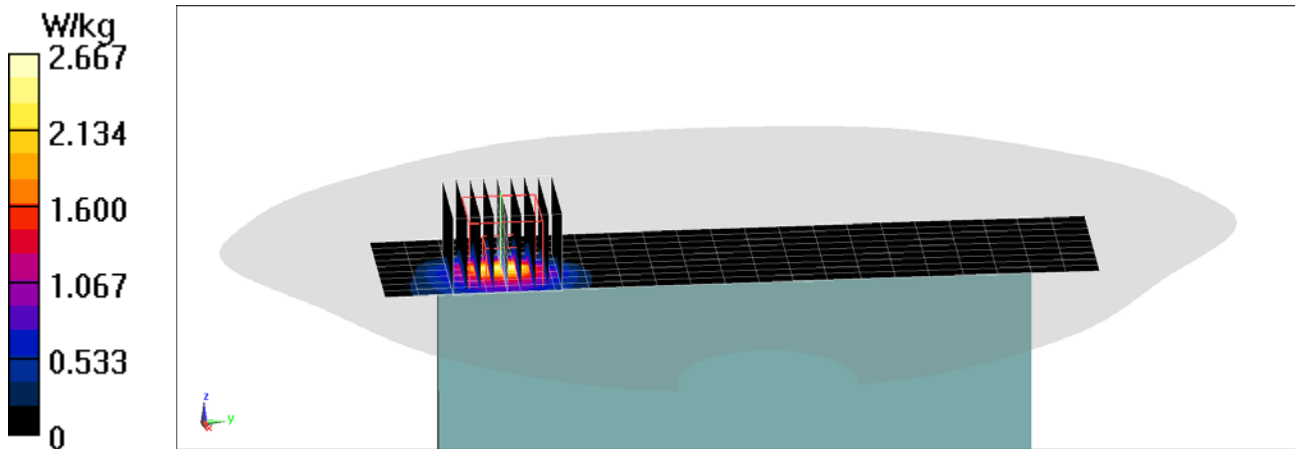
**Area Scan (10x22x1):** Measurement grid: dx=5mm, dy=10mm

**Zoom Scan (9x9x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4

Reference Value = 15.68 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 4.64 W/kg

**SAR(1 g) = 1.16 W/kg; SAR(10 g) = 0.382 W/kg**



# PCTEST ENGINEERING LABORATORY, INC.

**DUT: BCGA2153; Type: Tablet Device; Serial: DLXXT00YLT65**

Communication System: UID 0, Bluetooth; Frequency: 2402 MHz; Duty Cycle: 1:1.300

Medium: 2450 Body Medium parameters used (interpolated):

$f = 2402 \text{ MHz}$ ;  $\sigma = 1.996 \text{ S/m}$ ;  $\epsilon_r = 52.157$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 01-04-2019; Ambient Temp: 21.5°C; Tissue Temp: 19.8°C

Probe: EX3DV4 - SN7416; ConvF(7.31, 7.31, 7.31) @ 2402 MHz; Calibrated: 7/20/2018;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1402; Calibrated: 7/10/2018

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CA; Serial: 1275

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

**Mode: Bluetooth Ant WF1 Variant 2, Body SAR, Ch 0, 1 Mbps, Bottom Edge**

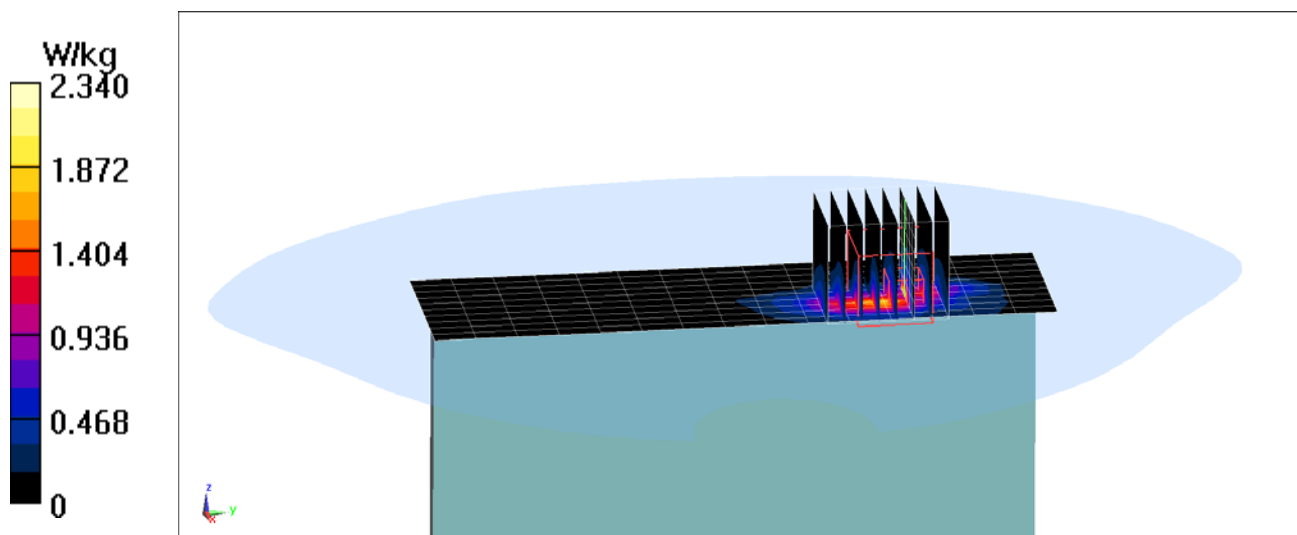
**Area Scan (11x16x1):** Measurement grid:  $dx=5\text{mm}$ ,  $dy=12\text{mm}$

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 23.81 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 3.84 W/kg

**SAR(1 g) = 1.14 W/kg; SAR(10 g) = 0.405 W/kg**



## APPENDIX B: SYSTEM VERIFICATION

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: Dipole 750 MHz; Type: D750V3; Serial: 1057**

Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: 750 MHz Medium parameters used (interpolated):

$f = 750 \text{ MHz}$ ;  $\sigma = 0.941 \text{ S/m}$ ;  $\epsilon_r = 55.117$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01-04-2019; Ambient Temp: 22.3°C; Tissue Temp: 20.0°C

Probe: ES3DV3 - SN3275; ConvF(6.34, 6.34, 6.34) @ 750 MHz; Calibrated: 4/12/2018

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/12/2018

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CD; Serial: 1736

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

## **750 MHz System Verification at 23.0 dBm (200 mW)**

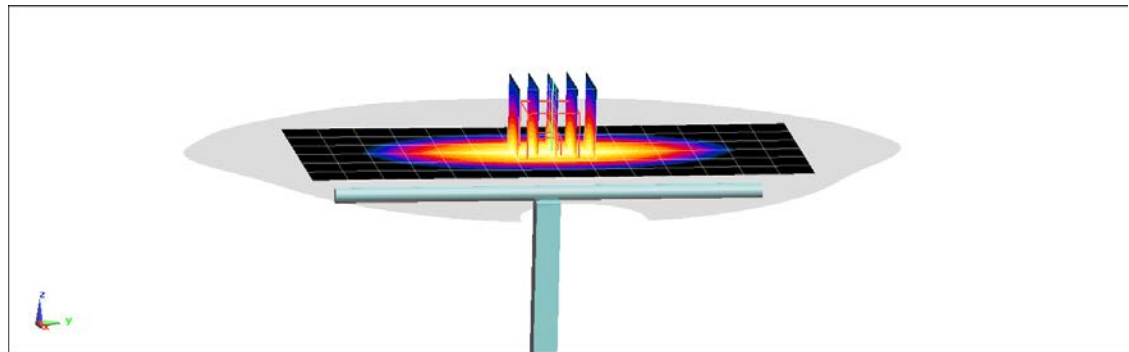
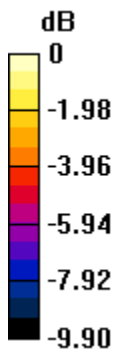
**Area Scan (7x15x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Peak SAR (extrapolated) = 2.58 W/kg

**SAR(1 g) = 1.75 W/kg; SAR(10 g) = 1.17 W/kg**

Deviation(1 g) = -0.46%



0 dB = 2.04 W/kg = 3.10 dBW/kg

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: Dipole 750 MHz; Type: D750V3; Serial: 1097**

Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: 750 MHz Medium parameters used (interpolated):

$f = 750 \text{ MHz}$ ;  $\sigma = 0.945 \text{ S/m}$ ;  $\epsilon_r = 54.856$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01-07-2019; Ambient Temp: 21.4°C; Tissue Temp: 19.6°C

Probe: ES3DV3 - SN3275; ConvF(6.34, 6.34, 6.34) @ 750 MHz; Calibrated: 4/12/2018

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/12/2018

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CD; Serial: 1736

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

## 750 MHz System Verification at 23.0 dBm (200 mW)

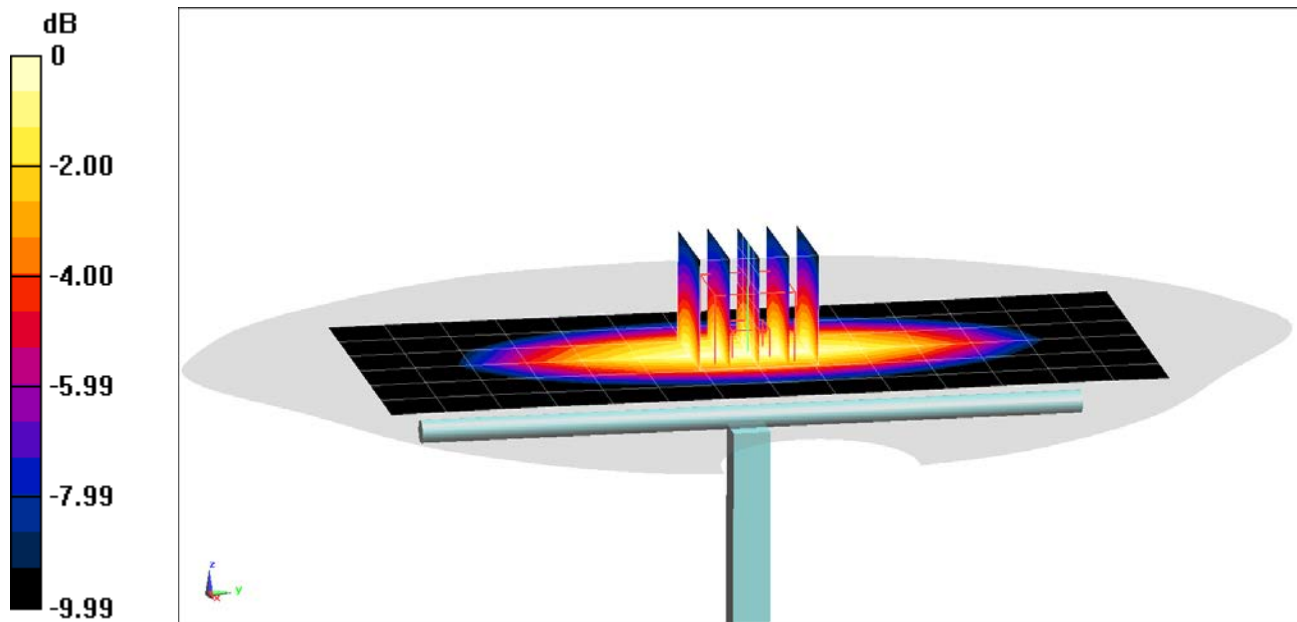
**Area Scan (7x15x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Peak SAR (extrapolated) = 2.58 W/kg

**SAR(1 g) = 1.76 W/kg; SAR(10 g) = 1.18 W/kg**

Deviation(1 g) = 2.80%



0 dB = 2.05 W/kg = 3.12 dBW/kg

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d180**

Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: 835 Body Medium parameters used:

$f = 835 \text{ MHz}$ ;  $\sigma = 0.994 \text{ S/m}$ ;  $\epsilon_r = 53.04$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 01-09-2019; Ambient Temp: 23.4°C; Tissue Temp: 21.5°C

Probe: ES3DV3 - SN3131; ConvF(6.14, 6.14, 6.14) @ 835 MHz; Calibrated: 3/13/2018

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn604; Calibrated: 3/7/2018

Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

## **835 MHz System Verification at 23.0 dBm (200 mW)**

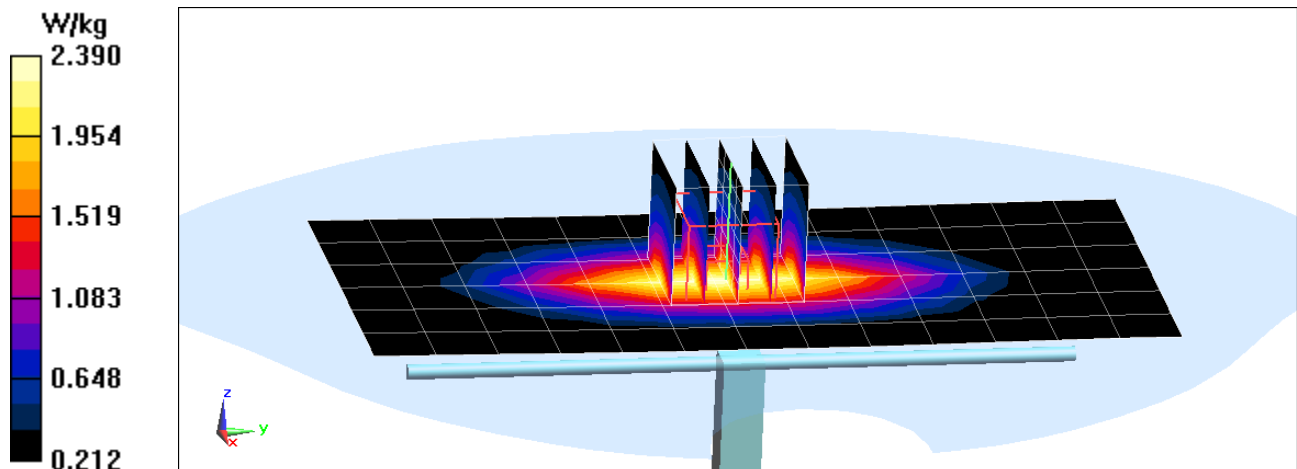
**Area Scan (7x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Peak SAR (extrapolated) = 3.04 W/kg

**SAR(1 g) = 2.05 W/kg; SAR(10 g) = 1.34 W/kg**

Deviation(1 g) = 6.88%



# PCTEST ENGINEERING LABORATORY, INC.

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1092**

Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used:

$f = 1750 \text{ MHz}$ ;  $\sigma = 1.523 \text{ S/m}$ ;  $\epsilon_r = 51.868$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-02-2019; Ambient Temp: 22.2°C; Tissue Temp: 19.0°C

Probe: ES3DV3 - SN3329; ConvF(5.04, 5.04, 5.04) @ 1750 MHz; Calibrated: 2/13/2018

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/8/2018

Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

## 1750 MHz System Verification at 20.0 dBm (100 mW)

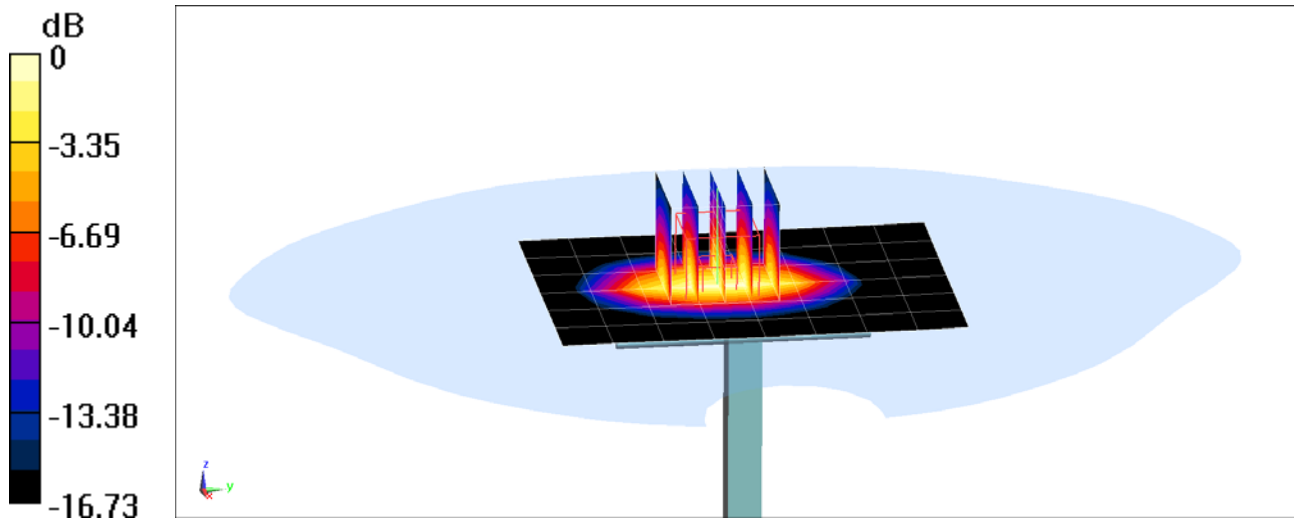
**Area Scan (7x9x1):** Measurement grid: dx=15mm, dy=15mm

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Peak SAR (extrapolated) = 6.84 W/kg

**SAR(1 g) = 3.88 W/kg; SAR(10 g) = 2.06 W/kg**

Deviation(1 g) = 6.59%



0 dB = 4.92 W/kg = 6.92 dBW/kg

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d026**

Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1900 \text{ MHz}$ ;  $\sigma = 1.58 \text{ S/m}$ ;  $\epsilon_r = 53.434$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-03-2019; Ambient Temp: 21.9°C; Tissue Temp: 20.1°C

Probe: EX3DV4 - SN7420; ConvF(7.7, 7.7, 7.7) @ 1900 MHz; Calibrated: 9/18/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1449; Calibrated: 11/12/2018

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1596

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

## 1900 MHz System Verification at 20.0 dBm (100 mW)

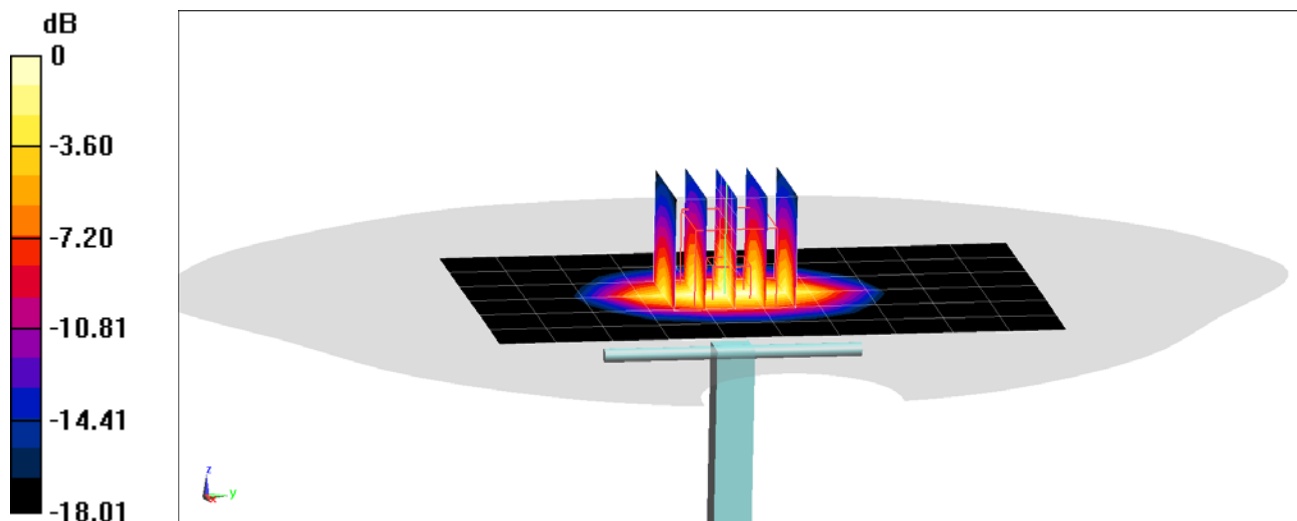
**Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Peak SAR (extrapolated) = 7.53 W/kg

**SAR(1 g) = 4.13 W/kg; SAR(10 g) = 2.15 W/kg**

Deviation(1 g) = 3.51%



# PCTEST ENGINEERING LABORATORY, INC.

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d180**

Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1900 \text{ MHz}$ ;  $\sigma = 1.588 \text{ S/m}$ ;  $\epsilon_r = 50.849$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-04-2019; Ambient Temp: 23.5°C; Tissue Temp: 23.4°C

Probe: ES3DV3 - SN3329; ConvF(4.84, 4.84, 4.84) @ 1900 MHz; Calibrated: 2/13/2018

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/8/2018

Phantom: SAM Main; Type: SAM 4.0; Serial: TP-1406

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

## **1900 MHz System Verification at 20.0 dBm (100 mW)**

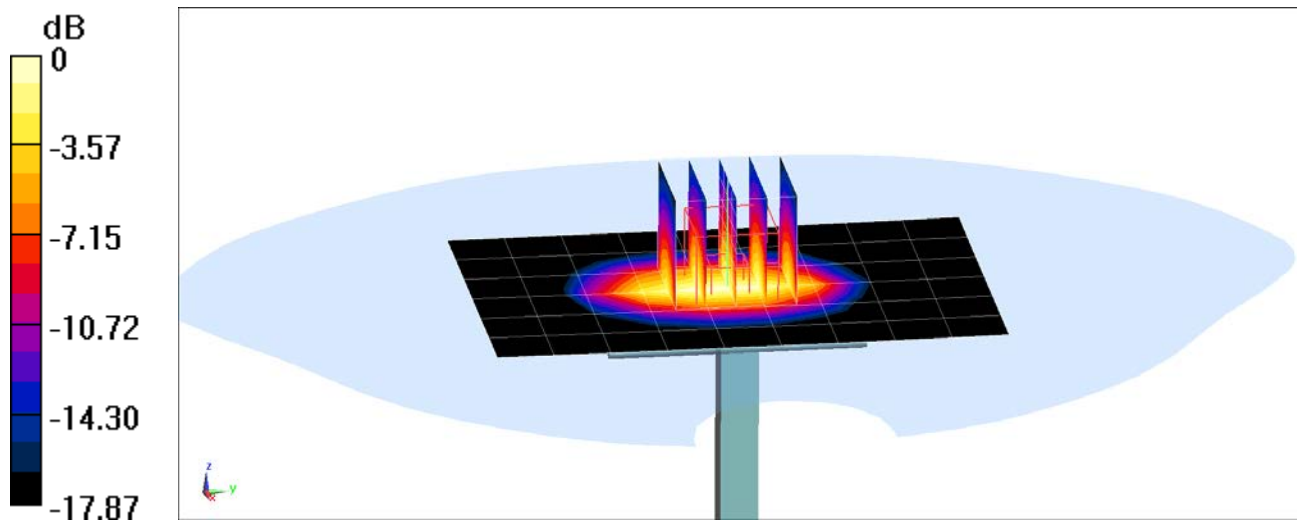
**Area Scan (7x10x1):** Measurement grid: dx=15mm, dy=15mm

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Peak SAR (extrapolated) = 7.53 W/kg

**SAR(1 g) = 4.2 W/kg; SAR(10 g) = 2.17 W/kg**

Deviation(1 g) = 6.33%



0 dB = 5.40 W/kg = 7.32 dBW/kg

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: Dipole 2300 MHz; Type: D2300V2; Serial: 1038**

Communication System: UID 0, CW; Frequency: 2300 MHz; Duty Cycle: 1:1

Medium: 2300 Body Medium parameters used:

$f = 2300 \text{ MHz}$ ;  $\sigma = 1.854 \text{ S/m}$ ;  $\epsilon_r = 51.833$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-07-2019; Ambient Temp: 24.9°C; Tissue Temp: 20.8°C

Probe: ES3DV3 - SN3119; ConvF(4.52, 4.52, 4.52) @ 2300 MHz; Calibrated: 5/18/2018

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 5/17/2018

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

## 2300 MHz System Verification at 20.0 dBm (100 mW)

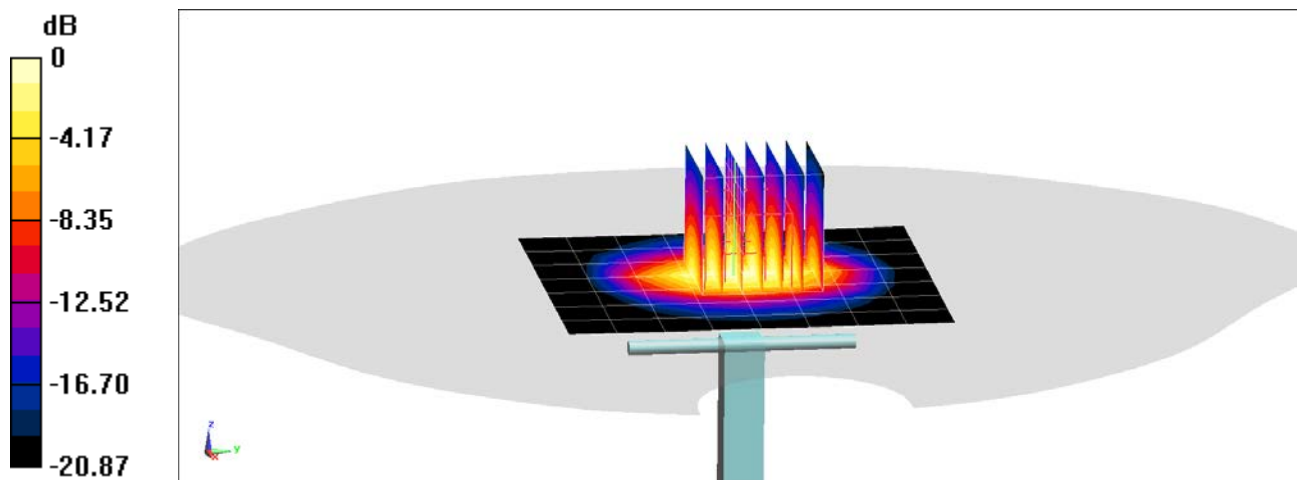
**Area Scan (8x9x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Peak SAR (extrapolated) = 8.84 W/kg

**SAR(1 g) = 4.52 W/kg; SAR(10 g) = 2.16 W/kg**

Deviation(1 g) = -3.21%



0 dB = 5.84 W/kg = 7.66 dBW/kg

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 750**

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: 2450 Body Medium parameters used:

$f = 2450 \text{ MHz}$ ;  $\sigma = 2.03 \text{ S/m}$ ;  $\epsilon_r = 50.906$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-02-2019; Ambient Temp: 21.7°C; Tissue Temp: 21.6°C

Probe: ES3DV3 - SN3119; ConvF(4.42, 4.42, 4.42) @ 2450 MHz; Calibrated: 5/18/2018

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 5/17/2018

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

## 2450 MHz System Verification at 20.0 dBm (100 mW)

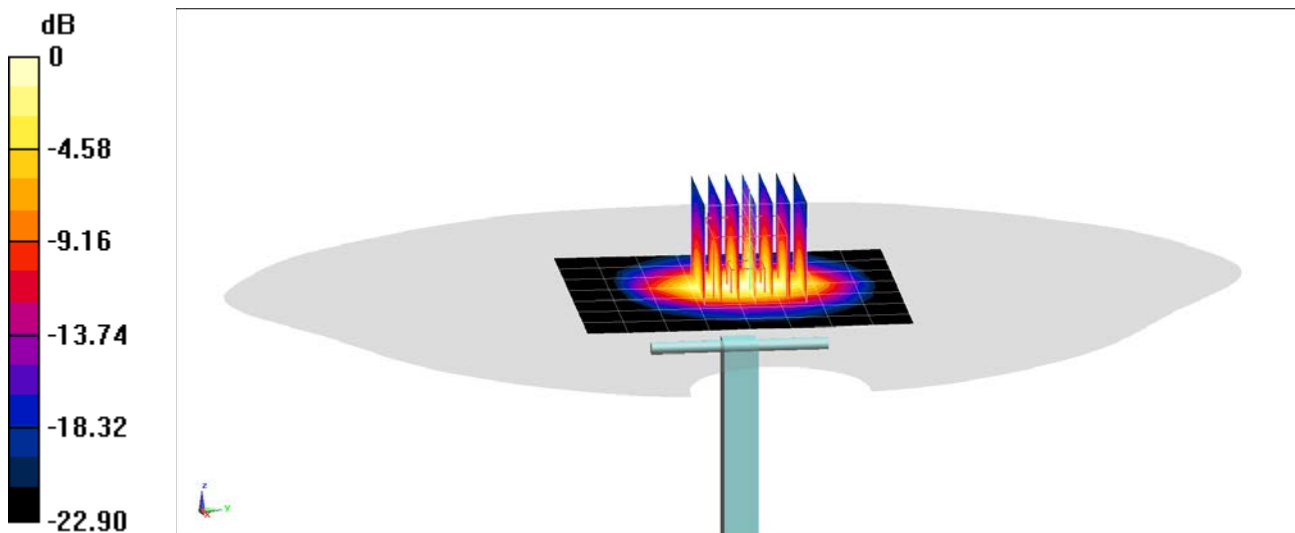
**Area Scan (8x9x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (8x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Peak SAR (extrapolated) = 11.4 W/kg

**SAR(1 g) = 5.45 W/kg; SAR(10 g) = 2.5 W/kg**

Deviation(1 g) = 6.45%



0 dB = 7.00 W/kg = 8.45 dBW/kg

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 921**

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: 2450 Body Medium parameters used:

$f = 2450 \text{ MHz}$ ;  $\sigma = 2.04 \text{ S/m}$ ;  $\epsilon_r = 52.106$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-04-2019; Ambient Temp: 21.5°C; Tissue Temp: 19.8°C

Probe: EX3DV4 - SN7416; ConvF(7.31, 7.31, 7.31) @ 2450 MHz; Calibrated: 7/20/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1402; Calibrated: 7/10/2018

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CA; Serial: 1275

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

## 2450 MHz System Verification at 20.0 dBm (100 mW)

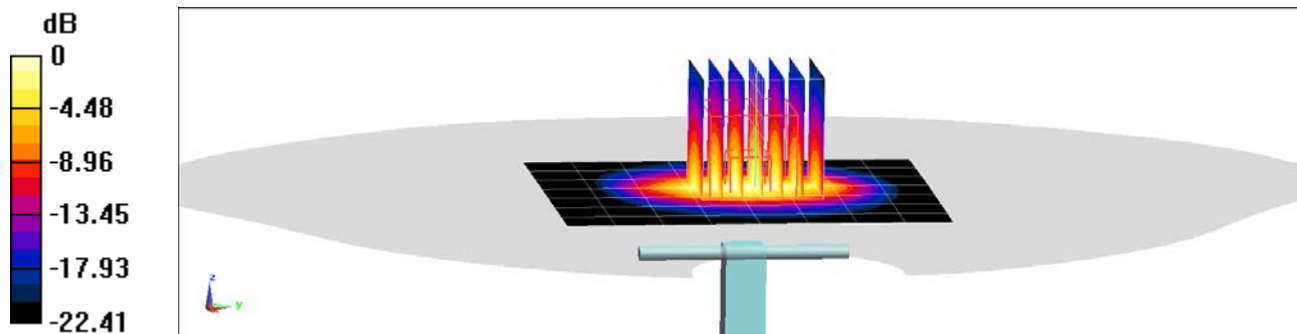
**Area Scan (8x9x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Peak SAR (extrapolated) = 11.5 W/kg

**SAR(1 g) = 5.42 W/kg; SAR(10 g) = 2.5 W/kg**

Deviation(1 g) = 6.69%



0 dB = 9.13 W/kg = 9.60 dBW/kg

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 945**

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: 2450-2600 Body Medium parameters used:

$f = 2450 \text{ MHz}$ ;  $\sigma = 2.032 \text{ S/m}$ ;  $\epsilon_r = 51.59$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-07-2019; Ambient Temp: 21.5°C; Tissue Temp: 20.0°C

Probe: EX3DV4 - SN7416; ConvF(7.31, 7.31, 7.31) @ 2450 MHz; Calibrated: 7/20/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1402; Calibrated: 7/10/2018

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CA; Serial: 1275

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

## 2450 MHz System Verification at 20.0 dBm (100 mW)

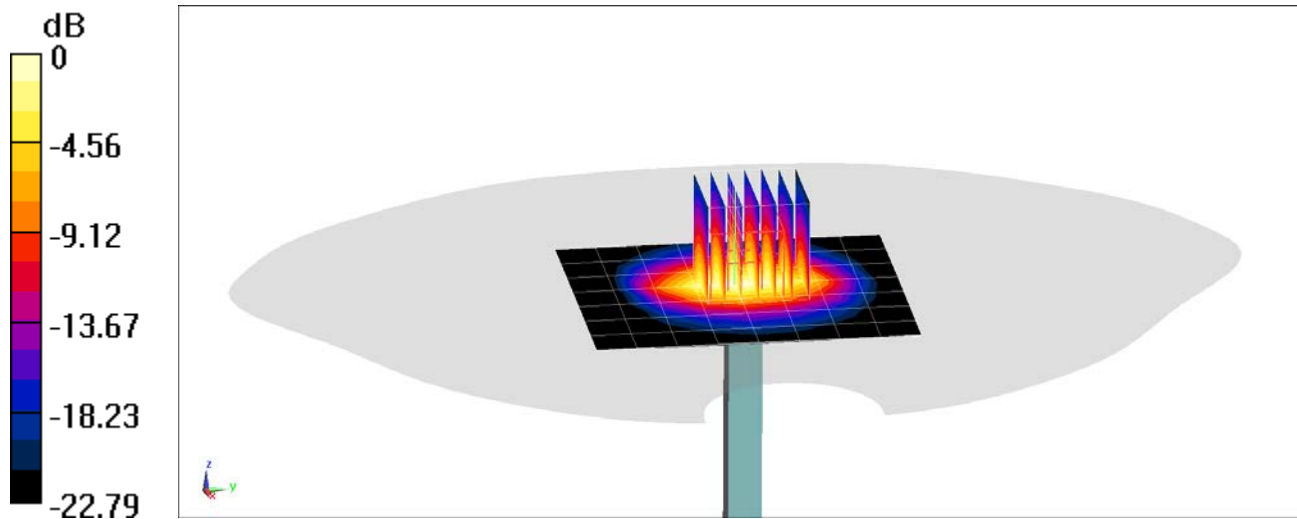
**Area Scan (8x9x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Peak SAR (extrapolated) = 11.1 W/kg

**SAR(1 g) = 5.25 W/kg; SAR(10 g) = 2.41 W/kg**

Deviation(1 g) = 6.28%



# PCTEST ENGINEERING LABORATORY, INC.

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 750**

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: 2450-2600 Medium parameters used:

$f = 2450 \text{ MHz}$ ;  $\sigma = 1.986 \text{ S/m}$ ;  $\epsilon_r = 51.159$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-14-2019; Ambient Temp: 23.0°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7420; ConvF(7.34, 7.34, 7.34) @ 2450 MHz; Calibrated: 9/18/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1449; Calibrated: 11/12/2018

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1596

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

## 2450 MHz System Verification at 20.0 dBm (100 mW)

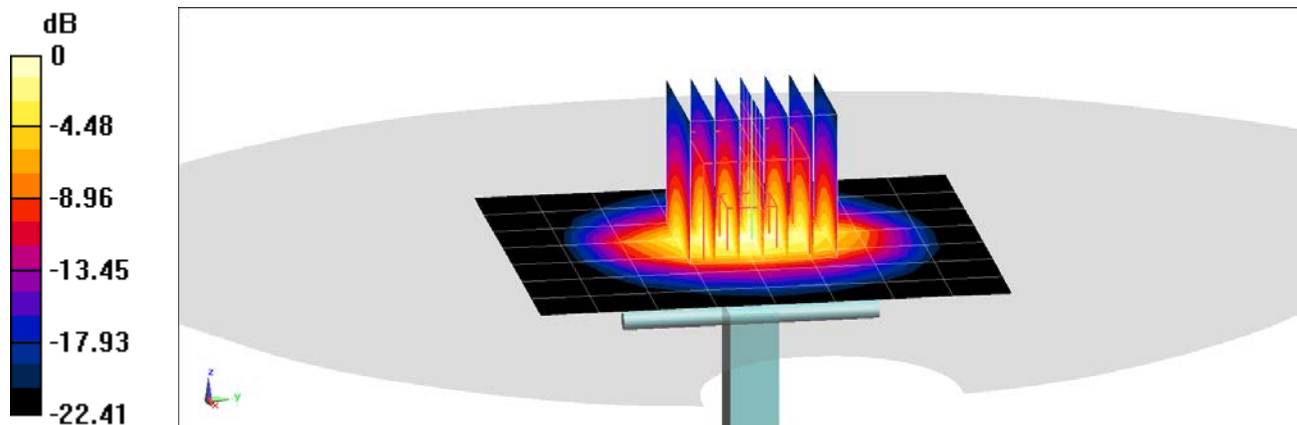
**Area Scan (8x9x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Peak SAR (extrapolated) = 11.6 W/kg

**SAR(1 g) = 5.37 W/kg; SAR(10 g) = 2.47 W/kg**

Deviation(1 g) = 4.88%



0 dB = 9.09 W/kg = 9.59 dBW/kg

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1069**

Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: 2450-2600 Body Medium parameters used:

$f = 2600$  MHz;  $\sigma = 2.173$  S/m;  $\epsilon_r = 51.382$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-07-2019; Ambient Temp: 21.5°C; Tissue Temp: 20.0°C

Probe: EX3DV4 - SN7416; ConvF(7.23, 7.23, 7.23) @ 2600 MHz; Calibrated: 7/20/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1402; Calibrated: 7/10/2018

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CA; Serial: 1275

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

## 2600 MHz System Verification at 20.0 dBm (100 mW)

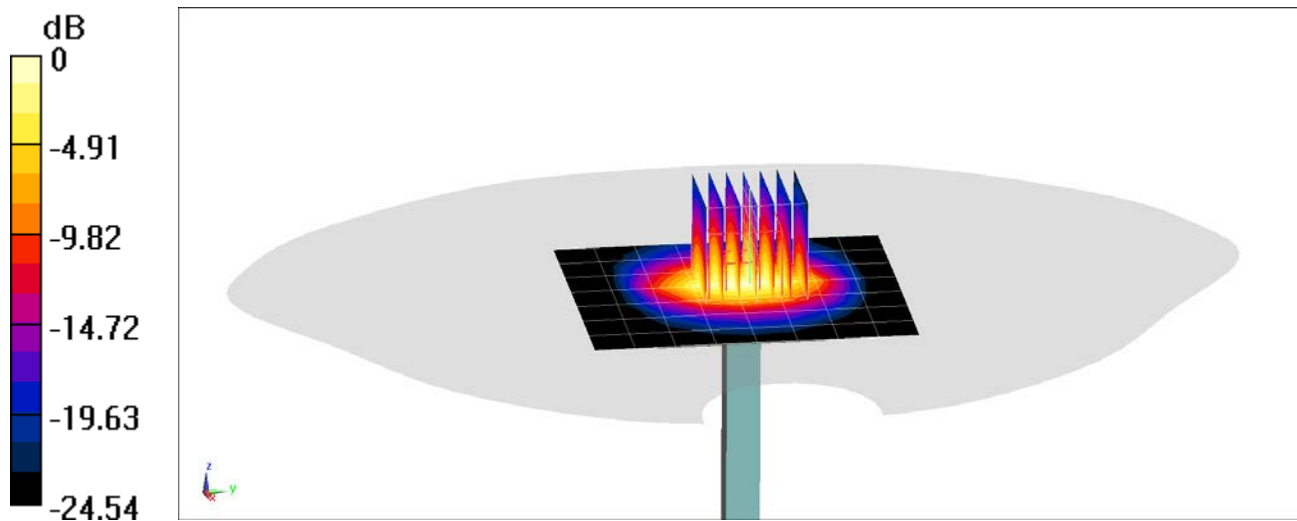
**Area Scan (8x9x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Peak SAR (extrapolated) = 12.6 W/kg

**SAR(1 g) = 5.75 W/kg; SAR(10 g) = 2.54 W/kg**

Deviation(1 g) = 3.98%



0 dB = 9.84 W/kg = 9.93 dBW/kg

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1042**

Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: 2450-2600 Medium parameters used:

$f = 2600 \text{ MHz}$ ;  $\sigma = 2.195 \text{ S/m}$ ;  $\epsilon_r = 50.589$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-14-2019; Ambient Temp: 23.0°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7420; ConvF(7.22, 7.22, 7.22) @ 2600 MHz; Calibrated: 9/18/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1449; Calibrated: 11/12/2018

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1596

Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

## 2600 MHz System Verification at 20.0 dBm (100 mW)

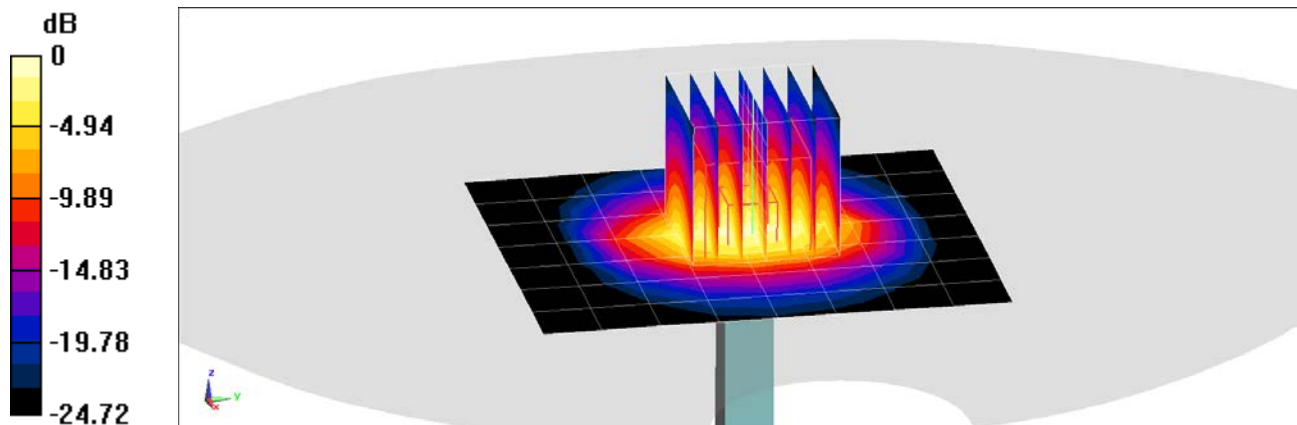
**Area Scan (8x9x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Peak SAR (extrapolated) = 13.4 W/kg

**SAR(1 g) = 5.77 W/kg; SAR(10 g) = 2.51 W/kg**

Deviation(1 g) = 4.72%



0 dB = 10.3 W/kg = 10.13 dBW/kg

# PCTEST ENGINEERING LABORATORY, INC.

**DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1163**

Communication System: UID 0, CW; Frequency: 5250 MHz; Duty Cycle: 1:1

Medium: 5GHz Body Medium parameters used (interpolated):

$f = 5250 \text{ MHz}$ ;  $\sigma = 5.512 \text{ S/m}$ ;  $\epsilon_r = 47.843$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-07-2019; Ambient Temp: 22.9°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7491; ConvF(4.82, 4.82, 4.82) @ 5250 MHz; Calibrated: 7/20/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1364; Calibrated: 10/18/2018

Phantom: Twin-SAM V8.0\_Left; Type: QD 000 P41 AA; Serial: 1935

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

## 5250 MHz System Verification at 17.0 dBm (50 mW)

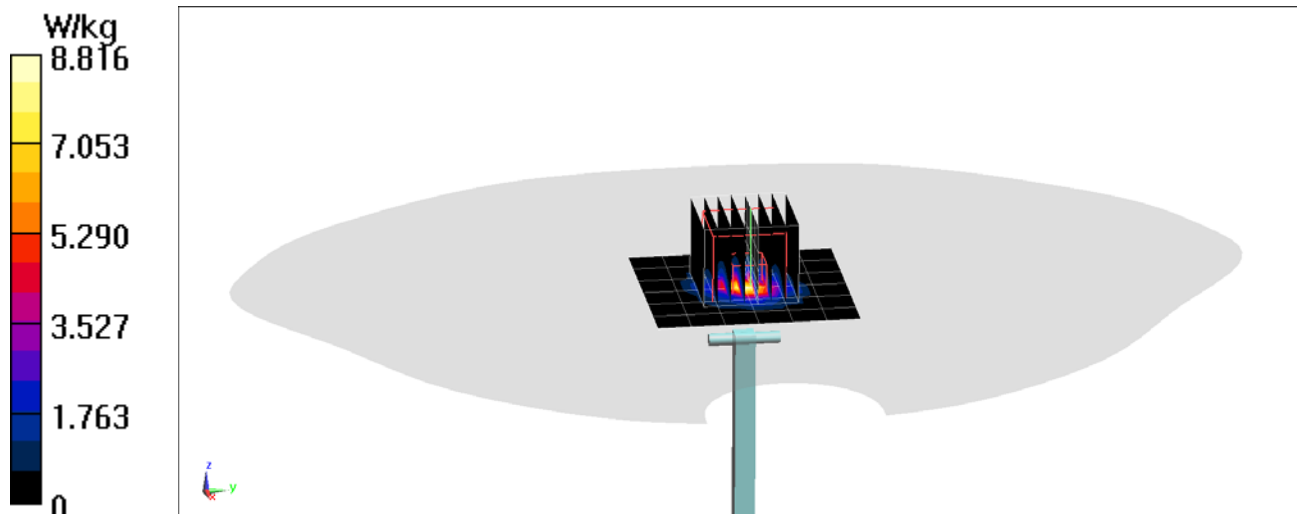
**Area Scan (7x7x1):** Measurement grid: dx=10mm, dy=10mm

**Zoom Scan (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 14.2 W/kg

**SAR(1 g) = 3.6 W/kg; SAR(10 g) = 0.973 W/kg**

Deviation(1 g) = -7.34%



# PCTEST ENGINEERING LABORATORY, INC.

**DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1163**

Communication System: UID 0, CW; Frequency: 5600 MHz; Duty Cycle: 1:1

Medium: 5GHz Body Medium parameters used:

$f = 5600 \text{ MHz}$ ;  $\sigma = 5.978 \text{ S/m}$ ;  $\epsilon_r = 47.206$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-07-2019; Ambient Temp: 22.9°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7491; ConvF(4.19, 4.19, 4.19) @ 5600 MHz; Calibrated: 7/20/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1364; Calibrated: 10/18/2018

Phantom: Twin-SAM V8.0\_Left; Type: QD 000 P41 AA; Serial: 1935

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

## **5600 MHz System Verification at 17.0 dBm (50 mW)**

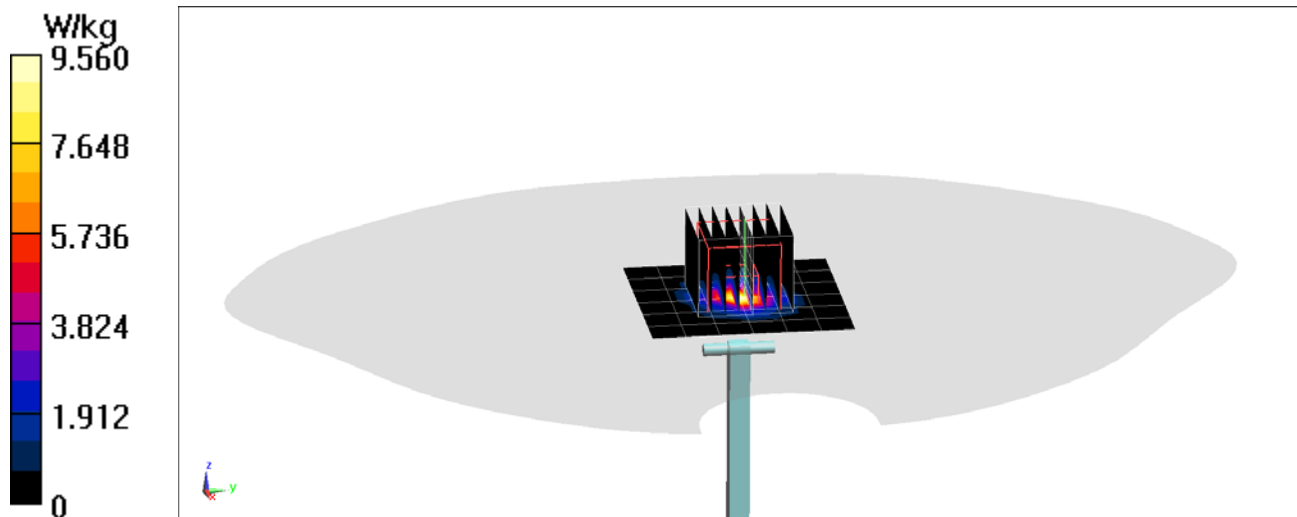
**Area Scan (7x7x1):** Measurement grid: dx=10mm, dy=10mm

**Zoom Scan (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 17.3 W/kg

**SAR(1 g) = 3.86 W/kg; SAR(10 g) = 1.06 W/kg**

Deviation(1 g) = -3.62%



# PCTEST ENGINEERING LABORATORY, INC.

**DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1163**

Communication System: UID 0, CW; Frequency: 5750 MHz; Duty Cycle: 1:1

Medium: 5GHz Body Medium parameters used (interpolated):

$f = 5750 \text{ MHz}$ ;  $\sigma = 6.182 \text{ S/m}$ ;  $\epsilon_r = 46.98$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01-07-2019; Ambient Temp: 22.9°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7491; ConvF(4.37, 4.37, 4.37) @ 5750 MHz; Calibrated: 7/20/2018

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1364; Calibrated: 10/18/2018

Phantom: Twin-SAM V8.0\_Left; Type: QD 000 P41 AA; Serial: 1935

Measurement SW: DASY52, Version 52.10 (2);SEMCAD X Version 14.6.12 (7450)

## 5750 MHz System Verification at 17.0 dBm (50 mW)

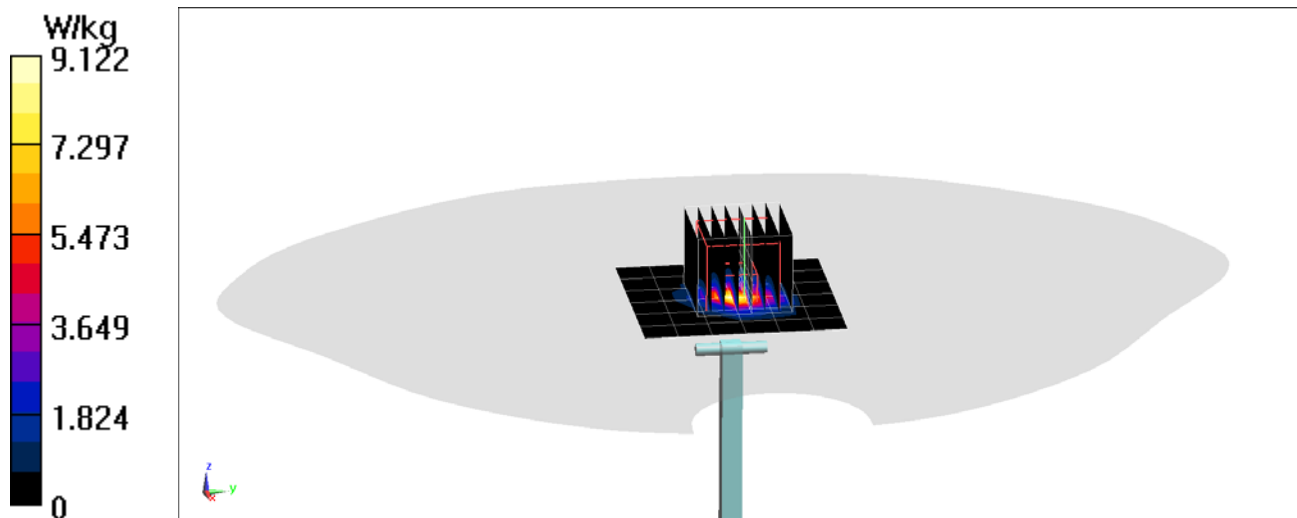
**Area Scan (7x7x1):** Measurement grid: dx=10mm, dy=10mm

**Zoom Scan (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 16.7 W/kg

**SAR(1 g) = 3.59 W/kg; SAR(10 g) = 1.000 W/kg**

Deviation(1 g) = -7.71%



## APPENDIX C: PROBE CALIBRATION



Accredited by the Swiss Accreditation Service (SAS)  
 The Swiss Accreditation Service is one of the signatories to the EA  
 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **PC Test**

Certificate No: **D750V3-1057\_Jun17**

## CALIBRATION CERTIFICATE

Object **D750V3 - SN:1057**

Calibration procedure(s) **QA CAL-05.v9**  
 Calibration procedure for dipole validation kits above 700 MHz

Calibration date: **June 13, 2017**

*BNW*  
*8/3/2017*  
*SC ✓*  
*6/1/2018*

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature  $(22 \pm 3)^{\circ}\text{C}$  and humidity  $< 70\%$ .

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards           | ID #               | Cal Date (Certificate No.)        | Scheduled Calibration  |
|-----------------------------|--------------------|-----------------------------------|------------------------|
| Power meter NRP             | SN: 104778         | 04-Apr-17 (No. 217-02521/02522)   | Apr-18                 |
| Power sensor NRP-Z91        | SN: 103244         | 04-Apr-17 (No. 217-02521)         | Apr-18                 |
| Power sensor NRP-Z91        | SN: 103245         | 04-Apr-17 (No. 217-02522)         | Apr-18                 |
| Reference 20 dB Attenuator  | SN: 5058 (20k)     | 07-Apr-17 (No. 217-02528)         | Apr-18                 |
| Type-N mismatch combination | SN: 5047.2 / 06327 | 07-Apr-17 (No. 217-02529)         | Apr-18                 |
| Reference Probe EX3DV4      | SN: 7349           | 31-May-17 (No. EX3-7349_May17)    | May-18                 |
| DAE4                        | SN: 601            | 28-Mar-17 (No. DAE4-601_Mar17)    | Mar-18                 |
| Secondary Standards         | ID #               | Check Date (in house)             | Scheduled Check        |
| Power meter EPM-442A        | SN: GB37480704     | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| Power sensor HP 8481A       | SN: US37292783     | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| Power sensor HP 8481A       | SN: MY41092317     | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| RF generator R&S SMT-06     | SN: 100972         | 15-Jun-15 (in house check Oct-16) | In house check: Oct-18 |
| Network Analyzer HP 8753E   | SN: US37390585     | 18-Oct-01 (in house check Oct-16) | In house check: Oct-17 |

Calibrated by: **Johannes Kurikka**      Name: **Johannes Kurikka**      Function: **Laboratory Technician**

Approved by: **Katja Pokovic**      Name: **Katja Pokovic**      Function: **Technical Manager**

Signature

*[Signature]*

*[Signature]*

Issued: June 15, 2017

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



Accredited by the Swiss Accreditation Service (SAS)

The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

**Glossary:**

|       |                                 |
|-------|---------------------------------|
| TSL   | tissue simulating liquid        |
| ConvF | sensitivity in TSL / NORM x,y,z |
| N/A   | not applicable or not measured  |

**Calibration is Performed According to the Following Standards:**

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

**Additional Documentation:**

- DASY4/5 System Handbook

**Methods Applied and Interpretation of Parameters:**

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor  $k=2$ , which for a normal distribution corresponds to a coverage probability of approximately 95%.

## Measurement Conditions

DASY system configuration, as far as not given on page 1.

|                              |                        |             |
|------------------------------|------------------------|-------------|
| DASY Version                 | DASY5                  | V52.10.0    |
| Extrapolation                | Advanced Extrapolation |             |
| Phantom                      | Modular Flat Phantom   |             |
| Distance Dipole Center - TSL | 15 mm                  | with Spacer |
| Zoom Scan Resolution         | dx, dy, dz = 5 mm      |             |
| Frequency                    | 750 MHz $\pm$ 1 MHz    |             |

## Head TSL parameters

The following parameters and calculations were applied.

|                                         | Temperature         | Permittivity   | Conductivity         |
|-----------------------------------------|---------------------|----------------|----------------------|
| Nominal Head TSL parameters             | 22.0 °C             | 41.9           | 0.89 mho/m           |
| Measured Head TSL parameters            | (22.0 $\pm$ 0.2) °C | 41.2 $\pm$ 6 % | 0.91 mho/m $\pm$ 6 % |
| Head TSL temperature change during test | < 0.5 °C            | ----           | ----                 |

## SAR result with Head TSL

|                                                       |                    |                              |
|-------------------------------------------------------|--------------------|------------------------------|
| SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL | Condition          |                              |
| SAR measured                                          | 250 mW input power | 2.12 W/kg                    |
| SAR for nominal Head TSL parameters                   | normalized to 1W   | 8.31 W/kg $\pm$ 17.0 % (k=2) |

|                                                         |                    |                              |
|---------------------------------------------------------|--------------------|------------------------------|
| SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL | condition          |                              |
| SAR measured                                            | 250 mW input power | 1.37 W/kg                    |
| SAR for nominal Head TSL parameters                     | normalized to 1W   | 5.39 W/kg $\pm$ 16.5 % (k=2) |

## Body TSL parameters

The following parameters and calculations were applied.

|                                         | Temperature         | Permittivity   | Conductivity         |
|-----------------------------------------|---------------------|----------------|----------------------|
| Nominal Body TSL parameters             | 22.0 °C             | 55.5           | 0.96 mho/m           |
| Measured Body TSL parameters            | (22.0 $\pm$ 0.2) °C | 54.8 $\pm$ 6 % | 0.97 mho/m $\pm$ 6 % |
| Body TSL temperature change during test | < 0.5 °C            | ----           | ----                 |

## SAR result with Body TSL

|                                                       |                    |                              |
|-------------------------------------------------------|--------------------|------------------------------|
| SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL | Condition          |                              |
| SAR measured                                          | 250 mW input power | 2.22 W/kg                    |
| SAR for nominal Body TSL parameters                   | normalized to 1W   | 8.79 W/kg $\pm$ 17.0 % (k=2) |

|                                                         |                    |                              |
|---------------------------------------------------------|--------------------|------------------------------|
| SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL | condition          |                              |
| SAR measured                                            | 250 mW input power | 1.46 W/kg                    |
| SAR for nominal Body TSL parameters                     | normalized to 1W   | 5.79 W/kg $\pm$ 16.5 % (k=2) |

## Appendix (Additional assessments outside the scope of SCS 0108)

### Antenna Parameters with Head TSL

|                                      |                             |
|--------------------------------------|-----------------------------|
| Impedance, transformed to feed point | $55.9 \Omega + 0.1 j\Omega$ |
| Return Loss                          | - 25.0 dB                   |

### Antenna Parameters with Body TSL

|                                      |                             |
|--------------------------------------|-----------------------------|
| Impedance, transformed to feed point | $51.2 \Omega - 2.3 j\Omega$ |
| Return Loss                          | - 32.0 dB                   |

### General Antenna Parameters and Design

|                                  |          |
|----------------------------------|----------|
| Electrical Delay (one direction) | 1.035 ns |
|----------------------------------|----------|

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

|                 |                   |
|-----------------|-------------------|
| Manufactured by | SPEAG             |
| Manufactured on | November 08, 2011 |

## DASY5 Validation Report for Head TSL

Date: 13.06.2017

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN:1057**

Communication System: UID 0 - CW; Frequency: 750 MHz

Medium parameters used:  $f = 750 \text{ MHz}$ ;  $\sigma = 0.91 \text{ S/m}$ ;  $\epsilon_r = 41.2$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(10.49, 10.49, 10.49); Calibrated: 31.05.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 28.03.2017
- Phantom: Flat Phantom 4.9 (front); Type: QD 00L P49 AA; Serial: 1001
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

### Dipole Calibration for Head Tissue/Pin=250 mW, $d=15\text{mm}$ /Zoom Scan (7x7x7)/Cube 0:

Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 58.79 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 3.29 W/kg

**SAR(1 g) = 2.12 W/kg; SAR(10 g) = 1.37 W/kg**

Maximum value of SAR (measured) = 2.88 W/kg



# Impedance Measurement Plot for Head TSL

13 Jun 2017 12:28:02  
 [CH1] S11 1 U FS 1: 55.930  $\Omega$  0.0645  $\Omega$  13.677  $\mu\text{H}$  750.000 000 MHz

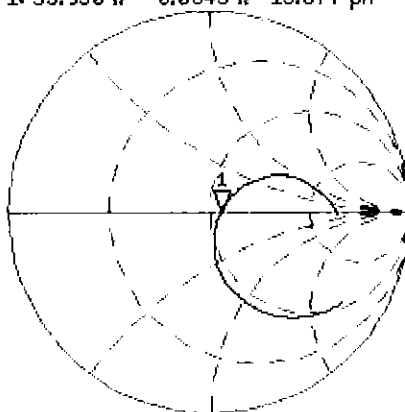
\*

De1

CA

Avg  
16

H1d

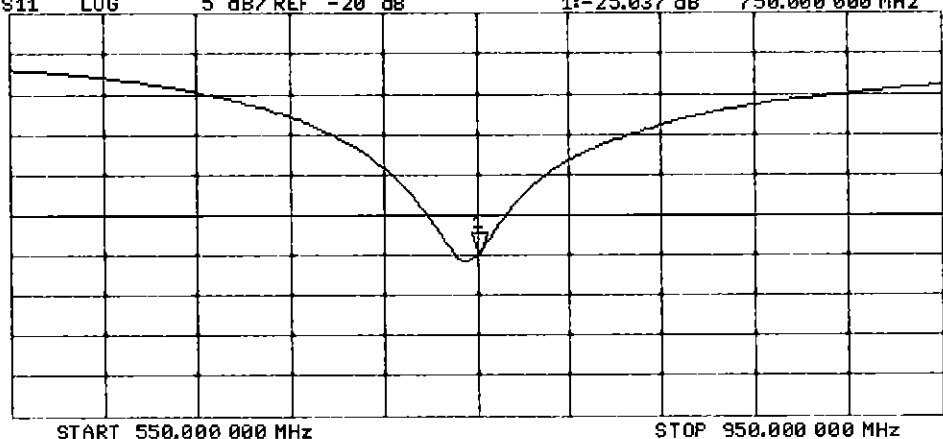


CH2 S11 LOG 5 dB/REF -20 dB 1:-25.037 dB 750.000 000 MHz

CA

Avg  
16

H1d



## DASY5 Validation Report for Body TSL

Date: 12.06.2017

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN:1057**

Communication System: UID 0 - CW; Frequency: 750 MHz

Medium parameters used:  $f = 750$  MHz;  $\sigma = 0.97$  S/m;  $\epsilon_r = 54.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(10.35, 10.35, 10.35); Calibrated: 31.05.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 28.03.2017
- Phantom: Flat Phantom 4.9 (Back); Type: QD 00R P49 AA; Serial: 1005
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

### Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

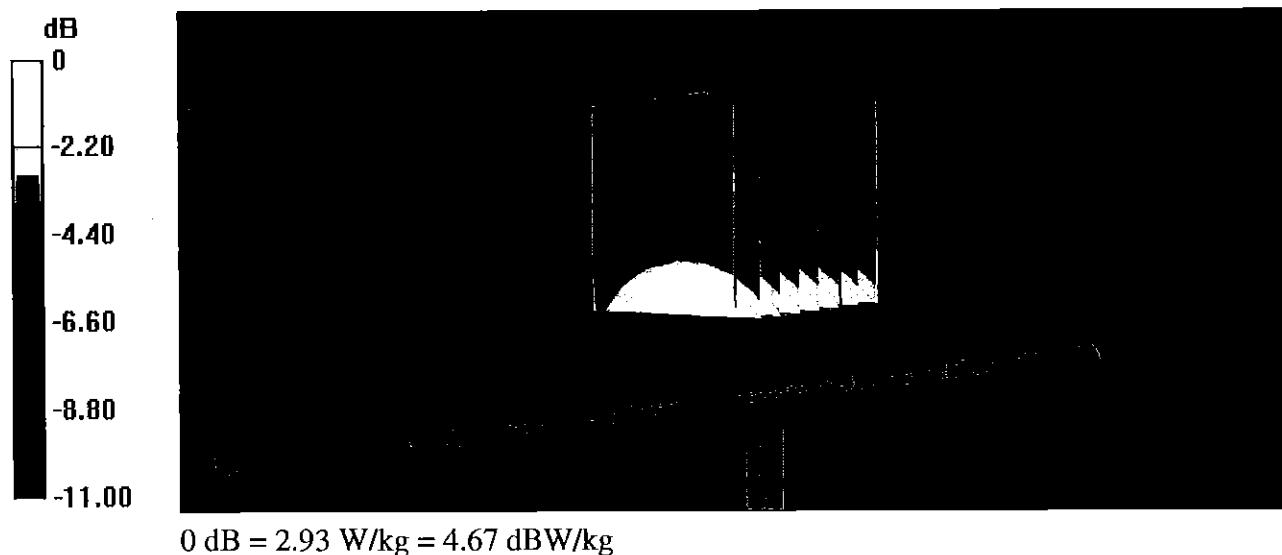
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 57.76 V/m; Power Drift = -0.02 dB

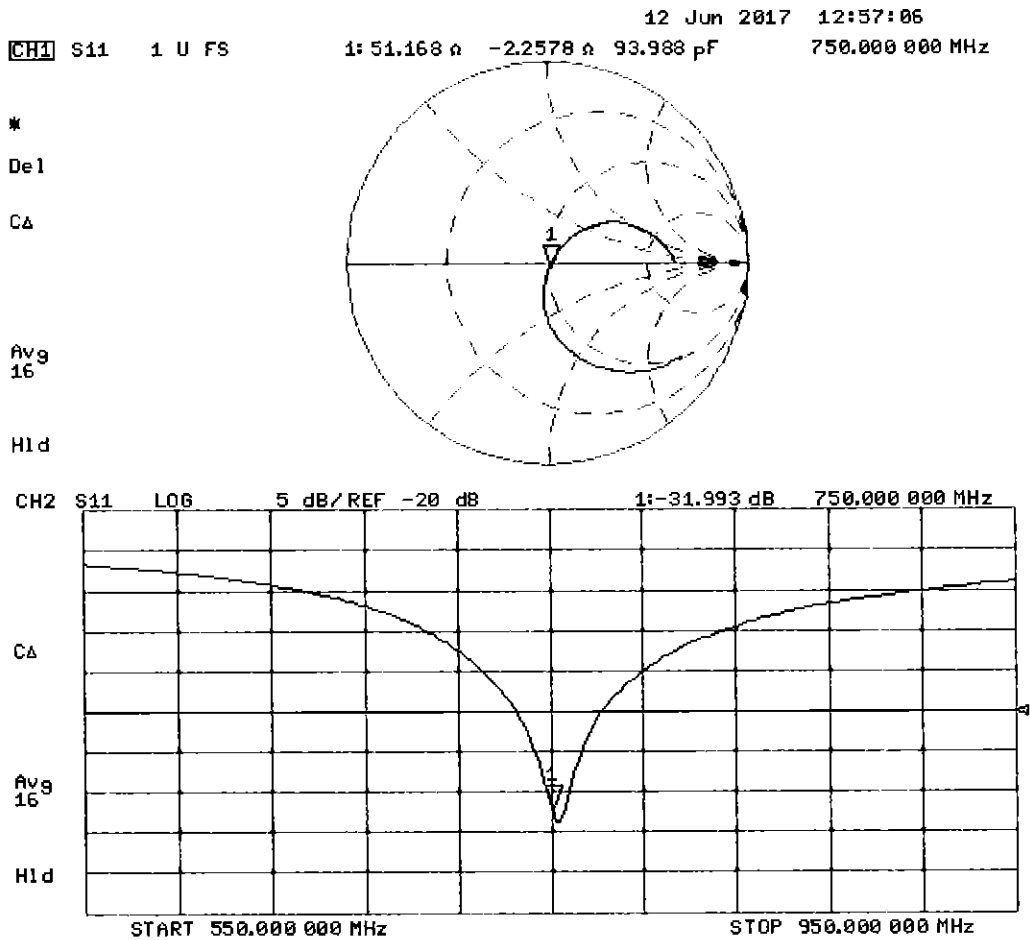
Peak SAR (extrapolated) = 3.34 W/kg

**SAR(1 g) = 2.22 W/kg; SAR(10 g) = 1.46 W/kg**

Maximum value of SAR (measured) = 2.93 W/kg



Impedance Measurement Plot for Body TSL



# Certification of Calibration

Object D750V3 – SN: 1057

Calibration procedure(s) Procedure for Calibration Extension for SAR Dipoles.

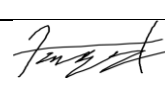
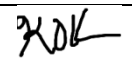
Extended Calibration date: June 01, 2018

Description: SAR Validation Dipole at 750 MHz.

## Calibration Equipment used:

| Manufacturer          | Model     | Description                                             | Cal Date   | Cal Interval | Cal Due    | Serial Number |
|-----------------------|-----------|---------------------------------------------------------|------------|--------------|------------|---------------|
| Agilent               | 8753ES    | S-Parameter Network Analyzer                            | 9/14/2017  | Annual       | 9/14/2018  | US39170118    |
| Agilent               | N5182A    | MXG Vector Signal Generator                             | 3/19/2018  | Annual       | 3/19/2019  | US46240505    |
| Amplifier Research    | 15S1G6    | Amplifier                                               | CBT        | N/A          | CBT        | 343972        |
| Anritsu               | ML2496A   | Power Meter                                             | 10/9/2017  | Annual       | 10/9/2018  | 1138001       |
| Anritsu               | MA2411B   | Pulse Power Sensor                                      | 11/15/2017 | Annual       | 11/15/2018 | 1339007       |
| Anritsu               | MA2411B   | Pulse Power Sensor                                      | 11/22/2017 | Annual       | 11/22/2018 | 1339008       |
| Control Company       | 4040      | Temperature / Humidity Monitor                          | 2/28/2018  | Biennial     | 2/28/2020  | 150761911     |
| Control Company       | 4352      | Ultra Long Stem Thermometer                             | 2/14/2017  | Biennial     | 2/14/2019  | 170112507     |
| Keysight              | 772D      | Dual Directional Coupler                                | CBT        | N/A          | CBT        | MY52180215    |
| Keysight Technologies | 85033E    | Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm) | 6/1/2017   | Annual       | 6/1/2018   | MY53401181    |
| Mini-Circuits         | BW-N20W5+ | DC to 18 GHz Precision Fixed 20 dB Attenuator           | CBT        | N/A          | CBT        | N/A           |
| Mini-Circuits         | NLP-2950+ | Low Pass Filter DC to 2700 MHz                          | CBT        | N/A          | CBT        | N/A           |
| Narda                 | 4772-3    | Attenuator (3dB)                                        | CBT        | N/A          | CBT        | 9406          |
| Pasternack            | PE2208-6  | Bidirectional Coupler                                   | CBT        | N/A          | CBT        | N/A           |
| Pasternack            | PE5011-1  | Torque Wrench                                           | 7/19/2017  | Biennial     | 7/19/2019  | N/A           |
| SPEAG                 | DAKS-3.5  | Portable DAK                                            | 9/5/2017   | Annual       | 9/5/2018   | 1045          |
| SPEAG                 | EX3DV4    | SAR Probe                                               | 1/26/2018  | Annual       | 1/26/2019  | 7490          |
| SPEAG                 | DAE4      | Dasy Data Acquisition Electronics                       | 1/26/2018  | Annual       | 1/26/2019  | 1532          |

Measurement Uncertainty =  $\pm 23\%$  (k=2)

|                | Name            | Function                 | Signature                                                                             |
|----------------|-----------------|--------------------------|---------------------------------------------------------------------------------------|
| Calibrated By: | Sangmin Cha     | Biomedical Engineer II   |  |
| Approved By:   | Kaitlin O'Keefe | Senior Technical Manager |  |

# DIPOLE CALIBRATION EXTENSION

Per KDB 865664 D01, calibration intervals of up to three years may be considered for reference dipoles when it is demonstrated that the SAR target, impedance and return loss of a dipole have remained stable according to the following requirements:

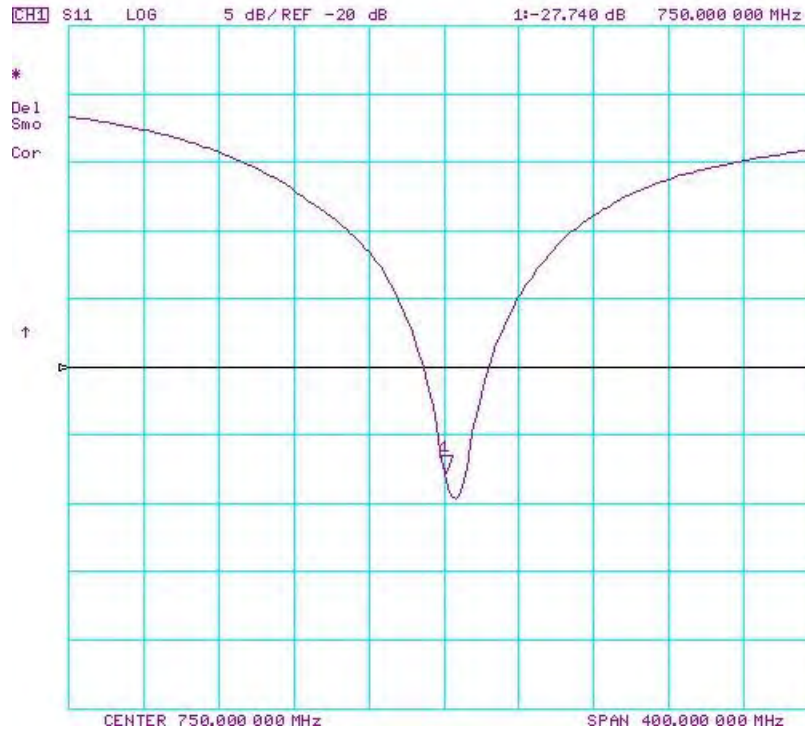
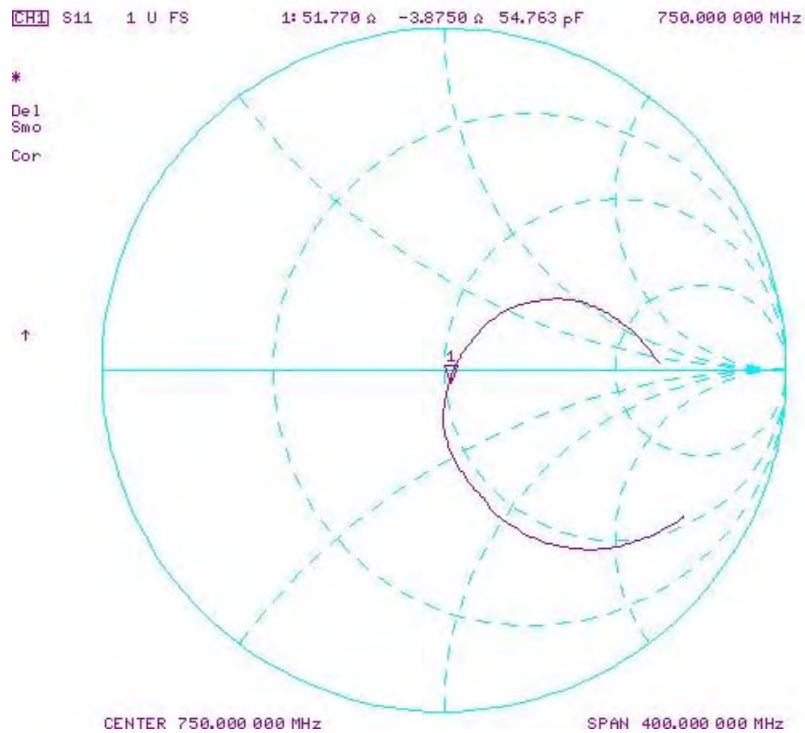
1. The measured SAR does not deviate more than 10% from the target on the calibration certificate.
2. The return-loss does not deviate more than 20% from the previous measurement and meets the required 20dB minimum return-loss requirement.
3. The measurement of real or imaginary parts of impedance does not deviate more than 5Ω from the previous measurement.

The following dipole was checked to pass the above 3 requirements to have 2-year calibration period from the calibration date:

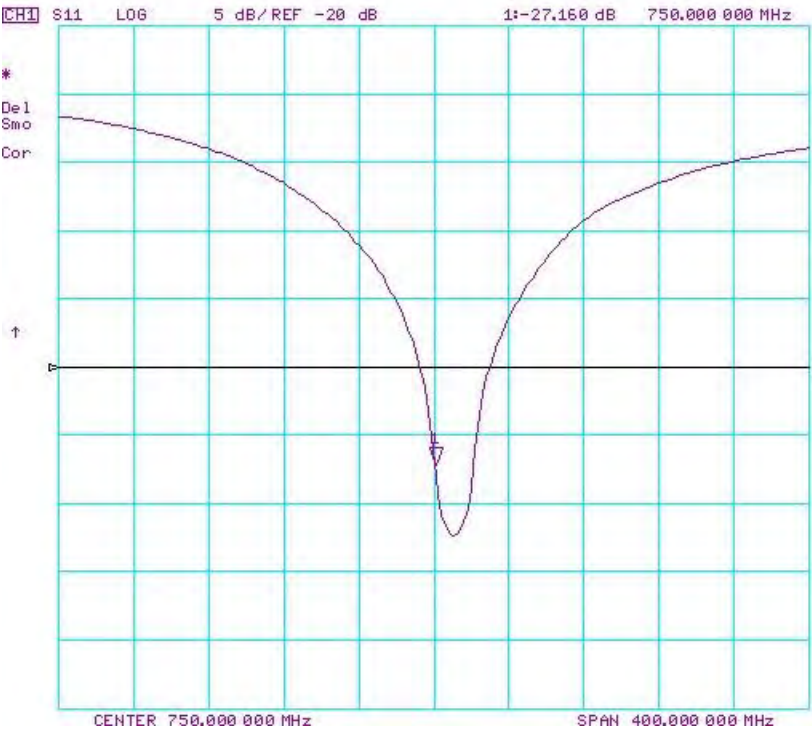
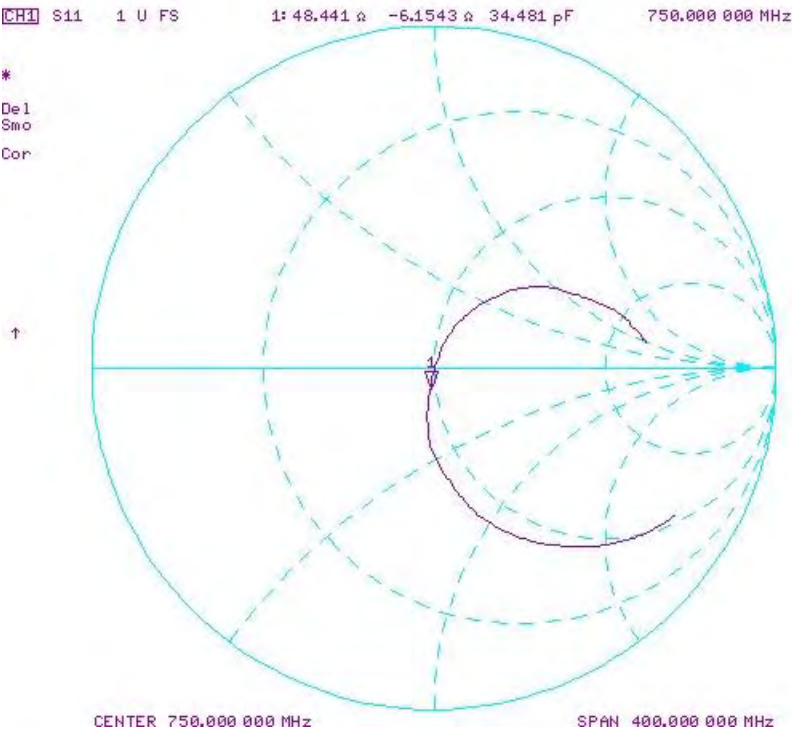
| Calibration Date | Extension Date | Certificate Electrical Delay (ns) | Certificate SAR Target Head (1g) W/kg @ 23.0 dBm | Measured Head SAR (1g) W/kg @ 23.0 dBm | Deviation 1g (%) | Certificate SAR Target Head (10g) W/kg @ 23.0 dBm | Measured Head SAR (10g) W/kg @ 23.0 dBm | Deviation 10g (%) | Certificate Impedance Head (Ohm) Real | Measured Impedance Head (Ohm) Real | Difference (Ohm) Real | Certificate Impedance Head (Ohm) Imaginary | Measured Impedance Head (Ohm) Imaginary | Difference (Ohm) Imaginary | Certificate Return Loss Head (dB) | Measured Return Loss Head (dB) | Deviation (%) | PASS/FAIL |
|------------------|----------------|-----------------------------------|--------------------------------------------------|----------------------------------------|------------------|---------------------------------------------------|-----------------------------------------|-------------------|---------------------------------------|------------------------------------|-----------------------|--------------------------------------------|-----------------------------------------|----------------------------|-----------------------------------|--------------------------------|---------------|-----------|
| 6/13/2018        | 6/1/2018       | 1.035                             | 1.662                                            | 1.66                                   | -0.12%           | 1.078                                             | 1.09                                    | 1.11%             | 55.9                                  | 51.8                               | 4.1                   | 0.1                                        | -3.9                                    | 4                          | -25                               | -27.7                          | -10.80%       | PASS      |

| Calibration Date | Extension Date | Certificate Electrical Delay (ns) | Certificate SAR Target Body (1g) W/kg @ 23.0 dBm | Measured Body SAR (1g) W/kg @ 23.0 dBm | Deviation 1g (%) | Certificate SAR Target Body (10g) W/kg @ 23.0 dBm | Measured Body SAR (10g) W/kg @ 23.0 dBm | Deviation 10g (%) | Certificate Impedance Body (Ohm) Real | Measured Impedance Body (Ohm) Real | Difference (Ohm) Real | Certificate Impedance Body (Ohm) Imaginary | Measured Impedance Body (Ohm) Imaginary | Difference (Ohm) Imaginary | Certificate Return Loss Body (dB) | Measured Return Loss Body (dB) | Deviation (%) | PASS/FAIL |
|------------------|----------------|-----------------------------------|--------------------------------------------------|----------------------------------------|------------------|---------------------------------------------------|-----------------------------------------|-------------------|---------------------------------------|------------------------------------|-----------------------|--------------------------------------------|-----------------------------------------|----------------------------|-----------------------------------|--------------------------------|---------------|-----------|
| 6/13/2018        | 6/1/2018       | 1.035                             | 1.758                                            | 1.67                                   | -5.01%           | 1.158                                             | 1.11                                    | -4.15%            | 51.2                                  | 48.4                               | 2.8                   | -2.3                                       | -6.2                                    | 3.9                        | -32                               | -27.2                          | 15.00%        | PASS      |

# Impedance & Return-Loss Measurement Plot for Head TSL



Impedance & Return-Loss Measurement Plot for Body TSL





Accredited by the Swiss Accreditation Service (SAS)  
 The Swiss Accreditation Service is one of the signatories to the EA  
 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client: **PG Test**

Certificate No: **D750V3-1097\_Sep17**

## CALIBRATION CERTIFICATE

Object: **D750V3 - SN:1097**

Calibration procedure(s): **QA CAL-05.v9**  
 Calibration procedure for dipole validation kits above 700 MHz

SC ✓  
 10/03/2017

Calibration date: **September 08, 2017**

SC ✓  
 9/8/2018

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature ( $22 \pm 3$ )°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards           | ID #               | Cal Date (Certificate No.)        | Scheduled Calibration  |
|-----------------------------|--------------------|-----------------------------------|------------------------|
| Power meter NRP             | SN: 104778         | 04-Apr-17 (No. 217-02521/02522)   | Apr-18                 |
| Power sensor NRP-Z91        | SN: 103244         | 04-Apr-17 (No. 217-02521)         | Apr-18                 |
| Power sensor NRP-Z91        | SN: 103245         | 04-Apr-17 (No. 217-02522)         | Apr-18                 |
| Reference 20 dB Attenuator  | SN: 5058 (20k)     | 07-Apr-17 (No. 217-02528)         | Apr-18                 |
| Type-N mismatch combination | SN: 5047.2 / 06327 | 07-Apr-17 (No. 217-02529)         | Apr-18                 |
| Reference Probe EX3DV4      | SN: 7349           | 31-May-17 (No. EX3-7349_May17)    | May-18                 |
| DAE4                        | SN: 601            | 28-Mar-17 (No. DAE4-601_Mar17)    | Mar-18                 |
| Secondary Standards         | ID #               | Check Date (in house)             | Scheduled Check        |
| Power meter EPM-442A        | SN: GB37480704     | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| Power sensor HP 8481A       | SN: US37292783     | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| Power sensor HP 8481A       | SN: MY41092317     | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| RF generator R&S SMT-06     | SN: 100972         | 15-Jun-15 (in house check Oct-16) | In house check: Oct-18 |
| Network Analyzer HP 8753E   | SN: US37390585     | 18-Oct-01 (in house check Oct-16) | In house check: Oct-17 |

Calibrated by: **Claudio Leubler** Function: **Laboratory Technician**

Signature:

Approved by: **Katja Pokojic** Technical Manager:

Issued: September 8, 2017

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



Accredited by the Swiss Accreditation Service (SAS)  
The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

**Glossary:**

|       |                                 |
|-------|---------------------------------|
| TSL   | tissue simulating liquid        |
| ConvF | sensitivity in TSL / NORM x,y,z |
| N/A   | not applicable or not measured  |

**Calibration is Performed According to the Following Standards:**

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

**Additional Documentation:**

- DASY4/5 System Handbook

**Methods Applied and Interpretation of Parameters:**

- Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:* SAR measured at the stated antenna input power.
- SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor  $k=2$ , which for a normal distribution corresponds to a coverage probability of approximately 95%.

## Measurement Conditions

DASY system configuration, as far as not given on page 1.

|                                     |                        |             |
|-------------------------------------|------------------------|-------------|
| <b>DASY Version</b>                 | DASY5                  | V52.10.0    |
| <b>Extrapolation</b>                | Advanced Extrapolation |             |
| <b>Phantom</b>                      | Modular Flat Phantom   |             |
| <b>Distance Dipole Center - TSL</b> | 15 mm                  | with Spacer |
| <b>Zoom Scan Resolution</b>         | dx, dy, dz = 5 mm      |             |
| <b>Frequency</b>                    | 750 MHz $\pm$ 1 MHz    |             |

## Head TSL parameters

The following parameters and calculations were applied.

|                                                | Temperature         | Permittivity   | Conductivity         |
|------------------------------------------------|---------------------|----------------|----------------------|
| <b>Nominal Head TSL parameters</b>             | 22.0 °C             | 41.9           | 0.89 mho/m           |
| <b>Measured Head TSL parameters</b>            | (22.0 $\pm$ 0.2) °C | 41.2 $\pm$ 6 % | 0.90 mho/m $\pm$ 6 % |
| <b>Head TSL temperature change during test</b> | < 0.5 °C            | ----           | ----                 |

## SAR result with Head TSL

| <b>SAR averaged over 1 cm<sup>3</sup> (1 g) of Head TSL</b> | Condition          |                                                |
|-------------------------------------------------------------|--------------------|------------------------------------------------|
| SAR measured                                                | 250 mW input power | 2.08 W/kg                                      |
| SAR for nominal Head TSL parameters                         | normalized to 1W   | <b>8.22 W/kg <math>\pm</math> 17.0 % (k=2)</b> |

| <b>SAR averaged over 10 cm<sup>3</sup> (10 g) of Head TSL</b> | condition          |                                                |
|---------------------------------------------------------------|--------------------|------------------------------------------------|
| SAR measured                                                  | 250 mW input power | 1.36 W/kg                                      |
| SAR for nominal Head TSL parameters                           | normalized to 1W   | <b>5.39 W/kg <math>\pm</math> 16.5 % (k=2)</b> |

## Body TSL parameters

The following parameters and calculations were applied.

|                                                | Temperature         | Permittivity   | Conductivity         |
|------------------------------------------------|---------------------|----------------|----------------------|
| <b>Nominal Body TSL parameters</b>             | 22.0 °C             | 55.5           | 0.96 mho/m           |
| <b>Measured Body TSL parameters</b>            | (22.0 $\pm$ 0.2) °C | 55.5 $\pm$ 6 % | 0.96 mho/m $\pm$ 6 % |
| <b>Body TSL temperature change during test</b> | < 0.5 °C            | ----           | ----                 |

## SAR result with Body TSL

| <b>SAR averaged over 1 cm<sup>3</sup> (1 g) of Body TSL</b> | Condition          |                                                |
|-------------------------------------------------------------|--------------------|------------------------------------------------|
| SAR measured                                                | 250 mW input power | 2.14 W/kg                                      |
| SAR for nominal Body TSL parameters                         | normalized to 1W   | <b>8.56 W/kg <math>\pm</math> 17.0 % (k=2)</b> |

| <b>SAR averaged over 10 cm<sup>3</sup> (10 g) of Body TSL</b> | condition          |                                                |
|---------------------------------------------------------------|--------------------|------------------------------------------------|
| SAR measured                                                  | 250 mW input power | 1.42 W/kg                                      |
| SAR for nominal Body TSL parameters                           | normalized to 1W   | <b>5.68 W/kg <math>\pm</math> 16.5 % (k=2)</b> |

## Appendix (Additional assessments outside the scope of SCS 0108)

### Antenna Parameters with Head TSL

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 54.4 $\Omega$ - 0.6 j $\Omega$ |
| Return Loss                          | - 27.5 dB                      |

### Antenna Parameters with Body TSL

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 50.0 $\Omega$ - 3.6 j $\Omega$ |
| Return Loss                          | - 28.8 dB                      |

### General Antenna Parameters and Design

|                                  |          |
|----------------------------------|----------|
| Electrical Delay (one direction) | 1.034 ns |
|----------------------------------|----------|

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

|                 |               |
|-----------------|---------------|
| Manufactured by | SPEAG         |
| Manufactured on | July 05, 2013 |

## DASY5 Validation Report for Head TSL

Date: 08.09.2017

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN:1097**

Communication System: UID 0 - CW; Frequency: 750 MHz

Medium parameters used:  $f = 750 \text{ MHz}$ ;  $\sigma = 0.9 \text{ S/m}$ ;  $\epsilon_r = 41.2$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(10.49, 10.49, 10.49); Calibrated: 31.05.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 28.03.2017
- Phantom: Flat Phantom 4.9 (front); Type: QD 00L P49 AA; Serial: 1001
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

### **Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:**

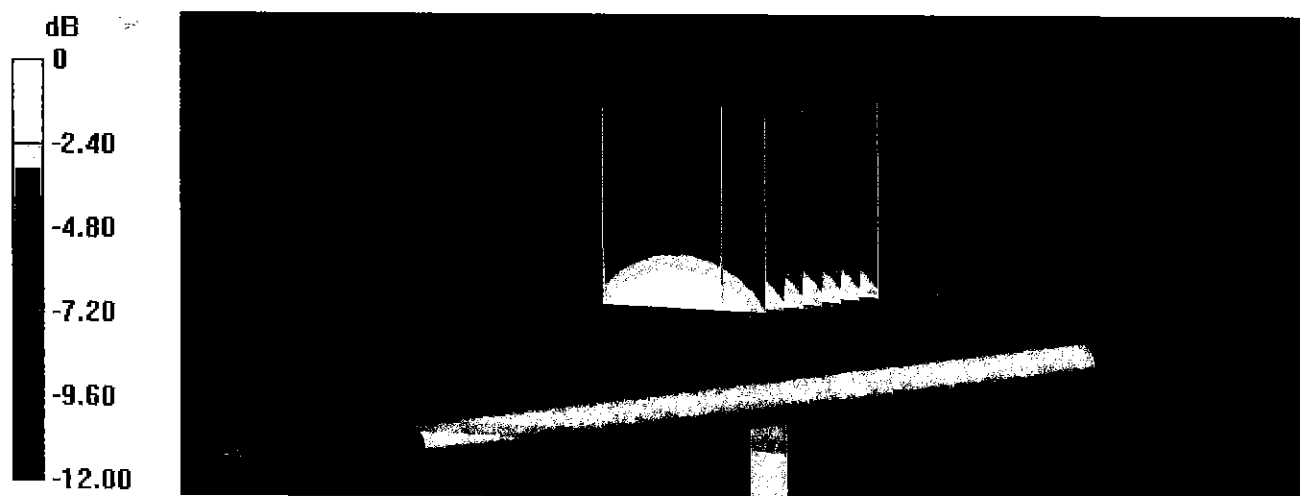
Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 58.59 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 3.19 W/kg

**SAR(1 g) = 2.08 W/kg; SAR(10 g) = 1.36 W/kg**

Maximum value of SAR (measured) = 2.80 W/kg



0 dB = 2.80 W/kg = 4.47 dBW/kg

# Impedance Measurement Plot for Head TSL

8 Sep 2017 13:09:24  
 CH1 S11 1 U FS 1: 54.383  $\Omega$  -552.73 m $\Omega$  383.92 pF 750.000 000 MHz

\*

De1

CA

Avg  
16

H1d

CH2 S11 LOG 5 dB/REF -20 dB 1:-27.463 dB 750.000 000 MHz

CA

Avg  
16

H1d

START 550.000 000 MHz

STOP 950.000 000 MHz

## DASY5 Validation Report for Body TSL

Date: 08.09.2017

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN:1097**

Communication System: UID 0 - CW; Frequency: 750 MHz

Medium parameters used:  $f = 750 \text{ MHz}$ ;  $\sigma = 0.96 \text{ S/m}$ ;  $\epsilon_r = 55.5$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(10.35, 10.35, 10.35); Calibrated: 31.05.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 28.03.2017
- Phantom: Flat Phantom 4.9 (Back); Type: QD 00R P49 AA; Serial: 1005
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

### Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

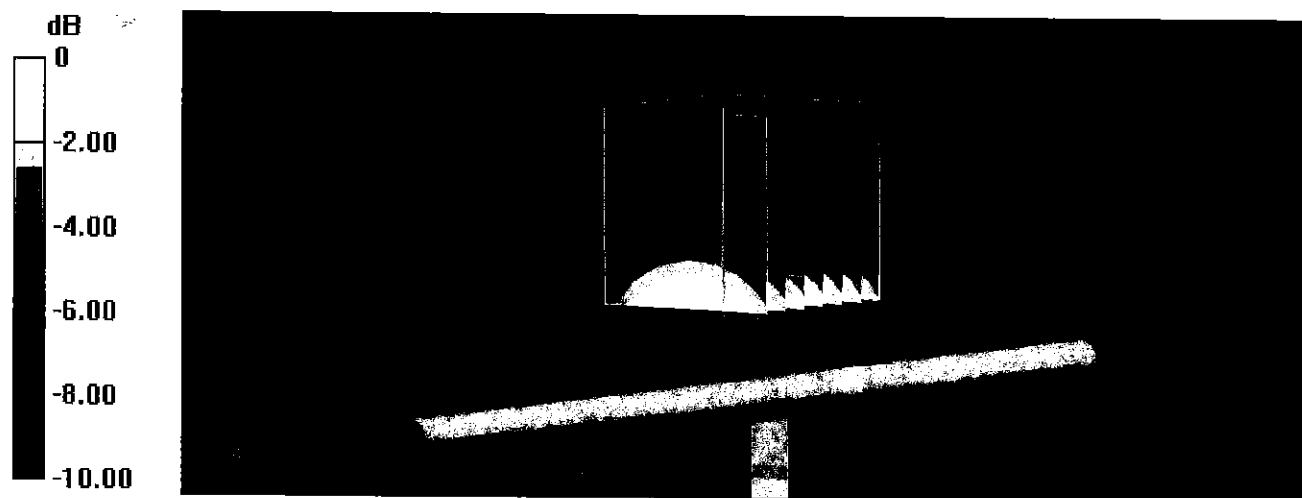
Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 56.96 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 3.16 W/kg

**SAR(1 g) = 2.14 W/kg; SAR(10 g) = 1.42 W/kg**

Maximum value of SAR (measured) = 2.81 W/kg



0 dB = 2.81 W/kg = 4.49 dBW/kg

# Impedance Measurement Plot for Body TSL

8 Sep 2017 13:08:43  
CH1 S11 1 U FS 1: 49.951  $\Omega$  -3.6172  $\Omega$  58.666 pF 750.000 000 MHz

\*

De1

CA

Avg  
15

H1d

CH2 S11 LOG 5 dB/REF -20 dB 1: -28.833 dB 750.000 000 MHz

CA

Avg  
16

H1d

START 550.000 000 MHz

STOP 950.000 000 MHz

# Certification of Calibration

Object D750V3 – SN: 1097

Calibration procedure(s) Procedure for Calibration Extension for SAR Dipoles.

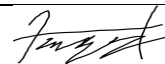
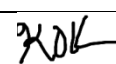
Extended Calibration date: September 08, 2018

Description: SAR Validation Dipole at 750 MHz.

## Calibration Equipment used:

| Manufacturer          | Model     | Description                                             | Cal Date   | Cal Interval | Cal Due    | Serial Number |
|-----------------------|-----------|---------------------------------------------------------|------------|--------------|------------|---------------|
| Agilent               | 8753ES    | S-Parameter Network Analyzer                            | 9/14/2017  | Annual       | 9/14/2018  | US39170118    |
| Agilent               | N5182A    | MXG Vector Signal Generator                             | 3/19/2018  | Annual       | 3/19/2019  | US46240505    |
| Amplifier Research    | 15S1G6    | Amplifier                                               | CBT        | N/A          | CBT        | 343972        |
| Anritsu               | ML2496A   | Power Meter                                             | 10/9/2017  | Annual       | 10/9/2018  | 1138001       |
| Anritsu               | MA2411B   | Pulse Power Sensor                                      | 11/15/2017 | Annual       | 11/15/2018 | 1339007       |
| Anritsu               | MA2411B   | Pulse Power Sensor                                      | 11/22/2017 | Annual       | 11/22/2018 | 1339008       |
| Control Company       | 4040      | Temperature / Humidity Monitor                          | 2/28/2018  | Biennial     | 2/28/2020  | 150761911     |
| Control Company       | 4352      | Ultra Long Stem Thermometer                             | 2/14/2017  | Biennial     | 2/14/2019  | 170112507     |
| Keysight              | 772D      | Dual Directional Coupler                                | CBT        | N/A          | CBT        | MY52180215    |
| Keysight Technologies | 85033E    | Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm) | 6/4/2018   | Annual       | 6/4/2019   | MY53401181    |
| Mini-Circuits         | BW-N20W5+ | DC to 18 GHz Precision Fixed 20 dB Attenuator           | CBT        | N/A          | CBT        | N/A           |
| Mini-Circuits         | NLP-2950+ | Low Pass Filter DC to 2700 MHz                          | CBT        | N/A          | CBT        | N/A           |
| Narda                 | 4772-3    | Attenuator (3dB)                                        | CBT        | N/A          | CBT        | 9406          |
| Pasternack            | PE2209-10 | Bidirectional Coupler                                   | CBT        | N/A          | CBT        | N/A           |
| Pasternack            | PE5011-1  | Torque Wrench                                           | 7/19/2017  | Biennial     | 7/19/2019  | N/A           |
| SPEAG                 | DAK-3.5   | Dielectric Assessment Kit                               | 5/15/2018  | Annual       | 5/15/2019  | 1070          |
| SPEAG                 | ES3DV3    | SAR Probe                                               | 9/18/2017  | Annual       | 9/18/2018  | 3287          |
| SPEAG                 | DAE4      | Data Acquisition Electronics                            | 1/26/2018  | Annual       | 1/26/2019  | 1533          |
| SPEAG                 | EX3DV4    | SAR Probe                                               | 7/20/2018  | Annual       | 7/20/2019  | 7416          |
| SPEAG                 | DAE4      | Dasy Data Acquisition Electronics                       | 1/18/2018  | Annual       | 1/18/2019  | 793           |

Measurement Uncertainty =  $\pm 23\%$  (k=2)

|                | Name            | Function                 | Signature                                                                             |
|----------------|-----------------|--------------------------|---------------------------------------------------------------------------------------|
| Calibrated By: | Sangmin Cha     | Team Lead Engineer       |  |
| Approved By:   | Kaitlin O'Keefe | Senior Technical Manager |  |

# DIPOLE CALIBRATION EXTENSION

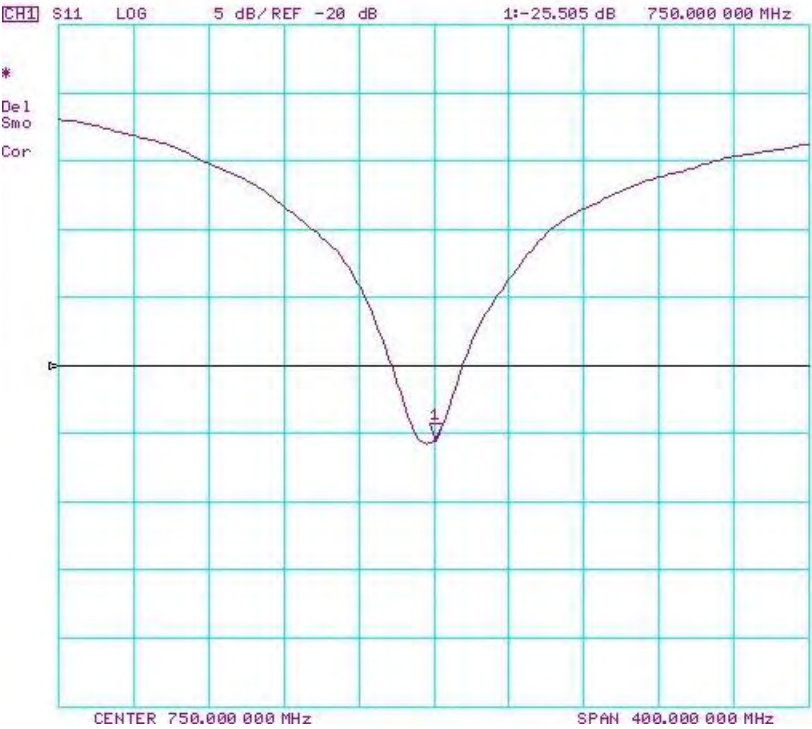
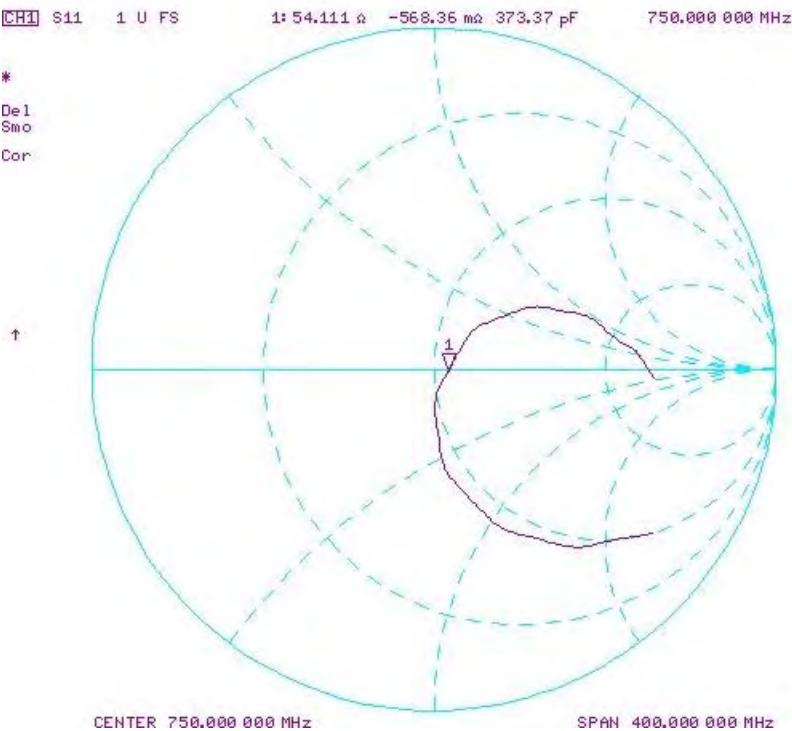
Per KDB 865664 D01, calibration intervals of up to three years may be considered for reference dipoles when it is demonstrated that the SAR target, impedance and return loss of a dipole have remained stable according to the following requirements:

1. The measured SAR does not deviate more than 10% from the target on the calibration certificate.
2. The return-loss does not deviate more than 20% from the previous measurement and meets the required 20dB minimum return-loss requirement.
3. The measurement of real or imaginary parts of impedance does not deviate more than 5Ω from the previous measurement.

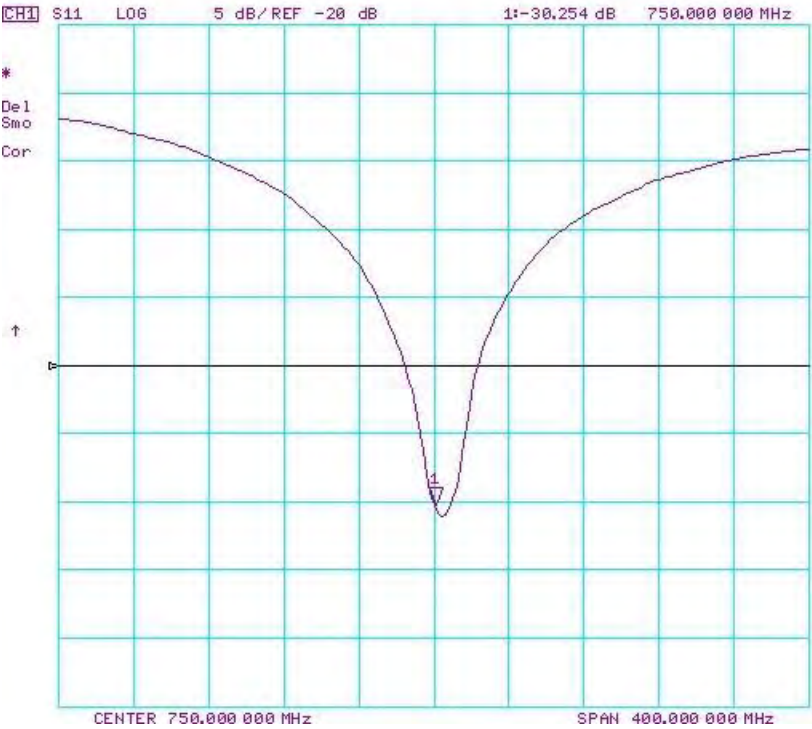
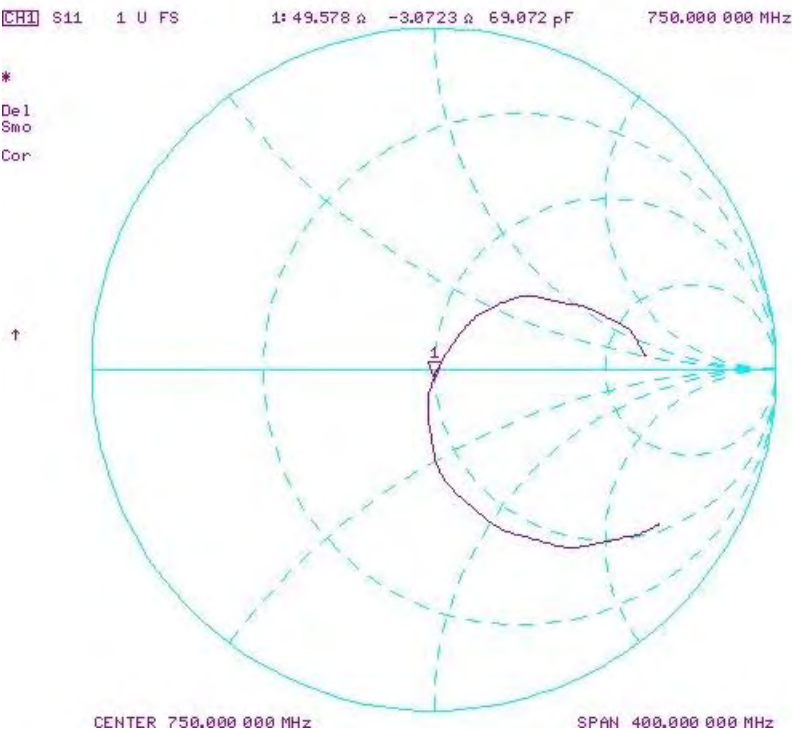
The following dipole was checked to pass the above 3 requirements to have 2-year calibration period from the calibration date:

| Calibration Date | Extension Date | Certificate Electrical Delay (ns) | Certificate SAR Target Head (1g) W/kg @ 23.0 dBm | Measured Head SAR (1g) W/kg @ 23.0 dBm | Deviation 1g (%) | Certificate SAR Target Body (10g) W/kg @ 23.0 dBm | Measured Body SAR (10g) W/kg @ 23.0 dBm | Deviation 10g (%) | Certificate Impedance Head (Ohm) Real | Measured Impedance Head (Ohm) Real | Difference (Ohm) Real | Certificate Impedance Head (Ohm) Imaginary | Measured Impedance Head (Ohm) Imaginary | Difference (Ohm) Imaginary | Certificate Return Loss Head (dB) | Measured Return Loss Head (dB) | Deviation (%) | PASS/FAIL |
|------------------|----------------|-----------------------------------|--------------------------------------------------|----------------------------------------|------------------|---------------------------------------------------|-----------------------------------------|-------------------|---------------------------------------|------------------------------------|-----------------------|--------------------------------------------|-----------------------------------------|----------------------------|-----------------------------------|--------------------------------|---------------|-----------|
| 9/8/2017         | 9/8/2018       | 1.034                             | 1.644                                            | 1.7                                    | 3.41%            | 1.078                                             | 1.12                                    | 3.90%             | 54.4                                  | 54.1                               | 0.3                   | -0.6                                       | -0.6                                    | 0                          | -27.5                             | -25.5                          | 7.30%         | PASS      |
| Calibration Date | Extension Date | Certificate Electrical Delay (ns) | Certificate SAR Target Body (1g) W/kg @ 23.0 dBm | Measured Body SAR (1g) W/kg @ 23.0 dBm | Deviation 1g (%) | Certificate SAR Target Body (10g) W/kg @ 23.0 dBm | Measured Body SAR (10g) W/kg @ 23.0 dBm | Deviation 10g (%) | Certificate Impedance Body (Ohm) Real | Measured Impedance Body (Ohm) Real | Difference (Ohm) Real | Certificate Impedance Body (Ohm) Imaginary | Measured Impedance Body (Ohm) Imaginary | Difference (Ohm) Imaginary | Certificate Return Loss Body (dB) | Measured Return Loss Body (dB) | Deviation (%) | PASS/FAIL |
| 9/8/2017         | 9/8/2018       | 1.034                             | 1.712                                            | 1.78                                   | 3.97%            | 1.136                                             | 1.17                                    | 2.99%             | 50                                    | 49.6                               | 0.4                   | -3.6                                       | -3.1                                    | 0.5                        | -28.8                             | -30.3                          | -5.20%        | PASS      |

Impedance & Return-Loss Measurement Plot for Head TSL



Impedance & Return-Loss Measurement Plot for Body TSL





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 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **PC Test**

Certificate No: **D835V2-4d180\_May18**

## CALIBRATION CERTIFICATE

Object **D835V2 - SN:4d180**

Calibration procedure(s) **QA CAL-05.v10**  
**Calibration procedure for dipole validation kits above 700 MHz**

SCV  
 5/31/2018

Calibration date: **May 18, 2018**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature ( $22 \pm 3$ )°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards           | ID #               | Cal Date (Certificate No.)      | Scheduled Calibration |
|-----------------------------|--------------------|---------------------------------|-----------------------|
| Power meter NRP             | SN: 104778         | 04-Apr-18 (No. 217-02672/02673) | Apr-19                |
| Power sensor NRP-Z91        | SN: 103244         | 04-Apr-18 (No. 217-02672)       | Apr-19                |
| Power sensor NRP-Z91        | SN: 103245         | 04-Apr-18 (No. 217-02673)       | Apr-19                |
| Reference 20 dB Attenuator  | SN: 5058 (20k)     | 04-Apr-18 (No. 217-02682)       | Apr-19                |
| Type-N mismatch combination | SN: 5047.2 / 06327 | 04-Apr-18 (No. 217-02683)       | Apr-19                |
| Reference Probe EX3DV4      | SN: 7349           | 30-Dec-17 (No. EX3-7349_Dec17)  | Dec-18                |
| DAE4                        | SN: 601            | 26-Oct-17 (No. DAE4-601_Oct17)  | Oct-18                |

| Secondary Standards       | ID #           | Check Date (in house)             | Scheduled Check        |
|---------------------------|----------------|-----------------------------------|------------------------|
| Power meter EPM-442A      | SN: GB37480704 | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| Power sensor HP 8481A     | SN: US37292783 | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| Power sensor HP 8481A     | SN: MY41092317 | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| RF generator R&S SMT-06   | SN: 100972     | 15-Jun-15 (in house check Oct-16) | In house check: Oct-18 |
| Network Analyzer HP 8753E | SN: US37390585 | 18-Oct-01 (in house check Oct-17) | In house check: Oct-18 |

Calibrated by: **Manu Seitz** **Manu Seitz** **Manu Seitz**  
 Name Function Signature  
 Laboratory Technician

Approved by: **Katja Pokovic** **Katja Pokovic** **Katja Pokovic**  
 Technical Manager

Issued: May 22, 2018

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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

**Glossary:**

|       |                                 |
|-------|---------------------------------|
| TSL   | tissue simulating liquid        |
| ConvF | sensitivity in TSL / NORM x,y,z |
| N/A   | not applicable or not measured  |

**Calibration is Performed According to the Following Standards:**

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

**Additional Documentation:**

- DASY4/5 System Handbook

**Methods Applied and Interpretation of Parameters:**

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor  $k=2$ , which for a normal distribution corresponds to a coverage probability of approximately 95%.

## Measurement Conditions

DASY system configuration, as far as not given on page 1.

|                                     |                        |             |
|-------------------------------------|------------------------|-------------|
| <b>DASY Version</b>                 | DASY5                  | V52.10.1    |
| <b>Extrapolation</b>                | Advanced Extrapolation |             |
| <b>Phantom</b>                      | Modular Flat Phantom   |             |
| <b>Distance Dipole Center - TSL</b> | 15 mm                  | with Spacer |
| <b>Zoom Scan Resolution</b>         | dx, dy, dz = 5 mm      |             |
| <b>Frequency</b>                    | 835 MHz $\pm$ 1 MHz    |             |

## Head TSL parameters

The following parameters and calculations were applied.

|                                                | Temperature         | Permittivity   | Conductivity         |
|------------------------------------------------|---------------------|----------------|----------------------|
| <b>Nominal Head TSL parameters</b>             | 22.0 °C             | 41.5           | 0.90 mho/m           |
| <b>Measured Head TSL parameters</b>            | (22.0 $\pm$ 0.2) °C | 40.8 $\pm$ 6 % | 0.92 mho/m $\pm$ 6 % |
| <b>Head TSL temperature change during test</b> | < 0.5 °C            | ----           | ----                 |

## SAR result with Head TSL

|                                                             |                    |                                                |
|-------------------------------------------------------------|--------------------|------------------------------------------------|
| <b>SAR averaged over 1 cm<sup>3</sup> (1 g) of Head TSL</b> | Condition          |                                                |
| SAR measured                                                | 250 mW input power | 2.45 W/kg                                      |
| SAR for nominal Head TSL parameters                         | normalized to 1W   | <b>9.60 W/kg <math>\pm</math> 17.0 % (k=2)</b> |

|                                                               |                    |                                                |
|---------------------------------------------------------------|--------------------|------------------------------------------------|
| <b>SAR averaged over 10 cm<sup>3</sup> (10 g) of Head TSL</b> | condition          |                                                |
| SAR measured                                                  | 250 mW input power | 1.58 W/kg                                      |
| SAR for nominal Head TSL parameters                           | normalized to 1W   | <b>6.22 W/kg <math>\pm</math> 16.5 % (k=2)</b> |

## Body TSL parameters

The following parameters and calculations were applied.

|                                                | Temperature         | Permittivity   | Conductivity         |
|------------------------------------------------|---------------------|----------------|----------------------|
| <b>Nominal Body TSL parameters</b>             | 22.0 °C             | 55.2           | 0.97 mho/m           |
| <b>Measured Body TSL parameters</b>            | (22.0 $\pm$ 0.2) °C | 54.6 $\pm$ 6 % | 0.99 mho/m $\pm$ 6 % |
| <b>Body TSL temperature change during test</b> | < 0.5 °C            | ----           | ----                 |

## SAR result with Body TSL

|                                                             |                    |                                                |
|-------------------------------------------------------------|--------------------|------------------------------------------------|
| <b>SAR averaged over 1 cm<sup>3</sup> (1 g) of Body TSL</b> | Condition          |                                                |
| SAR measured                                                | 250 mW input power | 2.44 W/kg                                      |
| SAR for nominal Body TSL parameters                         | normalized to 1W   | <b>9.59 W/kg <math>\pm</math> 17.0 % (k=2)</b> |

|                                                               |                    |                                                |
|---------------------------------------------------------------|--------------------|------------------------------------------------|
| <b>SAR averaged over 10 cm<sup>3</sup> (10 g) of Body TSL</b> | condition          |                                                |
| SAR measured                                                  | 250 mW input power | 1.60 W/kg                                      |
| SAR for nominal Body TSL parameters                           | normalized to 1W   | <b>6.31 W/kg <math>\pm</math> 16.5 % (k=2)</b> |

## Appendix (Additional assessments outside the scope of SCS 0108)

### Antenna Parameters with Head TSL

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 50.7 $\Omega$ - 5.1 j $\Omega$ |
| Return Loss                          | - 25.9 dB                      |

### Antenna Parameters with Body TSL

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 47.2 $\Omega$ - 8.2 j $\Omega$ |
| Return Loss                          | - 21.1 dB                      |

### General Antenna Parameters and Design

|                                  |          |
|----------------------------------|----------|
| Electrical Delay (one direction) | 1.396 ns |
|----------------------------------|----------|

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

|                 |                    |
|-----------------|--------------------|
| Manufactured by | SPEAG              |
| Manufactured on | September 24, 2014 |

## DASY5 Validation Report for Head TSL

Date: 17.05.2018

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d180**

Communication System: UID 0 - CW; Frequency: 835 MHz

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.92 \text{ S/m}$ ;  $\epsilon_r = 40.8$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(9.9, 9.9, 9.9) @ 835 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 4.9 (front); Type: QD 00L P49 AA; Serial: 1001
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

### Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

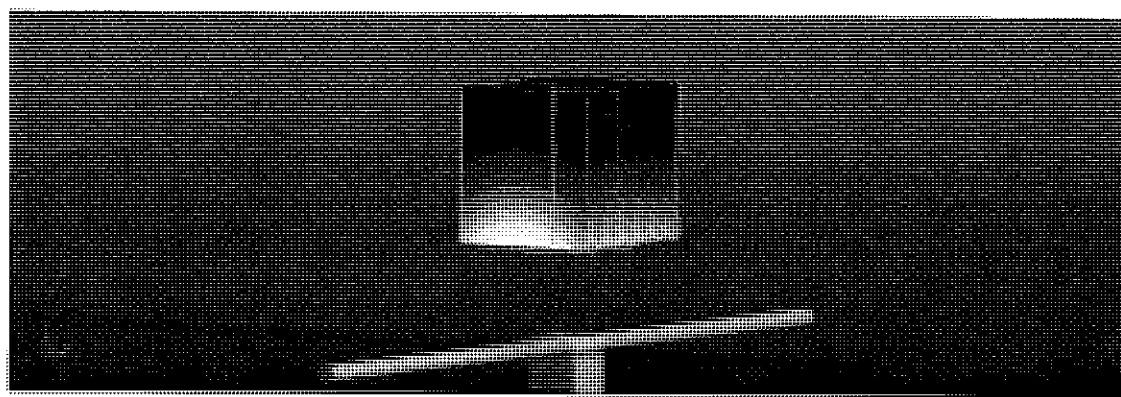
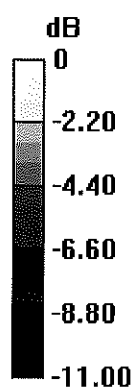
Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 65.39 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 3.78 W/kg

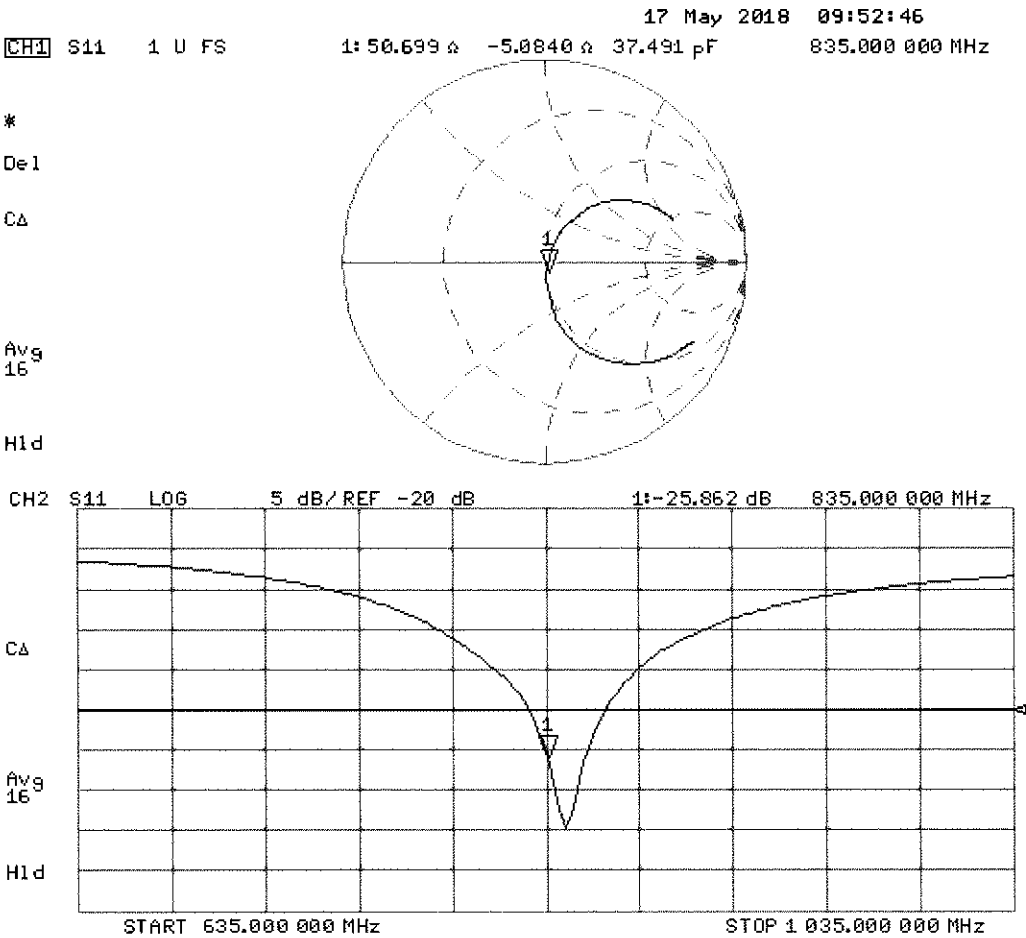
**SAR(1 g) = 2.45 W/kg; SAR(10 g) = 1.58 W/kg**

Maximum value of SAR (measured) = 3.32 W/kg



0 dB = 3.32 W/kg = 5.21 dBW/kg

Impedance Measurement Plot for Head TSL



## DASY5 Validation Report for Body TSL

Date: 18.05.2018

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d180**

Communication System: UID 0 - CW; Frequency: 835 MHz

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.99$  S/m;  $\epsilon_r = 54.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(10.05, 10.05, 10.05) @ 835 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 4.9 (Back); Type: QD 00R P49 AA; Serial: 1005
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

### **Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:**

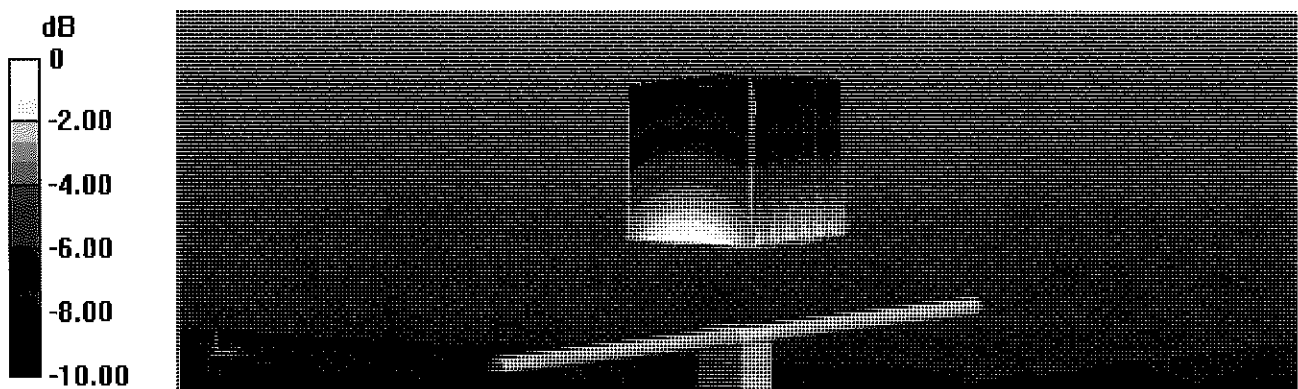
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 60.80 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 3.62 W/kg

**SAR(1 g) = 2.44 W/kg; SAR(10 g) = 1.6 W/kg**

Maximum value of SAR (measured) = 3.23 W/kg

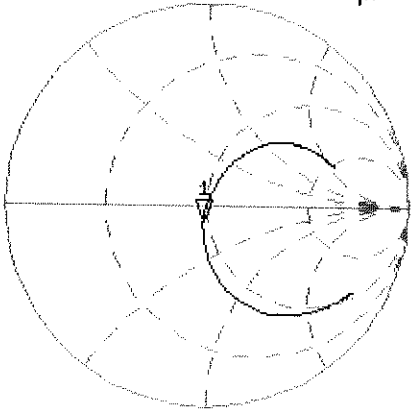


0 dB = 3.23 W/kg = 5.09 dBW/kg

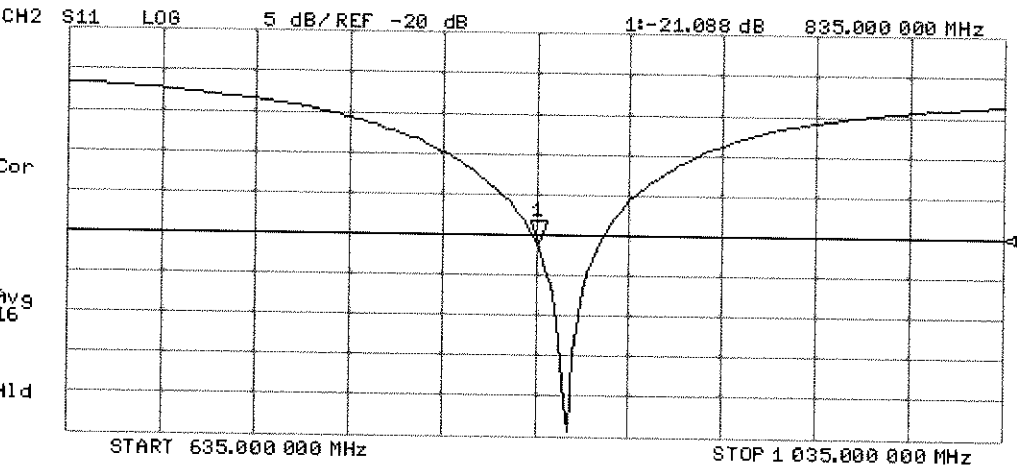
Impedance Measurement Plot for Body TSL

CH1 S11 1 U FS 18 May 2018 10:19:30  
1: 47.234  $\Omega$  -8.1504  $\Omega$  23.386 pF 835.000 000 MHz

\*  
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Client **PC Test**

Certificate No: **D1750V2-1092\_May18**

## CALIBRATION CERTIFICATE

Object **D1750V2 - SN:1092**

Calibration procedure(s) **QA CAL-05.v10  
Calibration procedure for dipole validation kits above 700 MHz**

SC ✓  
5/31/2018

Calibration date: **May 15, 2018**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature ( $22 \pm 3$ )°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards           | ID #               | Cal Date (Certificate No.)      | Scheduled Calibration |
|-----------------------------|--------------------|---------------------------------|-----------------------|
| Power meter NRP             | SN: 104778         | 04-Apr-18 (No. 217-02672/02673) | Apr-19                |
| Power sensor NRP-Z91        | SN: 103244         | 04-Apr-18 (No. 217-02672)       | Apr-19                |
| Power sensor NRP-Z91        | SN: 103245         | 04-Apr-18 (No. 217-02673)       | Apr-19                |
| Reference 20 dB Attenuator  | SN: 5058 (20k)     | 04-Apr-18 (No. 217-02682)       | Apr-19                |
| Type-N mismatch combination | SN: 5047.2 / 06327 | 04-Apr-18 (No. 217-02683)       | Apr-19                |
| Reference Probe EX3DV4      | SN: 7349           | 30-Dec-17 (No. EX3-7349_Dec17)  | Dec-18                |
| DAE4                        | SN: 601            | 26-Oct-17 (No. DAE4-601_Oct17)  | Oct-18                |

| Secondary Standards       | ID #           | Check Date (in house)             | Scheduled Check        |
|---------------------------|----------------|-----------------------------------|------------------------|
| Power meter EPM-442A      | SN: GB37480704 | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| Power sensor HP 8481A     | SN: US37292783 | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| Power sensor HP 8481A     | SN: MY41092317 | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| RF generator R&S SMT-06   | SN: 100972     | 15-Jun-15 (in house check Oct-16) | In house check: Oct-18 |
| Network Analyzer HP 8753E | SN: US37390585 | 18-Oct-01 (in house check Oct-17) | In house check: Oct-18 |

|                |            |                       |           |
|----------------|------------|-----------------------|-----------|
|                | Name       | Function              | Signature |
| Calibrated by: | Manu Seitz | Laboratory Technician |           |

|              |               |                   |
|--------------|---------------|-------------------|
| Approved by: | Katja Pokovic | Technical Manager |
|--------------|---------------|-------------------|

Issued: May 17, 2018

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**Glossary:**

|       |                                 |
|-------|---------------------------------|
| TSL   | tissue simulating liquid        |
| ConvF | sensitivity in TSL / NORM x,y,z |
| N/A   | not applicable or not measured  |

**Calibration is Performed According to the Following Standards:**

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

**Additional Documentation:**

- DASY4/5 System Handbook

**Methods Applied and Interpretation of Parameters:**

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor  $k=2$ , which for a normal distribution corresponds to a coverage probability of approximately 95%.

## Measurement Conditions

DASY system configuration, as far as not given on page 1.

|                                     |                        |             |
|-------------------------------------|------------------------|-------------|
| <b>DASY Version</b>                 | DASY5                  | V52.10.1    |
| <b>Extrapolation</b>                | Advanced Extrapolation |             |
| <b>Phantom</b>                      | Modular Flat Phantom   |             |
| <b>Distance Dipole Center - TSL</b> | 10 mm                  | with Spacer |
| <b>Zoom Scan Resolution</b>         | dx, dy, dz = 5 mm      |             |
| <b>Frequency</b>                    | 1750 MHz $\pm$ 1 MHz   |             |

## Head TSL parameters

The following parameters and calculations were applied.

|                                                | Temperature         | Permittivity   | Conductivity         |
|------------------------------------------------|---------------------|----------------|----------------------|
| <b>Nominal Head TSL parameters</b>             | 22.0 °C             | 40.1           | 1.37 mho/m           |
| <b>Measured Head TSL parameters</b>            | (22.0 $\pm$ 0.2) °C | 39.0 $\pm$ 6 % | 1.34 mho/m $\pm$ 6 % |
| <b>Head TSL temperature change during test</b> | < 0.5 °C            | ----           | ----                 |

## SAR result with Head TSL

|                                                             |                    |                                                |
|-------------------------------------------------------------|--------------------|------------------------------------------------|
| <b>SAR averaged over 1 cm<sup>3</sup> (1 g) of Head TSL</b> | Condition          |                                                |
| SAR measured                                                | 250 mW input power | 8.95 W/kg                                      |
| SAR for nominal Head TSL parameters                         | normalized to 1W   | <b>36.1 W/kg <math>\pm</math> 17.0 % (k=2)</b> |

|                                                               |                    |                                                |
|---------------------------------------------------------------|--------------------|------------------------------------------------|
| <b>SAR averaged over 10 cm<sup>3</sup> (10 g) of Head TSL</b> | condition          |                                                |
| SAR measured                                                  | 250 mW input power | 4.73 W/kg                                      |
| SAR for nominal Head TSL parameters                           | normalized to 1W   | <b>19.0 W/kg <math>\pm</math> 16.5 % (k=2)</b> |

## Body TSL parameters

The following parameters and calculations were applied.

|                                                | Temperature         | Permittivity   | Conductivity         |
|------------------------------------------------|---------------------|----------------|----------------------|
| <b>Nominal Body TSL parameters</b>             | 22.0 °C             | 53.4           | 1.49 mho/m           |
| <b>Measured Body TSL parameters</b>            | (22.0 $\pm$ 0.2) °C | 53.2 $\pm$ 6 % | 1.46 mho/m $\pm$ 6 % |
| <b>Body TSL temperature change during test</b> | < 0.5 °C            | ----           | ----                 |

## SAR result with Body TSL

|                                                             |                    |                                                |
|-------------------------------------------------------------|--------------------|------------------------------------------------|
| <b>SAR averaged over 1 cm<sup>3</sup> (1 g) of Body TSL</b> | Condition          |                                                |
| SAR measured                                                | 250 mW input power | 8.99 W/kg                                      |
| SAR for nominal Body TSL parameters                         | normalized to 1W   | <b>36.4 W/kg <math>\pm</math> 17.0 % (k=2)</b> |

|                                                               |                    |                                                |
|---------------------------------------------------------------|--------------------|------------------------------------------------|
| <b>SAR averaged over 10 cm<sup>3</sup> (10 g) of Body TSL</b> | condition          |                                                |
| SAR measured                                                  | 250 mW input power | 4.81 W/kg                                      |
| SAR for nominal Body TSL parameters                           | normalized to 1W   | <b>19.4 W/kg <math>\pm</math> 16.5 % (k=2)</b> |

## Appendix (Additional assessments outside the scope of SCS 0108)

### Antenna Parameters with Head TSL

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 49.2 $\Omega$ - 1.0 j $\Omega$ |
| Return Loss                          | - 37.8 dB                      |

### Antenna Parameters with Body TSL

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 44.8 $\Omega$ - 0.6 j $\Omega$ |
| Return Loss                          | - 25.2 dB                      |

### General Antenna Parameters and Design

|                                  |          |
|----------------------------------|----------|
| Electrical Delay (one direction) | 1.217 ns |
|----------------------------------|----------|

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

|                 |                   |
|-----------------|-------------------|
| Manufactured by | SPEAG             |
| Manufactured on | November 07, 2012 |

## DASY5 Validation Report for Head TSL

Date: 15.05.2018

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN:1092**

Communication System: UID 0 - CW; Frequency: 1750 MHz

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.34$  S/m;  $\epsilon_r = 39$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.5, 8.5, 8.5) @ 1750 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

### **Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:**

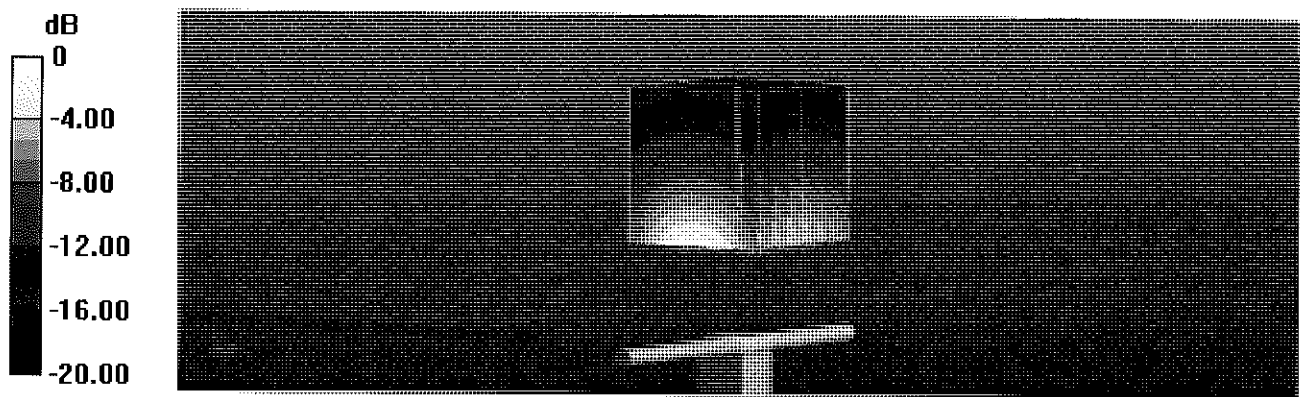
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 106.8 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 16.3 W/kg

**SAR(1 g) = 8.95 W/kg; SAR(10 g) = 4.73 W/kg**

Maximum value of SAR (measured) = 13.8 W/kg

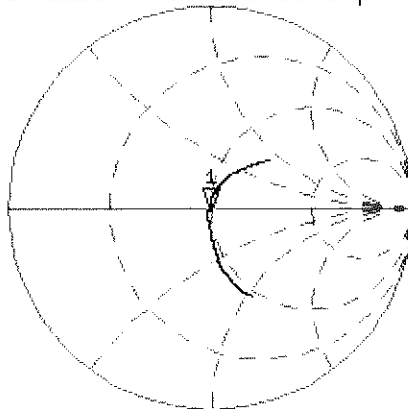


0 dB = 13.8 W/kg = 11.40 dBW/kg

# Impedance Measurement Plot for Head TSL

15 May 2018 11:09:26  
 [CH1] S11 1 U FS 1: 49.203  $\Omega$  -1.0117  $\Omega$  89.892 pF 1 750.000 000 MHz

\*  
 Del  
 CA



Avg  
 16

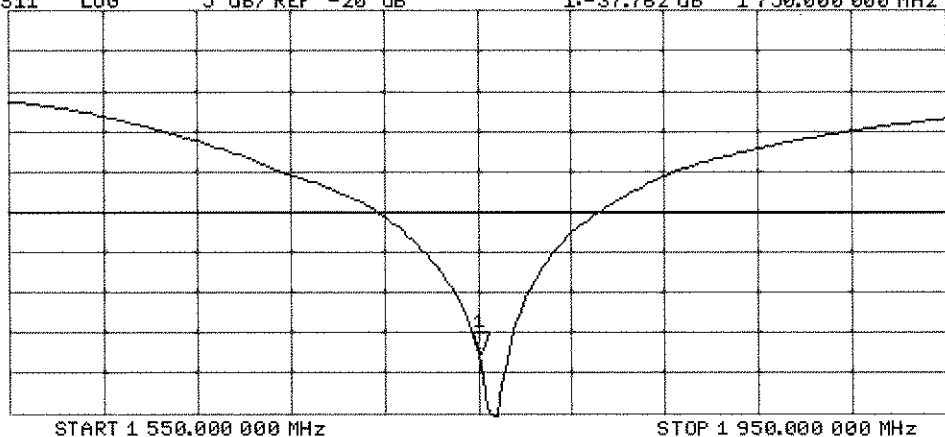
H1d

CH2 S11 LOG 5 dB/REF -20 dB 1: -37.762 dB 1 750.000 000 MHz

CA

Avg  
 16

H1d



## DASY5 Validation Report for Body TSL

Date: 15.05.2018

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN:1092**

Communication System: UID 0 - CW; Frequency: 1750 MHz

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.46$  S/m;  $\epsilon_r = 53.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.35, 8.35, 8.35) @ 1750 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

### Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

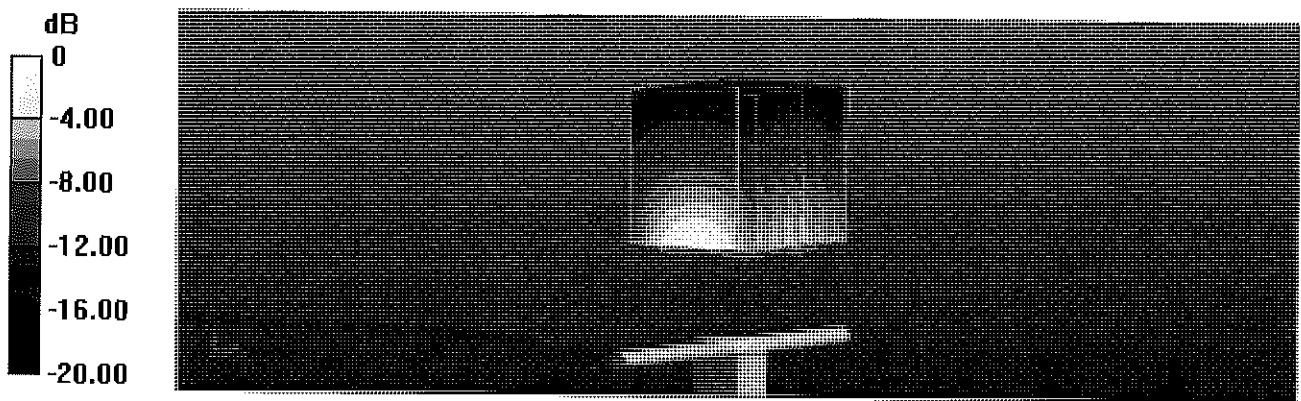
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 101.4 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 15.8 W/kg

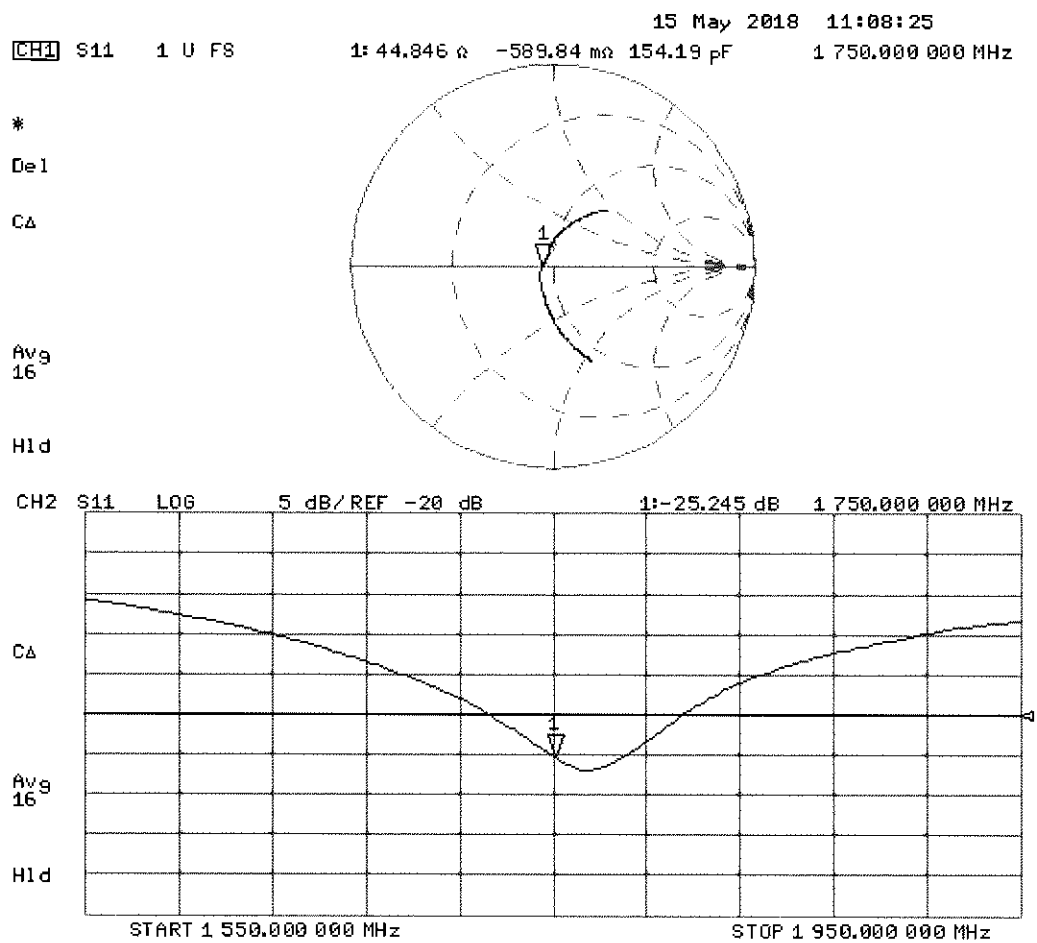
**SAR(1 g) = 8.99 W/kg; SAR(10 g) = 4.81 W/kg**

Maximum value of SAR (measured) = 13.4 W/kg



0 dB = 13.4 W/kg = 11.27 dBW/kg

## Impedance Measurement Plot for Body TSL





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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **PC Test**

Certificate No: **D1900V2-5d026\_May18**

## CALIBRATION CERTIFICATE

Object **D1900V2 - SN:5d026**

Calibration procedure(s) **QA CAL-05.v10  
Calibration procedure for dipole validation kits above 700 MHz**

SC ✓  
5/31/2018

Calibration date: **May 14, 2018**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature ( $22 \pm 3$ )°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards           | ID #               | Cal Date (Certificate No.)        | Scheduled Calibration  |
|-----------------------------|--------------------|-----------------------------------|------------------------|
| Power meter NRP             | SN: 104778         | 04-Apr-18 (No. 217-02672/02673)   | Apr-19                 |
| Power sensor NRP-Z91        | SN: 103244         | 04-Apr-18 (No. 217-02672)         | Apr-19                 |
| Power sensor NRP-Z91        | SN: 103245         | 04-Apr-18 (No. 217-02673)         | Apr-19                 |
| Reference 20 dB Attenuator  | SN: 5058 (20k)     | 04-Apr-18 (No. 217-02682)         | Apr-19                 |
| Type-N mismatch combination | SN: 5047.2 / 06327 | 04-Apr-18 (No. 217-02683)         | Apr-19                 |
| Reference Probe EX3DV4      | SN: 7349           | 30-Dec-17 (No. EX3-7349_Dec17)    | Dec-18                 |
| DAE4                        | SN: 601            | 26-Oct-17 (No. DAE4-601_Oct17)    | Oct-18                 |
| Secondary Standards         | ID #               | Check Date (in house)             | Scheduled Check        |
| Power meter EPM-442A        | SN: GB37480704     | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| Power sensor HP 8481A       | SN: US37292783     | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| Power sensor HP 8481A       | SN: MY41092317     | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| RF generator R&S SMT-06     | SN: 100972         | 15-Jun-15 (in house check Oct-16) | In house check: Oct-18 |
| Network Analyzer HP 8753E   | SN: US37390585     | 18-Oct-01 (in house check Oct-17) | In house check: Oct-18 |

Calibrated by: **Jeton Kastrati** **Laboratory Technician**

Signature

Approved by: **Katja Pokovic** **Technical Manager**

Issued: May 14, 2018

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

**Glossary:**

|       |                                 |
|-------|---------------------------------|
| TSL   | tissue simulating liquid        |
| ConvF | sensitivity in TSL / NORM x,y,z |
| N/A   | not applicable or not measured  |

**Calibration is Performed According to the Following Standards:**

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

**Additional Documentation:**

- DASY4/5 System Handbook

**Methods Applied and Interpretation of Parameters:**

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor  $k=2$ , which for a normal distribution corresponds to a coverage probability of approximately 95%.

## Measurement Conditions

DASY system configuration, as far as not given on page 1.

|                              |                        |             |
|------------------------------|------------------------|-------------|
| DASY Version                 | DASY5                  | V52.10.1    |
| Extrapolation                | Advanced Extrapolation |             |
| Phantom                      | Modular Flat Phantom   |             |
| Distance Dipole Center - TSL | 10 mm                  | with Spacer |
| Zoom Scan Resolution         | dx, dy, dz = 5 mm      |             |
| Frequency                    | 1900 MHz $\pm$ 1 MHz   |             |

## Head TSL parameters

The following parameters and calculations were applied.

|                                         | Temperature         | Permittivity   | Conductivity         |
|-----------------------------------------|---------------------|----------------|----------------------|
| Nominal Head TSL parameters             | 22.0 °C             | 40.0           | 1.40 mho/m           |
| Measured Head TSL parameters            | (22.0 $\pm$ 0.2) °C | 41.2 $\pm$ 6 % | 1.35 mho/m $\pm$ 6 % |
| Head TSL temperature change during test | < 0.5 °C            | ----           | ----                 |

## SAR result with Head TSL

|                                                       |                    |                              |
|-------------------------------------------------------|--------------------|------------------------------|
| SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL | Condition          |                              |
| SAR measured                                          | 250 mW input power | 9.78 W/kg                    |
| SAR for nominal Head TSL parameters                   | normalized to 1W   | 40.2 W/kg $\pm$ 17.0 % (k=2) |

|                                                         |                    |                              |
|---------------------------------------------------------|--------------------|------------------------------|
| SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL | condition          |                              |
| SAR measured                                            | 250 mW input power | 5.19 W/kg                    |
| SAR for nominal Head TSL parameters                     | normalized to 1W   | 21.1 W/kg $\pm$ 16.5 % (k=2) |

## Body TSL parameters

The following parameters and calculations were applied.

|                                         | Temperature         | Permittivity   | Conductivity         |
|-----------------------------------------|---------------------|----------------|----------------------|
| Nominal Body TSL parameters             | 22.0 °C             | 53.3           | 1.52 mho/m           |
| Measured Body TSL parameters            | (22.0 $\pm$ 0.2) °C | 55.3 $\pm$ 6 % | 1.46 mho/m $\pm$ 6 % |
| Body TSL temperature change during test | < 0.5 °C            | ----           | ----                 |

## SAR result with Body TSL

|                                                       |                    |                              |
|-------------------------------------------------------|--------------------|------------------------------|
| SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL | Condition          |                              |
| SAR measured                                          | 250 mW input power | 9.65 W/kg                    |
| SAR for nominal Body TSL parameters                   | normalized to 1W   | 39.9 W/kg $\pm$ 17.0 % (k=2) |

|                                                         |                    |                              |
|---------------------------------------------------------|--------------------|------------------------------|
| SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL | condition          |                              |
| SAR measured                                            | 250 mW input power | 5.19 W/kg                    |
| SAR for nominal Body TSL parameters                     | normalized to 1W   | 21.2 W/kg $\pm$ 16.5 % (k=2) |

## Appendix (Additional assessments outside the scope of SCS 0108)

### Antenna Parameters with Head TSL

|                                      |                             |
|--------------------------------------|-----------------------------|
| Impedance, transformed to feed point | $53.0 \Omega + 8.0 j\Omega$ |
| Return Loss                          | - 21.6 dB                   |

### Antenna Parameters with Body TSL

|                                      |                             |
|--------------------------------------|-----------------------------|
| Impedance, transformed to feed point | $47.1 \Omega + 7.4 j\Omega$ |
| Return Loss                          | - 21.8 dB                   |

### General Antenna Parameters and Design

|                                  |          |
|----------------------------------|----------|
| Electrical Delay (one direction) | 1.199 ns |
|----------------------------------|----------|

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

|                 |                   |
|-----------------|-------------------|
| Manufactured by | SPEAG             |
| Manufactured on | December 17, 2002 |

## DASY5 Validation Report for Head TSL

Date: 14.05.2018

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d026**

Communication System: UID 0 - CW; Frequency: 1900 MHz

Medium parameters used:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.35 \text{ S/m}$ ;  $\epsilon_r = 41.2$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.18, 8.18, 8.18) @ 1900 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

### **Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:**

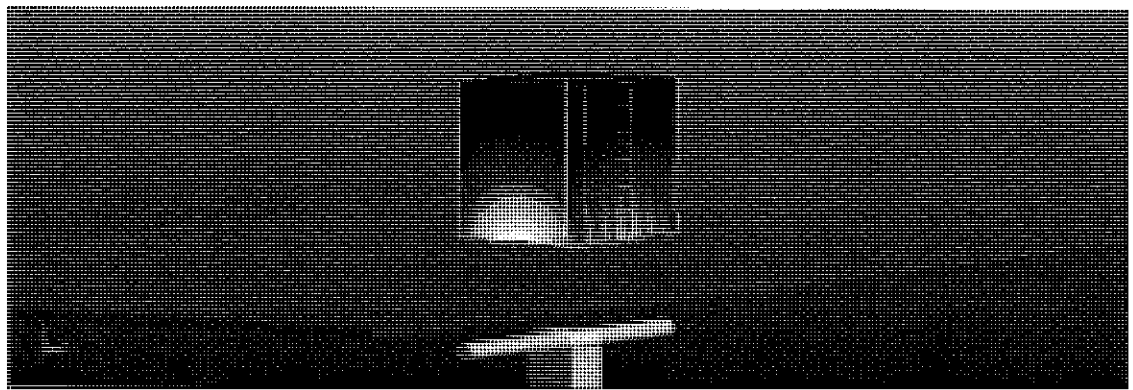
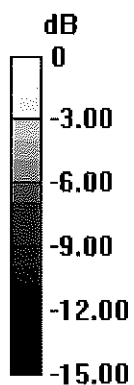
Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 109.9 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 17.8 W/kg

**SAR(1 g) = 9.78 W/kg; SAR(10 g) = 5.19 W/kg**

Maximum value of SAR (measured) = 15.0 W/kg

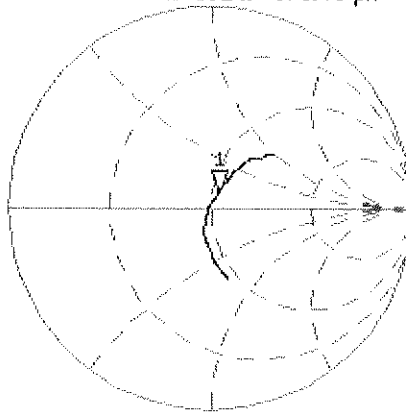


0 dB = 15.0 W/kg = 11.76 dBW/kg

# Impedance Measurement Plot for Head TSL

14 May 2018 09:14:41  
 [CH1] S11 1 U FS 1: 52.955  $\Omega$  8.0391  $\Omega$  673.40  $\mu$ H 1 900.000 000 MHz

\*  
 Del  
 CA



Avg  
 16

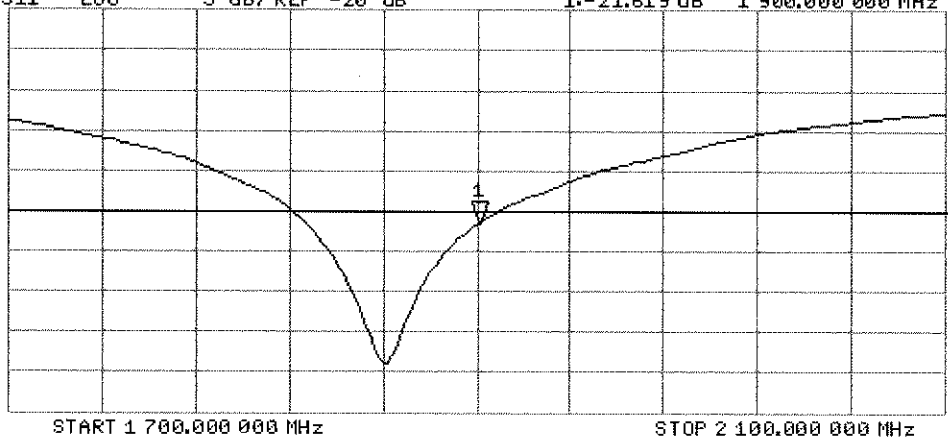
H1d

CH2 S11 LOG 5 dB/REF -20 dB 1:-21.619 dB 1 900.000 000 MHz

CA

Avg  
 16

H1d



## DASY5 Validation Report for Body TSL

Date: 14.05.2018

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d026**

Communication System: UID 0 - CW; Frequency: 1900 MHz

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.46$  S/m;  $\epsilon_r = 55.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.15, 8.15, 8.15) @ 1900 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

### **Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:**

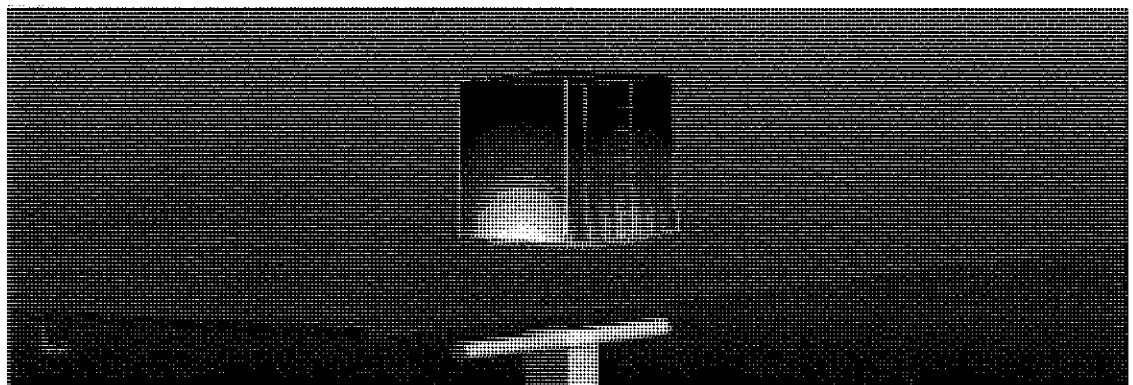
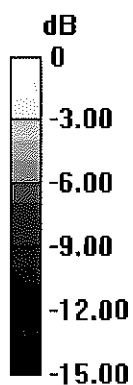
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 104.5 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 16.7 W/kg

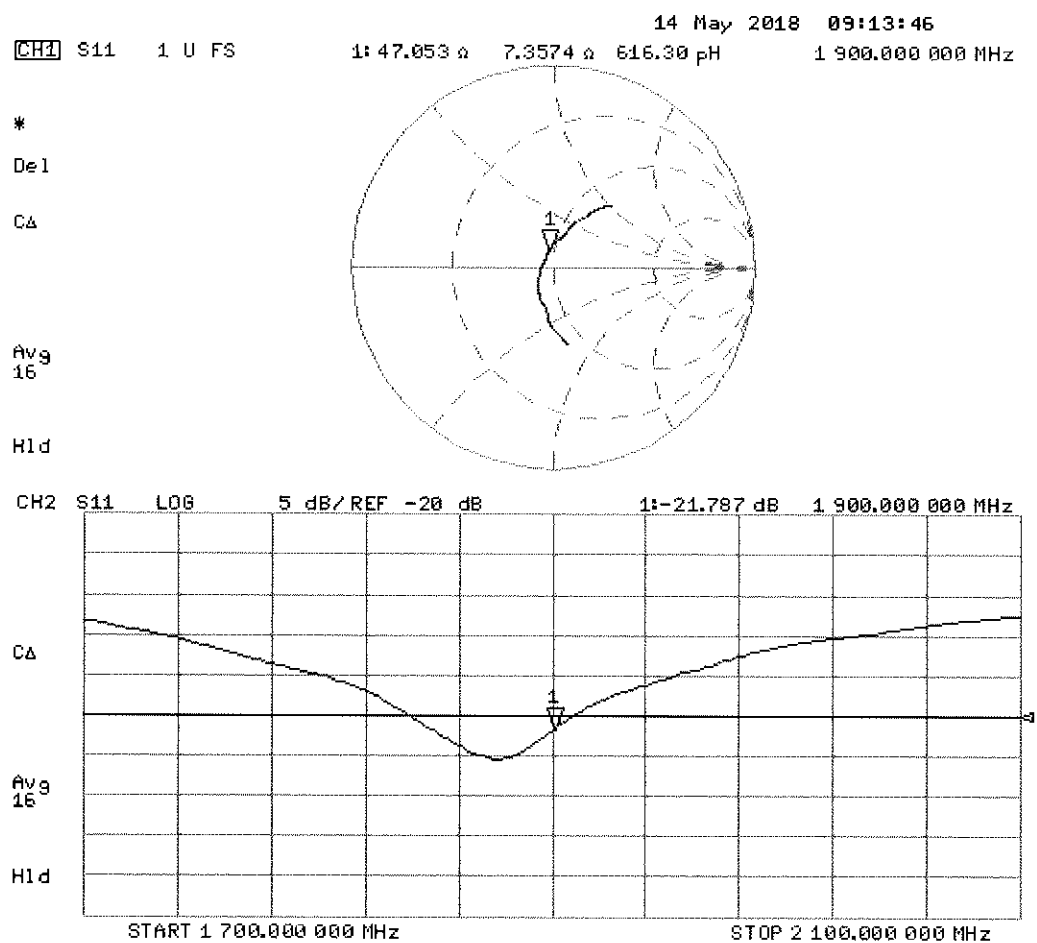
**SAR(1 g) = 9.65 W/kg; SAR(10 g) = 5.19 W/kg**

Maximum value of SAR (measured) = 14.4 W/kg



0 dB = 14.4 W/kg = 11.58 dBW/kg

# Impedance Measurement Plot for Body TSL





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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **PC Test**

Certificate No: **D1900V2-5d180\_Aug17**

## CALIBRATION CERTIFICATE

Object **D1900V2 - SN:5d180**

Calibration procedure(s) **QA CAL-05.v9**  
**Calibration procedure for dipole validation kits above 700 MHz**

Calibration date: **August 16, 2017**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility; environment temperature  $(22 \pm 3)^\circ\text{C}$  and humidity  $< 70\%$ .

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards           | ID #               | Cal Date (Certificate No.)      | Scheduled Calibration |
|-----------------------------|--------------------|---------------------------------|-----------------------|
| Power meter NRP             | SN: 104778         | 04-Apr-17 (No. 217-02521/02522) | Apr-18                |
| Power sensor NRP-Z91        | SN: 103244         | 04-Apr-17 (No. 217-02521)       | Apr-18                |
| Power sensor NRP-Z91        | SN: 103245         | 04-Apr-17 (No. 217-02522)       | Apr-18                |
| Reference 20 dB Attenuator  | SN: 5058 (20k)     | 07-Apr-17 (No. 217-02528)       | Apr-18                |
| Type-N mismatch combination | SN: 5047.2 / 06327 | 07-Apr-17 (No. 217-02529)       | Apr-18                |
| Reference Probe EX3DV4      | SN: 7349           | 31-May-17 (No. EX3-7349_May17)  | May-18                |
| DAE4                        | SN: 601            | 28-Mar-17 (No. DAE4-601_Mar17)  | Mar-18                |

| Secondary Standards       | ID #           | Check Date (in house)             | Scheduled Check        |
|---------------------------|----------------|-----------------------------------|------------------------|
| Power meter EPM-442A      | SN: GB37480704 | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| Power sensor HP 8481A     | SN: US37292783 | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| Power sensor HP 8481A     | SN: MY41092317 | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| RF generator R&S SMT-06   | SN: 100972     | 15-Jun-15 (in house check Oct-16) | In house check: Oct-18 |
| Network Analyzer HP 8753E | SN: US37390585 | 18-Oct-01 (in house check Oct-16) | In house check: Oct-17 |

Calibrated by: **Johannes Kurkka** **Laboratory Technician**

Approved by: **Katja Pokovic** **Technical Manager**

Signature

*[Signature]*

*[Signature]*

Issued: August 16, 2017

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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

### **Glossary:**

|       |                                 |
|-------|---------------------------------|
| TSL   | tissue simulating liquid        |
| ConvF | sensitivity in TSL / NORM x,y,z |
| N/A   | not applicable or not measured  |

### **Calibration is Performed According to the Following Standards:**

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

### **Additional Documentation:**

- DASY4/5 System Handbook

### **Methods Applied and Interpretation of Parameters:**

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor  $k=2$ , which for a normal distribution corresponds to a coverage probability of approximately 95%.

## Measurement Conditions

DASY system configuration, as far as not given on page 1.

|                              |                        |             |
|------------------------------|------------------------|-------------|
| DASY Version                 | DASY5                  | V52.10.0    |
| Extrapolation                | Advanced Extrapolation |             |
| Phantom                      | Modular Flat Phantom   |             |
| Distance Dipole Center - TSL | 10 mm                  | with Spacer |
| Zoom Scan Resolution         | dx, dy, dz = 5 mm      |             |
| Frequency                    | 1900 MHz $\pm$ 1 MHz   |             |

## Head TSL parameters

The following parameters and calculations were applied.

|                                         | Temperature         | Permittivity   | Conductivity         |
|-----------------------------------------|---------------------|----------------|----------------------|
| Nominal Head TSL parameters             | 22.0 °C             | 40.0           | 1.40 mho/m           |
| Measured Head TSL parameters            | (22.0 $\pm$ 0.2) °C | 40.6 $\pm$ 6 % | 1.36 mho/m $\pm$ 6 % |
| Head TSL temperature change during test | < 0.5 °C            | ----           | ----                 |

## SAR result with Head TSL

|                                                       |                    |                              |
|-------------------------------------------------------|--------------------|------------------------------|
| SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL | Condition          |                              |
| SAR measured                                          | 250 mW input power | 9.60 W/kg                    |
| SAR for nominal Head TSL parameters                   | normalized to 1W   | 39.2 W/kg $\pm$ 17.0 % (k=2) |

|                                                         |                    |                              |
|---------------------------------------------------------|--------------------|------------------------------|
| SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL | condition          |                              |
| SAR measured                                            | 250 mW input power | 5.09 W/kg                    |
| SAR for nominal Head TSL parameters                     | normalized to 1W   | 20.6 W/kg $\pm$ 16.5 % (k=2) |

## Body TSL parameters

The following parameters and calculations were applied.

|                                         | Temperature         | Permittivity   | Conductivity         |
|-----------------------------------------|---------------------|----------------|----------------------|
| Nominal Body TSL parameters             | 22.0 °C             | 53.3           | 1.52 mho/m           |
| Measured Body TSL parameters            | (22.0 $\pm$ 0.2) °C | 54.1 $\pm$ 6 % | 1.48 mho/m $\pm$ 6 % |
| Body TSL temperature change during test | < 0.5 °C            | ----           | ----                 |

## SAR result with Body TSL

|                                                       |                    |                              |
|-------------------------------------------------------|--------------------|------------------------------|
| SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL | Condition          |                              |
| SAR measured                                          | 250 mW input power | 9.68 W/kg                    |
| SAR for nominal Body TSL parameters                   | normalized to 1W   | 39.5 W/kg $\pm$ 17.0 % (k=2) |

|                                                         |                    |                              |
|---------------------------------------------------------|--------------------|------------------------------|
| SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL | condition          |                              |
| SAR measured                                            | 250 mW input power | 5.17 W/kg                    |
| SAR for nominal Body TSL parameters                     | normalized to 1W   | 20.9 W/kg $\pm$ 16.5 % (k=2) |

## Appendix (Additional assessments outside the scope of SCS 0108)

### Antenna Parameters with Head TSL

|                                      |                             |
|--------------------------------------|-----------------------------|
| Impedance, transformed to feed point | $54.0 \Omega + 5.7 j\Omega$ |
| Return Loss                          | - 23.5 dB                   |

### Antenna Parameters with Body TSL

|                                      |                             |
|--------------------------------------|-----------------------------|
| Impedance, transformed to feed point | $49.6 \Omega + 6.5 j\Omega$ |
| Return Loss                          | - 23.7 dB                   |

### General Antenna Parameters and Design

|                                  |          |
|----------------------------------|----------|
| Electrical Delay (one direction) | 1.203 ns |
|----------------------------------|----------|

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

|                 |                 |
|-----------------|-----------------|
| Manufactured by | SPEAG           |
| Manufactured on | August 23, 2013 |

## DASY5 Validation Report for Head TSL

Date: 16.08.2017

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d180**

Communication System: UID 0 - CW; Frequency: 1900 MHz

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.36$  S/m;  $\epsilon_r = 40.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.43, 8.43, 8.43); Calibrated: 31.05.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 28.03.2017
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

### **Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:**

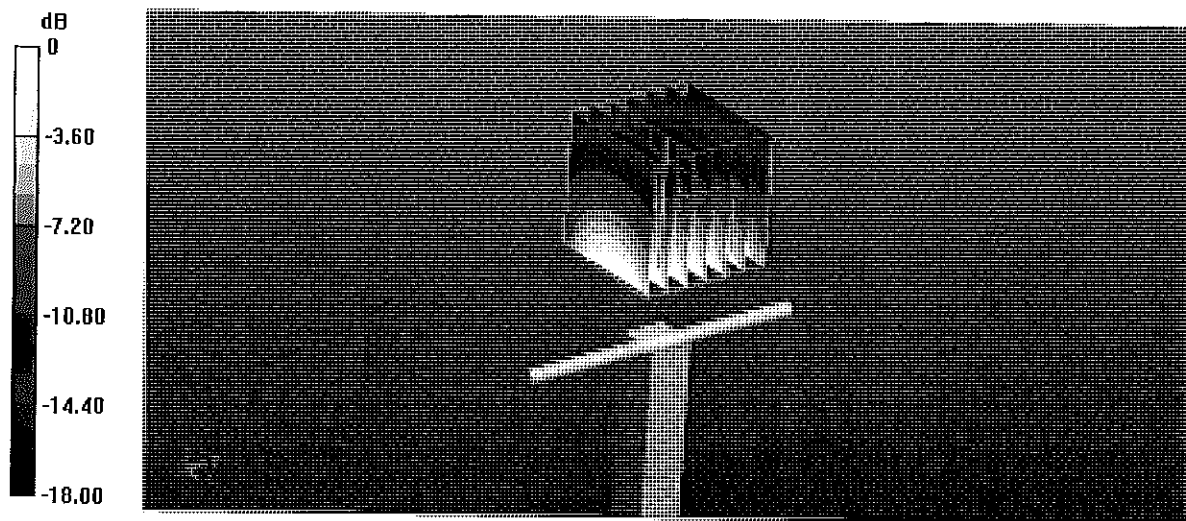
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 103.7 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 17.6 W/kg

**SAR(1 g) = 9.6 W/kg; SAR(10 g) = 5.09 W/kg**

Maximum value of SAR (measured) = 14.1 W/kg

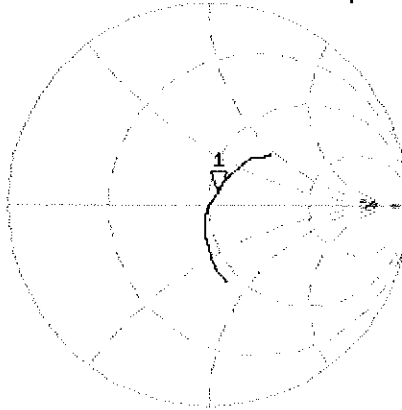


0 dB = 14.1 W/kg = 11.49 dBW/kg

## Impedance Measurement Plot for Head TSL

16 Aug 2017 13:06:53  
CH1 S11 1 U FS 1: 54.041  $\Omega$  5.7129  $\Omega$  478.54  $\mu\text{H}$  1 900.000 000 MHz

\*  
Del  
CA



Avg  
16

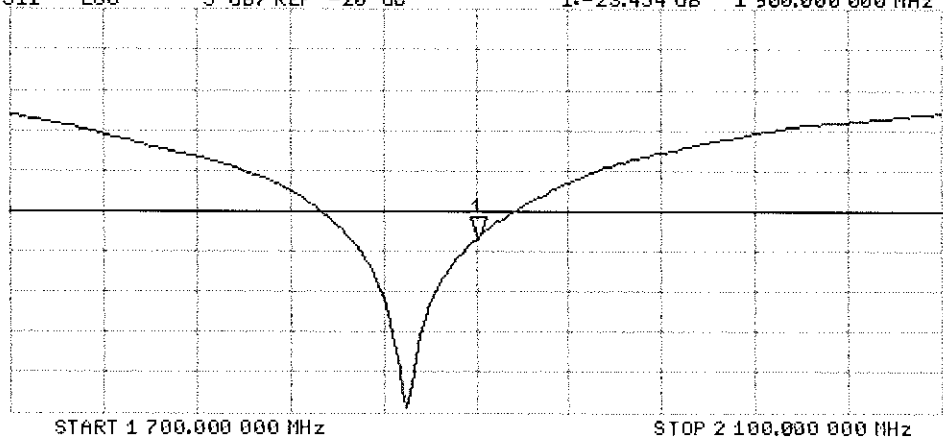
H1d

CH2 S11 LOG 5 dB/REF -20 dB 1: -23.454 dB 1 900.000 000 MHz

CA

Avg  
16

H1d



## DASY5 Validation Report for Body TSL

Date: 16.08.2017

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d180**

Communication System: UID 0 - CW; Frequency: 1900 MHz

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.48$  S/m;  $\epsilon_r = 54.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.2, 8.2, 8.2); Calibrated: 31.05.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 28.03.2017
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

### Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

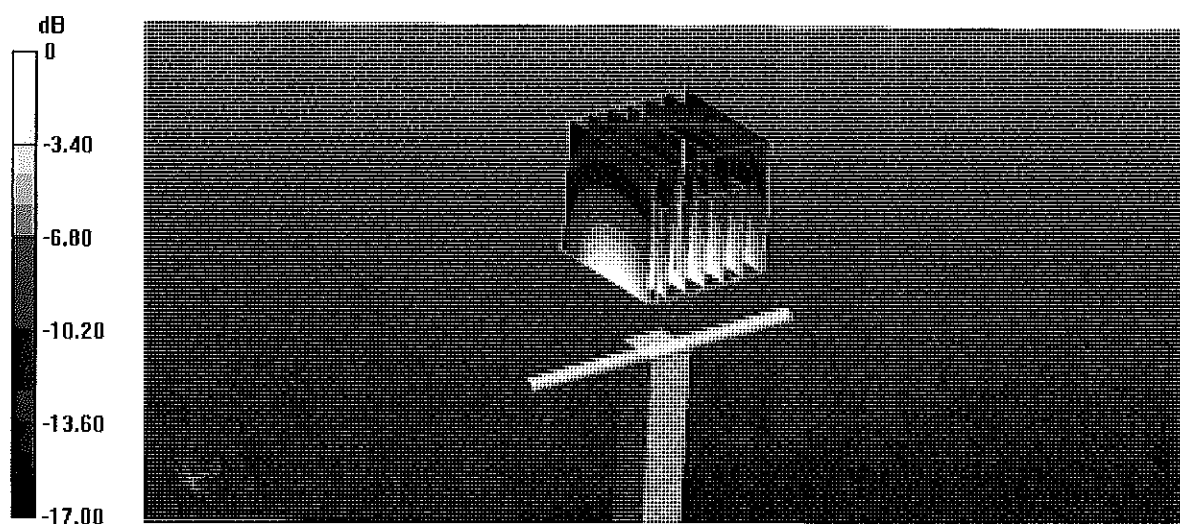
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 99.33 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 16.9 W/kg

**SAR(1 g) = 9.68 W/kg; SAR(10 g) = 5.17 W/kg**

Maximum value of SAR (measured) = 14.1 W/kg

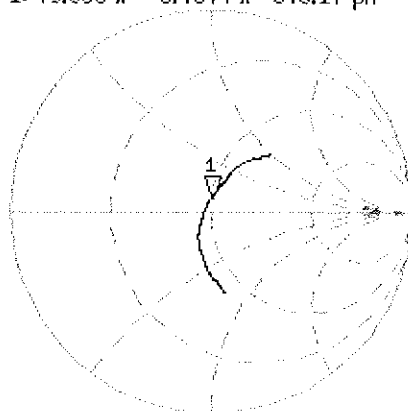


0 dB = 14.1 W/kg = 11.49 dBW/kg

## Impedance Measurement Plot for Body TSL

16 Aug 2017 13:06:08  
[CH1] S11 1 U FS 1: 49.605  $\Omega$  6.4844  $\Omega$  543.17  $\mu\text{H}$  1 900.000 000 MHz

\*  
De1  
CA



Avg  
16

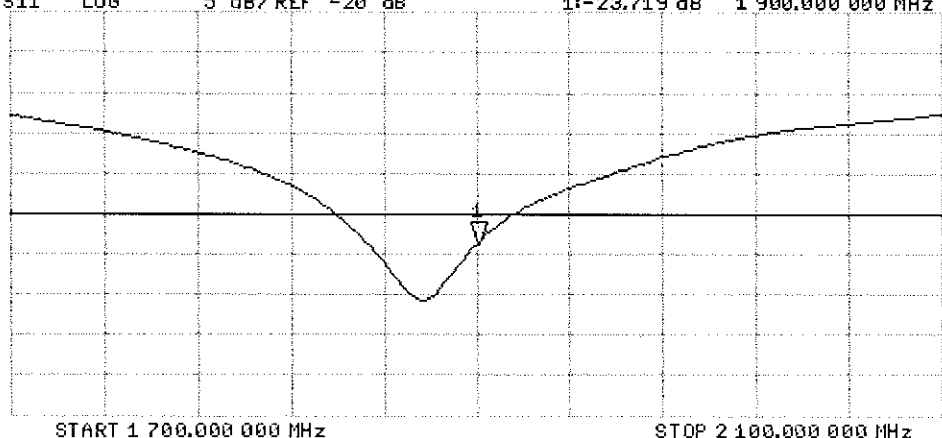
H1d

CH2 S11 LOG 5 dB/REF -20 dB 1:-23.719 dB 1 900.000 000 MHz

CA

Avg  
16

H1d



# Certification of Calibration

Object D1900V2 – SN: 5d180

Calibration procedure(s) Procedure for Calibration Extension for SAR Dipoles.

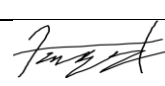
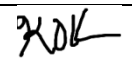
Extended Calibration date: August 01, 2018

Description: SAR Validation Dipole at 1900 MHz.

## Calibration Equipment used:

| Manufacturer          | Model     | Description                                             | Cal Date   | Cal Interval | Cal Due    | Serial Number |
|-----------------------|-----------|---------------------------------------------------------|------------|--------------|------------|---------------|
| Agilent               | 8753ES    | S-Parameter Network Analyzer                            | 9/14/2017  | Annual       | 9/14/2018  | US39170118    |
| Agilent               | N5182A    | MXG Vector Signal Generator                             | 3/19/2018  | Annual       | 3/19/2019  | US46240505    |
| Amplifier Research    | 15S1G6    | Amplifier                                               | CBT        | N/A          | CBT        | 343972        |
| Anritsu               | ML2496A   | Power Meter                                             | 10/9/2017  | Annual       | 10/9/2018  | 1138001       |
| Anritsu               | MA2411B   | Pulse Power Sensor                                      | 11/15/2017 | Annual       | 11/15/2018 | 1339007       |
| Anritsu               | MA2411B   | Pulse Power Sensor                                      | 11/22/2017 | Annual       | 11/22/2018 | 1339008       |
| Control Company       | 4040      | Temperature / Humidity Monitor                          | 2/28/2018  | Biennial     | 2/28/2020  | 150761911     |
| Control Company       | 4352      | Ultra Long Stem Thermometer                             | 2/14/2017  | Biennial     | 2/14/2019  | 170112507     |
| Keysight              | 772D      | Dual Directional Coupler                                | CBT        | N/A          | CBT        | MY52180215    |
| Keysight Technologies | 85033E    | Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm) | 6/4/2018   | Annual       | 6/4/2019   | MY53401181    |
| Mini-Circuits         | BW-N20W5+ | DC to 18 GHz Precision Fixed 20 dB Attenuator           | CBT        | N/A          | CBT        | N/A           |
| Mini-Circuits         | NLP-2950+ | Low Pass Filter DC to 2700 MHz                          | CBT        | N/A          | CBT        | N/A           |
| Narda                 | 4772-3    | Attenuator (3dB)                                        | CBT        | N/A          | CBT        | 9406          |
| Pasternack            | PE2209-10 | Bidirectional Coupler                                   | CBT        | N/A          | CBT        | N/A           |
| Pasternack            | PE5011-1  | Torque Wrench                                           | 7/19/2017  | Biennial     | 7/19/2019  | N/A           |
| SPEAG                 | DAKS-3.5  | Portable DAK                                            | 9/5/2017   | Annual       | 9/5/2018   | 1045          |
| SPEAG                 | ES3DV3    | SAR Probe                                               | 2/13/2018  | Annual       | 2/13/2019  | 3329          |
| SPEAG                 | DAE4      | Dasy Data Acquisition Electronics                       | 2/8/2018   | Annual       | 2/8/2019   | 1403          |

Measurement Uncertainty =  $\pm 23\%$  (k=2)

|                | Name            | Function                 | Signature                                                                             |
|----------------|-----------------|--------------------------|---------------------------------------------------------------------------------------|
| Calibrated By: | Sangmin Cha     | Biomedical Engineer II   |  |
| Approved By:   | Kaitlin O'Keefe | Senior Technical Manager |  |

# DIPOLE CALIBRATION EXTENSION

Per KDB 865664 D01, calibration intervals of up to three years may be considered for reference dipoles when it is demonstrated that the SAR target, impedance and return loss of a dipole have remained stable according to the following requirements:

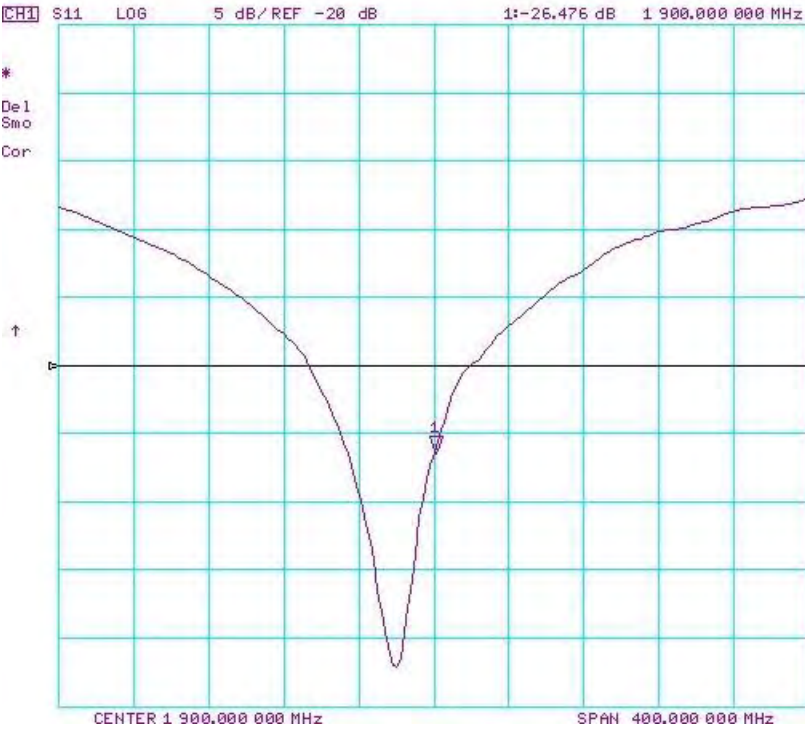
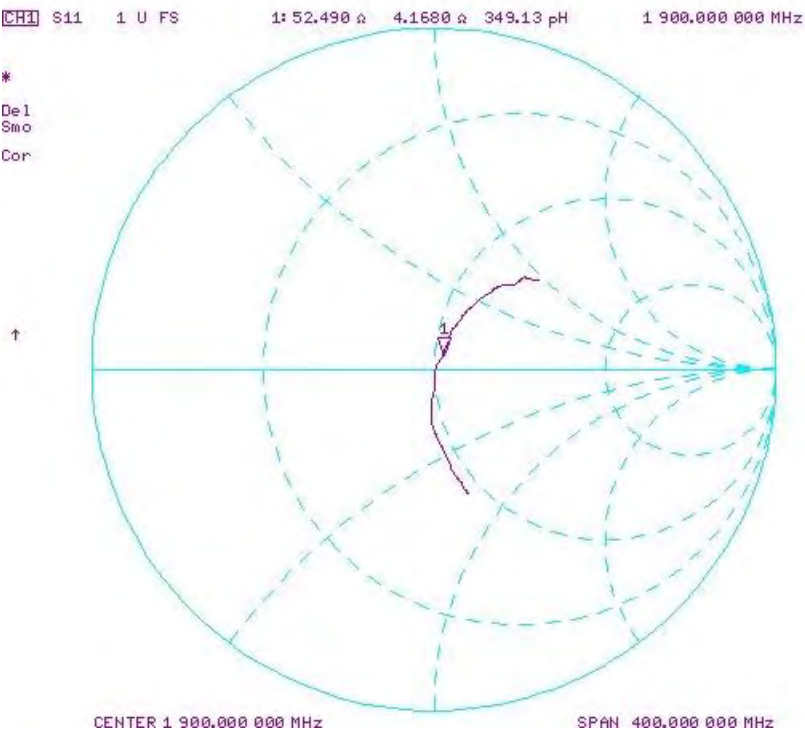
1. The measured SAR does not deviate more than 10% from the target on the calibration certificate.
2. The return-loss does not deviate more than 20% from the previous measurement and meets the required 20dB minimum return-loss requirement.
3. The measurement of real or imaginary parts of impedance does not deviate more than 5Ω from the previous measurement.

The following dipole was checked to pass the above 3 requirements to have 2-year calibration period from the calibration date:

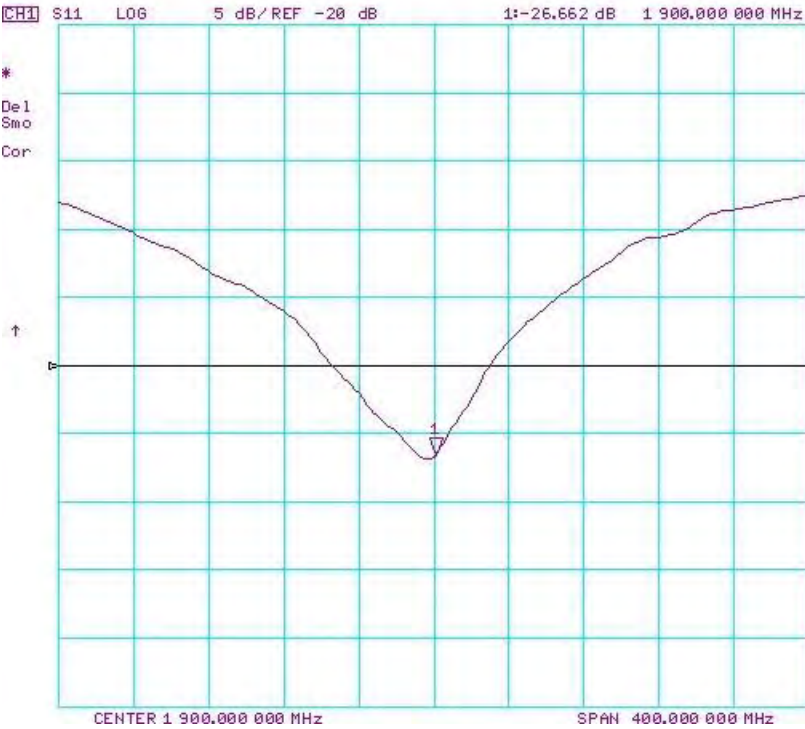
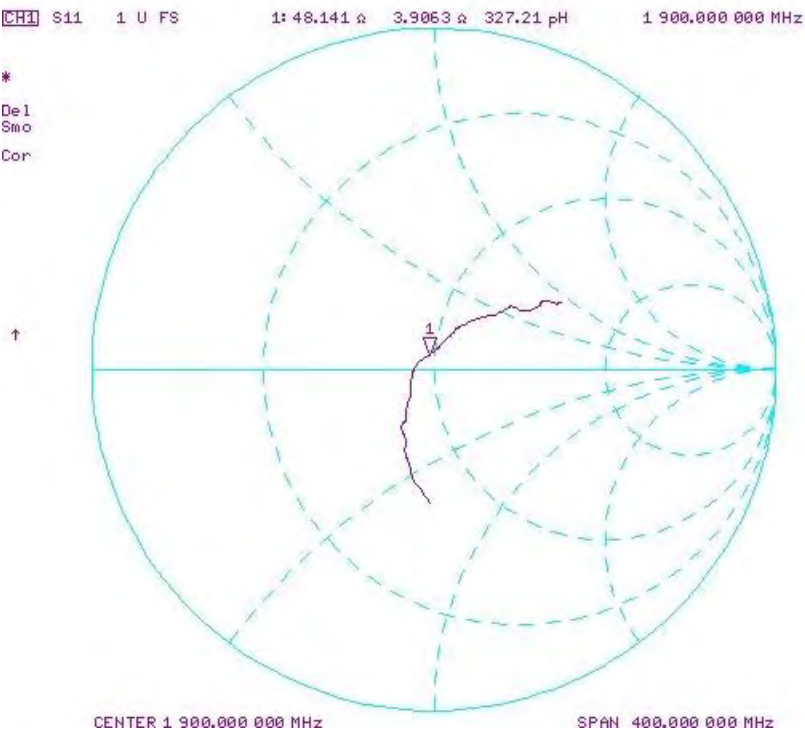
| Calibration Date | Extension Date | Certificate Electrical Delay (ns) | Certificate SAR Target Head (1g) W/kg @ 20.0 dBm | Measured Head SAR (1g) W/kg @ 20.0 dBm | Deviation 1g (%) | Certificate SAR Target Head (10g) W/kg @ 20.0 dBm | Measured Head SAR (10g) W/kg @ 20.0 dBm | Deviation 10g (%) | Certificate Impedance Head (Ohm) Real | Measured Impedance Head (Ohm) Real | Difference (Ohm) Real | Certificate Impedance Head (Ohm) Imaginary | Measured Impedance Head (Ohm) Imaginary | Difference (Ohm) Imaginary | Certificate Return Loss Head (dB) | Measured Return Loss Head (dB) | Deviation (%) | PASS/FAIL |
|------------------|----------------|-----------------------------------|--------------------------------------------------|----------------------------------------|------------------|---------------------------------------------------|-----------------------------------------|-------------------|---------------------------------------|------------------------------------|-----------------------|--------------------------------------------|-----------------------------------------|----------------------------|-----------------------------------|--------------------------------|---------------|-----------|
| 8/16/2017        | 8/1/2018       | 1.203                             | 3.92                                             | 3.81                                   | -2.81%           | 2.06                                              | 1.97                                    | -4.37%            | 54                                    | 52.5                               | 1.5                   | 5.7                                        | 4.2                                     | 1.5                        | -23.5                             | -26.5                          | -12.80%       | PASS      |

| Calibration Date | Extension Date | Certificate Electrical Delay (ns) | Certificate SAR Target Body (1g) W/kg @ 20.0 dBm | Measured Body SAR (1g) W/kg @ 20.0 dBm | Deviation 1g (%) | Certificate SAR Target Body (10g) W/kg @ 20.0 dBm | Measured Body SAR (10g) W/kg @ 20.0 dBm | Deviation 10g (%) | Certificate Impedance Body (Ohm) Real | Measured Impedance Body (Ohm) Real | Difference (Ohm) Real | Certificate Impedance Body (Ohm) Imaginary | Measured Impedance Body (Ohm) Imaginary | Difference (Ohm) Imaginary | Certificate Return Loss Body (dB) | Measured Return Loss Body (dB) | Deviation (%) | PASS/FAIL |
|------------------|----------------|-----------------------------------|--------------------------------------------------|----------------------------------------|------------------|---------------------------------------------------|-----------------------------------------|-------------------|---------------------------------------|------------------------------------|-----------------------|--------------------------------------------|-----------------------------------------|----------------------------|-----------------------------------|--------------------------------|---------------|-----------|
| 8/16/2017        | 8/1/2018       | 1.203                             | 3.95                                             | 4.29                                   | 8.61%            | 2.09                                              | 2.21                                    | 5.74%             | 49.6                                  | 48.1                               | 1.5                   | 6.5                                        | 3.9                                     | 2.6                        | -23.7                             | -26.7                          | -12.70%       | PASS      |

Impedance & Return-Loss Measurement Plot for Head TSL



Impedance & Return-Loss Measurement Plot for Body TSL





Accredited by the Swiss Accreditation Service (SAS)  
 The Swiss Accreditation Service is one of the signatories to the EA  
 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **PC Test**

Certificate No: **D2300V2-1038\_Mar18**

## CALIBRATION CERTIFICATE

Object **D2300V2 - SN:1038**

Calibration procedure(s) **QA CAL-05.v10**  
**Calibration procedure for dipole validation kits above 700 MHz**

SC ✓  
 3/21/18

Calibration date: **March 07, 2018**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature ( $22 \pm 3$ )°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards           | ID #               | Cal Date (Certificate No.)      | Scheduled Calibration |
|-----------------------------|--------------------|---------------------------------|-----------------------|
| Power meter NRP             | SN: 104778         | 04-Apr-17 (No. 217-02521/02522) | Apr-18                |
| Power sensor NRP-Z91        | SN: 103244         | 04-Apr-17 (No. 217-02521)       | Apr-18                |
| Power sensor NRP-Z91        | SN: 103245         | 04-Apr-17 (No. 217-02522)       | Apr-18                |
| Reference 20 dB Attenuator  | SN: 5058 (20k)     | 07-Apr-17 (No. 217-02528)       | Apr-18                |
| Type-N mismatch combination | SN: 5047.2 / 06327 | 07-Apr-17 (No. 217-02529)       | Apr-18                |
| Reference Probe EX3DV4      | SN: 7349           | 30-Dec-17 (No. EX3-7349_Dec17)  | Dec-18                |
| DAE4                        | SN: 601            | 26-Oct-17 (No. DAE4-601_Oct17)  | Oct-18                |

| Secondary Standards       | ID #           | Check Date (in house)             | Scheduled Check        |
|---------------------------|----------------|-----------------------------------|------------------------|
| Power meter EPM-442A      | SN: GB37480704 | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| Power sensor HP 8481A     | SN: US37292783 | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| Power sensor HP 8481A     | SN: MY41092317 | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| RF generator R&S SMT-06   | SN: 100972     | 15-Jun-15 (in house check Oct-16) | In house check: Oct-18 |
| Network Analyzer HP 8753E | SN: US37390585 | 18-Oct-01 (in house check Oct-17) | In house check: Oct-18 |

Calibrated by: **Claudio Leubler**      Name: **Claudio Leubler**      Function: **Laboratory Technician**

Approved by: **Katja Pokovic**      Name: **Katja Pokovic**      Function: **Technical Manager**

Signature

Issued: March 9, 2018

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

**Glossary:**

|       |                                 |
|-------|---------------------------------|
| TSL   | tissue simulating liquid        |
| ConvF | sensitivity in TSL / NORM x,y,z |
| N/A   | not applicable or not measured  |

**Calibration is Performed According to the Following Standards:**

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

**Additional Documentation:**

- DASY4/5 System Handbook

**Methods Applied and Interpretation of Parameters:**

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor  $k=2$ , which for a normal distribution corresponds to a coverage probability of approximately 95%.

## Measurement Conditions

DASY system configuration, as far as not given on page 1.

|                              |                        |             |
|------------------------------|------------------------|-------------|
| DASY Version                 | DASY5                  | V52.10.0    |
| Extrapolation                | Advanced Extrapolation |             |
| Phantom                      | Modular Flat Phantom   |             |
| Distance Dipole Center - TSL | 10 mm                  | with Spacer |
| Zoom Scan Resolution         | dx, dy, dz = 5 mm      |             |
| Frequency                    | 2300 MHz $\pm$ 1 MHz   |             |

## Head TSL parameters

The following parameters and calculations were applied.

|                                         | Temperature         | Permittivity   | Conductivity         |
|-----------------------------------------|---------------------|----------------|----------------------|
| Nominal Head TSL parameters             | 22.0 °C             | 39.5           | 1.67 mho/m           |
| Measured Head TSL parameters            | (22.0 $\pm$ 0.2) °C | 38.6 $\pm$ 6 % | 1.70 mho/m $\pm$ 6 % |
| Head TSL temperature change during test | < 0.5 °C            | ----           | ----                 |

## SAR result with Head TSL

|                                                       |                    |                              |
|-------------------------------------------------------|--------------------|------------------------------|
| SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL | Condition          |                              |
| SAR measured                                          | 250 mW input power | 12.5 W/kg                    |
| SAR for nominal Head TSL parameters                   | normalized to 1W   | 49.3 W/kg $\pm$ 17.0 % (k=2) |

|                                                         |                    |                              |
|---------------------------------------------------------|--------------------|------------------------------|
| SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL | condition          |                              |
| SAR measured                                            | 250 mW input power | 5.94 W/kg                    |
| SAR for nominal Head TSL parameters                     | normalized to 1W   | 23.6 W/kg $\pm$ 16.5 % (k=2) |

## Body TSL parameters

The following parameters and calculations were applied.

|                                         | Temperature         | Permittivity   | Conductivity         |
|-----------------------------------------|---------------------|----------------|----------------------|
| Nominal Body TSL parameters             | 22.0 °C             | 52.9           | 1.81 mho/m           |
| Measured Body TSL parameters            | (22.0 $\pm$ 0.2) °C | 51.6 $\pm$ 6 % | 1.86 mho/m $\pm$ 6 % |
| Body TSL temperature change during test | < 0.5 °C            | ----           | ----                 |

## SAR result with Body TSL

|                                                       |                    |                              |
|-------------------------------------------------------|--------------------|------------------------------|
| SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL | Condition          |                              |
| SAR measured                                          | 250 mW input power | 11.9 W/kg                    |
| SAR for nominal Body TSL parameters                   | normalized to 1W   | 46.7 W/kg $\pm$ 17.0 % (k=2) |

|                                                         |                    |                              |
|---------------------------------------------------------|--------------------|------------------------------|
| SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL | condition          |                              |
| SAR measured                                            | 250 mW input power | 5.69 W/kg                    |
| SAR for nominal Body TSL parameters                     | normalized to 1W   | 22.5 W/kg $\pm$ 16.5 % (k=2) |

## Appendix (Additional assessments outside the scope of SCS 0108)

### Antenna Parameters with Head TSL

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 47.8 $\Omega$ - 4.9 j $\Omega$ |
| Return Loss                          | - 25.2 dB                      |

### Antenna Parameters with Body TSL

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 45.9 $\Omega$ - 3.4 j $\Omega$ |
| Return Loss                          | - 25.0 dB                      |

### General Antenna Parameters and Design

|                                  |          |
|----------------------------------|----------|
| Electrical Delay (one direction) | 1.170 ns |
|----------------------------------|----------|

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

|                 |               |
|-----------------|---------------|
| Manufactured by | SPEAG         |
| Manufactured on | July 02, 2013 |

## DASY5 Validation Report for Head TSL

Date: 07.03.2018

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 2300 MHz; Type: D2300V2; Serial: D2300V2 - SN:1038**

Communication System: UID 0 - CW; Frequency: 2300 MHz

Medium parameters used:  $f = 2300$  MHz;  $\sigma = 1.7$  S/m;  $\epsilon_r = 38.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.08, 8.08, 8.08); Calibrated: 30.12.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

### **Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:**

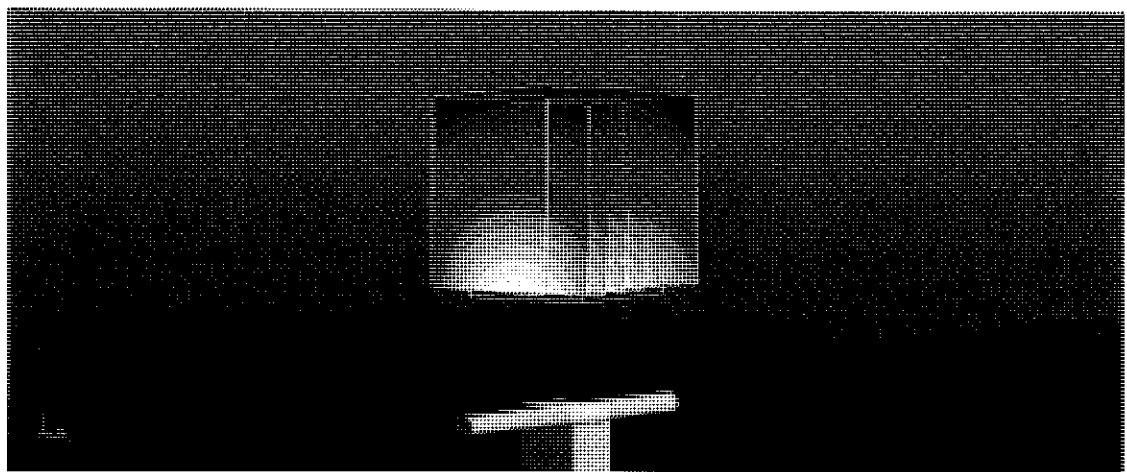
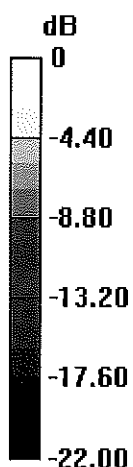
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 112.4 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 24.5 W/kg

**SAR(1 g) = 12.5 W/kg; SAR(10 g) = 5.94 W/kg**

Maximum value of SAR (measured) = 19.6 W/kg



0 dB = 19.6 W/kg = 12.92 dBW/kg

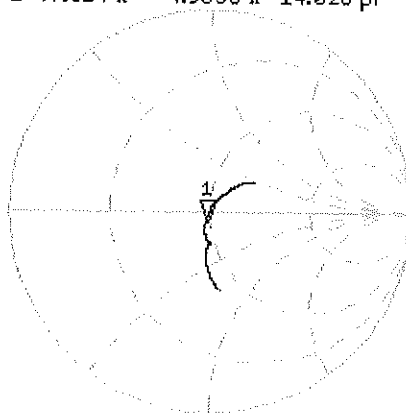
# Impedance Measurement Plot for Head TSL

7 Mar 2018 13:16:07  
 CH1 S11 1 U FS 1: 47.824  $\Omega$  -4.9336  $\Omega$  14.026 pF 2 300.000 000 MHz

\*  
 Del  
 Cor

Avg  
 16

H1d

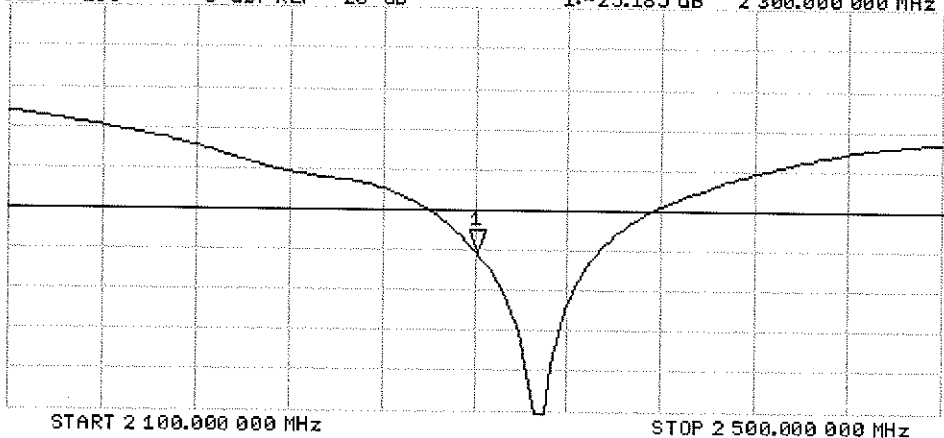


CH2 S11 LOG 5 dB/REF -20 dB 1:-25.185 dB 2 300.000 000 MHz

Cor

Avg  
 16

H1d



## DASY5 Validation Report for Body TSL

Date: 07.03.2018

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 2300 MHz; Type: D2300V2; Serial: D2300V2 - SN:1038**

Communication System: UID 0 - CW; Frequency: 2300 MHz

Medium parameters used:  $f = 2300$  MHz;  $\sigma = 1.86$  S/m;  $\epsilon_r = 51.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.08, 8.08, 8.08); Calibrated: 30.12.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

**Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:**

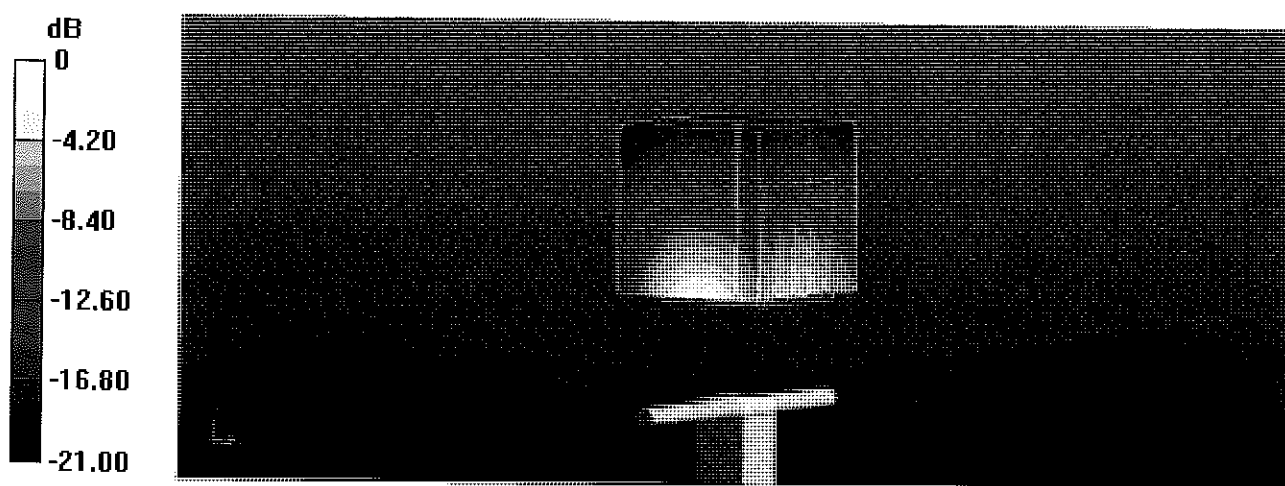
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 104.5 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 23.0 W/kg

**SAR(1 g) = 11.9 W/kg; SAR(10 g) = 5.69 W/kg**

Maximum value of SAR (measured) = 18.2 W/kg

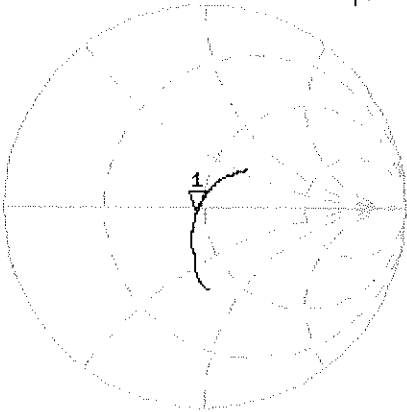


0 dB = 18.2 W/kg = 12.60 dBW/kg

Impedance Measurement Plot for Body TSL

7 Mar 2018 13:11:08  
CH1 S11 1 U FS 1: 45.861  $\Omega$  -3.4160  $\Omega$  20.257 pF 2 300.000 000 MHz

\*  
De1  
Cor

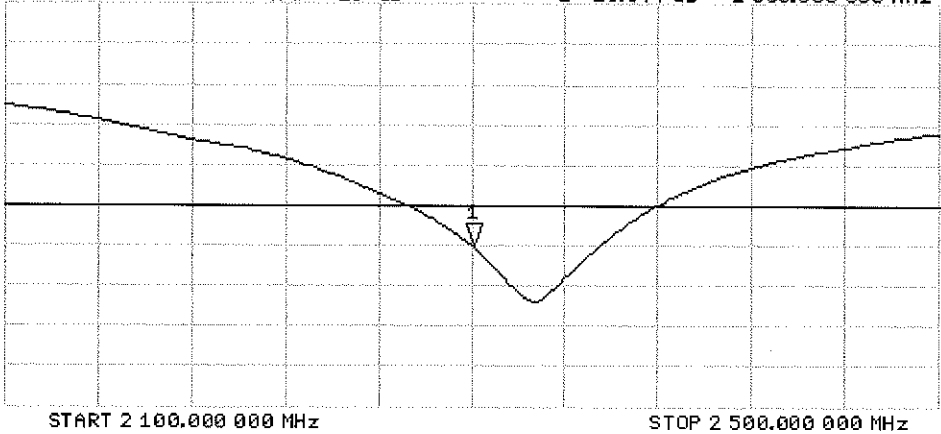


Avg  
16  
H1d

CH2 S11 LOG 5 dB/REF -20 dB 1:-25.044 dB 2 300.000 000 MHz

Cor

Avg  
16  
H1d





Accredited by the Swiss Accreditation Service (SAS)  
 The Swiss Accreditation Service is one of the signatories to the EA  
 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **PC Test**

Certificate No: **D2450V2-750\_Jun17**

## CALIBRATION CERTIFICATE

Object **D2450V2 - SN:750**

Calibration procedure(s) **QA CAL-05.v9**  
 Calibration procedure for dipole validation kits above 700 MHz

Calibration date: **June 07, 2017**

*BNW*  
*8/3/2017*  
*SC*  
*6/1/2018*

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature  $(22 \pm 3)^{\circ}\text{C}$  and humidity  $< 70\%$ .

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards           | ID #               | Cal Date (Certificate No.)        | Scheduled Calibration  |
|-----------------------------|--------------------|-----------------------------------|------------------------|
| Power meter NRP             | SN: 104778         | 04-Apr-17 (No. 217-02521/02522)   | Apr-18                 |
| Power sensor NRP-Z91        | SN: 103244         | 04-Apr-17 (No. 217-02521)         | Apr-18                 |
| Power sensor NRP-Z91        | SN: 103245         | 04-Apr-17 (No. 217-02522)         | Apr-18                 |
| Reference 20 dB Attenuator  | SN: 5058 (20k)     | 07-Apr-17 (No. 217-02528)         | Apr-18                 |
| Type-N mismatch combination | SN: 5047.2 / 06327 | 07-Apr-17 (No. 217-02529)         | Apr-18                 |
| Reference Probe EX3DV4      | SN: 7349           | 31-Dec-16 (No. EX3-7349_Dec16)    | Dec-17                 |
| DAE4                        | SN: 601            | 28-Mar-17 (No. DAE4-601_Mar17)    | Mar-18                 |
| Secondary Standards         | ID #               | Check Date (in house)             | Scheduled Check        |
| Power meter EPM-442A        | SN: GB37480704     | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| Power sensor HP 8401A       | SN: US37292783     | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| Power sensor HP 8481A       | SN: MY41092317     | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| RF generator R&S SMT-06     | SN: 100972         | 15-Jun-15 (in house check Oct-16) | In house check: Oct-18 |
| Network Analyzer HP 8753E   | SN: US37390585     | 18-Oct-01 (in house check Oct-16) | In house check: Oct-17 |

Calibrated by: **Johannes Kurikka**      Name: **Johannes Kurikka**      Function: **Laboratory Technician**

Approved by: **Katja Pokovic**      Name: **Katja Pokovic**      Function: **Technical Manager**

Signature

Issued: June 9, 2017

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



Accredited by the Swiss Accreditation Service (SAS)  
The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

**Glossary:**

|       |                                 |
|-------|---------------------------------|
| TSL   | tissue simulating liquid        |
| ConvF | sensitivity in TSL / NORM x,y,z |
| N/A   | not applicable or not measured  |

**Calibration is Performed According to the Following Standards:**

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

**Additional Documentation:**

- DASY4/5 System Handbook

**Methods Applied and Interpretation of Parameters:**

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor  $k=2$ , which for a normal distribution corresponds to a coverage probability of approximately 95%.

## Measurement Conditions

DASY system configuration, as far as not given on page 1.

|                              |                        |             |
|------------------------------|------------------------|-------------|
| DASY Version                 | DASY5                  | V52.10.0    |
| Extrapolation                | Advanced Extrapolation |             |
| Phantom                      | Modular Flat Phantom   |             |
| Distance Dipole Center - TSL | 10 mm                  | with Spacer |
| Zoom Scan Resolution         | dx, dy, dz = 5 mm      |             |
| Frequency                    | 2450 MHz $\pm$ 1 MHz   |             |

## Head TSL parameters

The following parameters and calculations were applied.

|                                         | Temperature         | Permittivity   | Conductivity         |
|-----------------------------------------|---------------------|----------------|----------------------|
| Nominal Head TSL parameters             | 22.0 °C             | 39.2           | 1.80 mho/m           |
| Measured Head TSL parameters            | (22.0 $\pm$ 0.2) °C | 37.9 $\pm$ 6 % | 1.85 mho/m $\pm$ 6 % |
| Head TSL temperature change during test | < 0.5 °C            | ----           | ----                 |

## SAR result with Head TSL

|                                                       |                    |                              |
|-------------------------------------------------------|--------------------|------------------------------|
| SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL | Condition          |                              |
| SAR measured                                          | 250 mW input power | 13.6 W/kg                    |
| SAR for nominal Head TSL parameters                   | normalized to 1W   | 53.3 W/kg $\pm$ 17.0 % (k=2) |

|                                                         |                    |                              |
|---------------------------------------------------------|--------------------|------------------------------|
| SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL | condition          |                              |
| SAR measured                                            | 250 mW input power | 6.29 W/kg                    |
| SAR for nominal Head TSL parameters                     | normalized to 1W   | 24.8 W/kg $\pm$ 16.5 % (k=2) |

## Body TSL parameters

The following parameters and calculations were applied.

|                                         | Temperature         | Permittivity   | Conductivity         |
|-----------------------------------------|---------------------|----------------|----------------------|
| Nominal Body TSL parameters             | 22.0 °C             | 52.7           | 1.95 mho/m           |
| Measured Body TSL parameters            | (22.0 $\pm$ 0.2) °C | 52.2 $\pm$ 6 % | 2.04 mho/m $\pm$ 6 % |
| Body TSL temperature change during test | < 0.5 °C            | ----           | ----                 |

## SAR result with Body TSL

|                                                       |                    |                              |
|-------------------------------------------------------|--------------------|------------------------------|
| SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL | Condition          |                              |
| SAR measured                                          | 250 mW input power | 13.1 W/kg                    |
| SAR for nominal Body TSL parameters                   | normalized to 1W   | 51.2 W/kg $\pm$ 17.0 % (k=2) |

|                                                         |                    |                              |
|---------------------------------------------------------|--------------------|------------------------------|
| SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL | condition          |                              |
| SAR measured                                            | 250 mW input power | 6.13 W/kg                    |
| SAR for nominal Body TSL parameters                     | normalized to 1W   | 24.2 W/kg $\pm$ 16.5 % (k=2) |

## Appendix (Additional assessments outside the scope of SCS 0108)

### Antenna Parameters with Head TSL

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 53.7 $\Omega$ + 5.8 j $\Omega$ |
| Return Loss                          | - 23.5 dB                      |

### Antenna Parameters with Body TSL

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 49.7 $\Omega$ + 6.7 j $\Omega$ |
| Return Loss                          | - 23.5 dB                      |

### General Antenna Parameters and Design

|                                  |          |
|----------------------------------|----------|
| Electrical Delay (one direction) | 1.155 ns |
|----------------------------------|----------|

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

|                 |                   |
|-----------------|-------------------|
| Manufactured by | SPEAG             |
| Manufactured on | December 01, 2003 |

## DASY5 Validation Report for Head TSL

Date: 07.06.2017

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:750**

Communication System: UID 0 - CW; Frequency: 2450 MHz

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.85$  S/m;  $\epsilon_r = 37.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.12, 8.12, 8.12); Calibrated: 31.05.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 28.03.2017
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

### Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

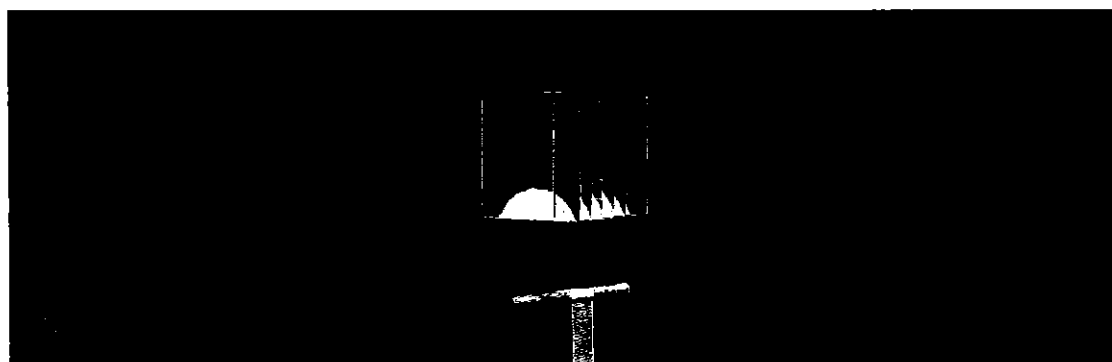
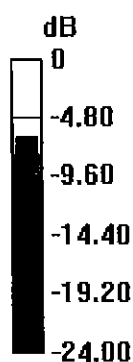
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 113.7 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 27.9 W/kg

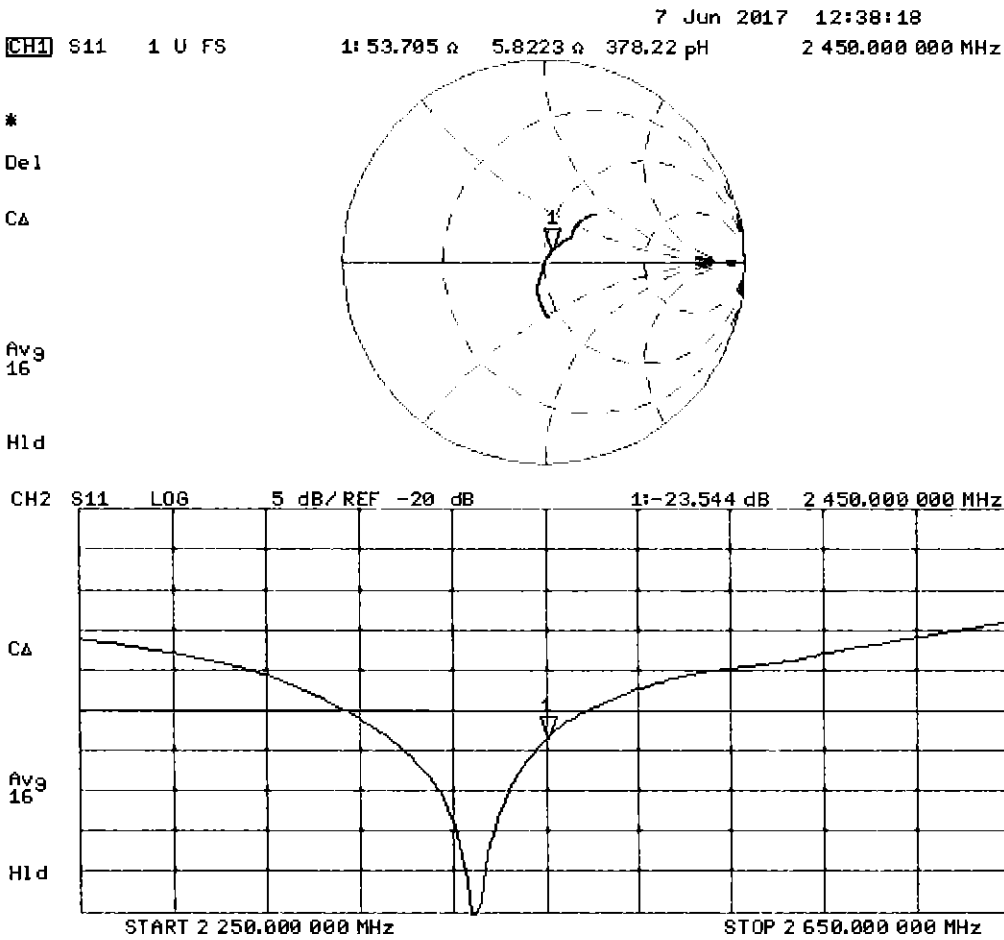
**SAR(1 g) = 13.6 W/kg; SAR(10 g) = 6.29 W/kg**

Maximum value of SAR (measured) = 22.0 W/kg



0 dB = 22.0 W/kg = 13.42 dBW/kg

Impedance Measurement Plot for Head TSL



## DASY5 Validation Report for Body TSL

Date: 07.06.2017

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:750**

Communication System: UID 0 - CW; Frequency: 2450 MHz

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 2.04$  S/m;  $\epsilon_r = 52.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.1, 8.1, 8.1); Calibrated: 31.05.2017;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 28.03.2017
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.0(1446); SEMCAD X 14.6.10(7417)

**Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:**

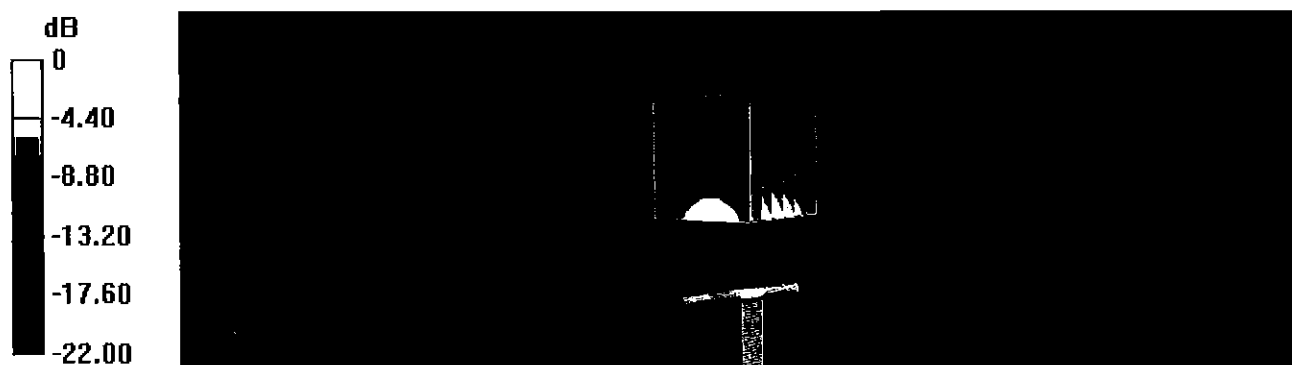
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 103.3 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 26.0 W/kg

**SAR(1 g) = 13.1 W/kg; SAR(10 g) = 6.13 W/kg**

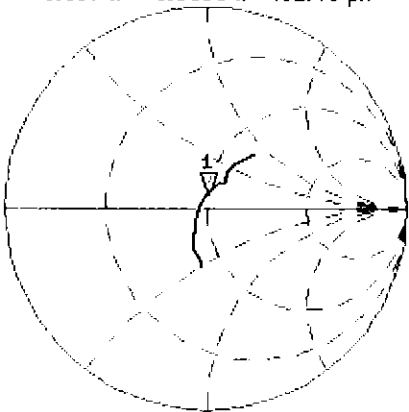
Maximum value of SAR (measured) = 20.5 W/kg



Impedance Measurement Plot for Body TSL

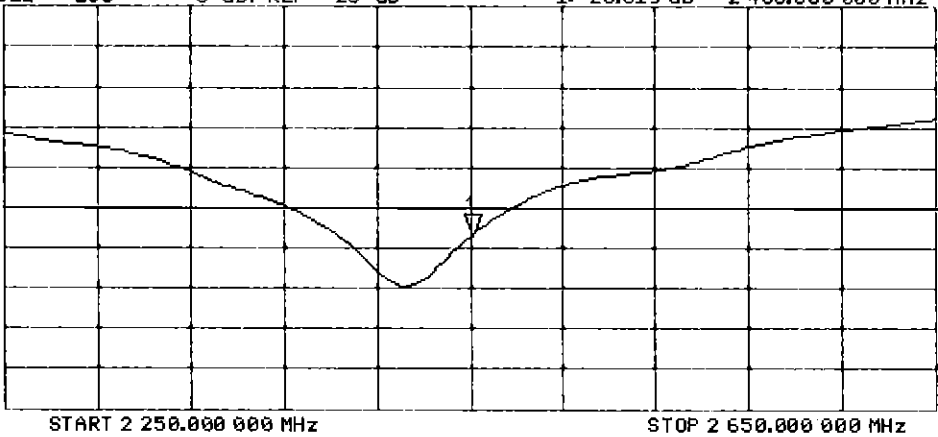
7 Jun 2017 12:37:20  
CH1 S11 1 U FS 1: 49.697  $\Omega$  6.6563  $\Omega$  432.40  $\mu$ H 2 450.000 000 MHz

\*  
De1  
CA  
Avg  
16  
H1d



CH2 S11 LOG 5 dB/ REF -20 dB 1:-23.519 dB 2 450.000 000 MHz

CA  
Avg  
16  
H1d



# Certification of Calibration

Object D2450V2 – SN: 750

Calibration procedure(s) Procedure for Calibration Extension for SAR Dipoles.

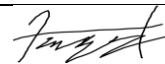
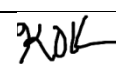
Extended Calibration date: June 01, 2018

Description: SAR Validation Dipole at 2450 MHz.

## Calibration Equipment used:

| Manufacturer          | Model     | Description                                             | Cal Date   | Cal Interval | Cal Due    | Serial Number |
|-----------------------|-----------|---------------------------------------------------------|------------|--------------|------------|---------------|
| Agilent               | 8753ES    | S-Parameter Network Analyzer                            | 9/14/2017  | Annual       | 9/14/2018  | US39170118    |
| Agilent               | N5182A    | MXG Vector Signal Generator                             | 3/19/2018  | Annual       | 3/19/2019  | US46240505    |
| Amplifier Research    | 15S1G6    | Amplifier                                               | CBT        | N/A          | CBT        | 343972        |
| Anritsu               | ML2496A   | Power Meter                                             | 10/9/2017  | Annual       | 10/9/2018  | 1138001       |
| Anritsu               | MA2411B   | Pulse Power Sensor                                      | 11/15/2017 | Annual       | 11/15/2018 | 1339007       |
| Anritsu               | MA2411B   | Pulse Power Sensor                                      | 11/22/2017 | Annual       | 11/22/2018 | 1339008       |
| Control Company       | 4040      | Temperature / Humidity Monitor                          | 2/28/2018  | Biennial     | 2/28/2020  | 150761911     |
| Control Company       | 4352      | Ultra Long Stem Thermometer                             | 2/14/2017  | Biennial     | 2/14/2019  | 170112507     |
| Keysight              | 772D      | Dual Directional Coupler                                | CBT        | N/A          | CBT        | MY52180215    |
| Keysight Technologies | 85033E    | Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm) | 6/1/2017   | Annual       | 6/1/2018   | MY53401181    |
| Mini-Circuits         | BW-N20W5+ | DC to 18 GHz Precision Fixed 20 dB Attenuator           | CBT        | N/A          | CBT        | N/A           |
| Mini-Circuits         | NLP-2950+ | Low Pass Filter DC to 2700 MHz                          | CBT        | N/A          | CBT        | N/A           |
| Narda                 | 4772-3    | Attenuator (3dB)                                        | CBT        | N/A          | CBT        | 9406          |
| Pasternack            | PE2209-10 | Bidirectional Coupler                                   | CBT        | N/A          | CBT        | N/A           |
| Pasternack            | PE5011-1  | Torque Wrench                                           | 7/19/2017  | Biennial     | 7/19/2019  | N/A           |
| SPEAG                 | DAKS-3.5  | Portable DAK                                            | 9/5/2017   | Annual       | 9/5/2018   | 1045          |
| SPEAG                 | ES3DV3    | SAR Probe                                               | 3/13/2018  | Annual       | 3/13/2019  | 3131          |
| SPEAG                 | EX3DV4    | SAR Probe                                               | 1/26/2018  | Annual       | 1/26/2019  | 7490          |
| SPEAG                 | DAE4      | Dasy Data Acquisition Electronics                       | 3/7/2018   | Annual       | 3/7/2019   | 604           |
| SPEAG                 | DAE4      | Dasy Data Acquisition Electronics                       | 1/26/2018  | Annual       | 1/26/2019  | 1532          |

Measurement Uncertainty =  $\pm 23\%$  (k=2)

|                | Name            | Function                 | Signature                                                                             |
|----------------|-----------------|--------------------------|---------------------------------------------------------------------------------------|
| Calibrated By: | Sangmin Cha     | Biomedical Engineer II   |  |
| Approved By:   | Kaitlin O'Keefe | Senior Technical Manager |  |

# DIPOLE CALIBRATION EXTENSION

Per KDB 865664 D01, calibration intervals of up to three years may be considered for reference dipoles when it is demonstrated that the SAR target, impedance and return loss of a dipole have remained stable according to the following requirements:

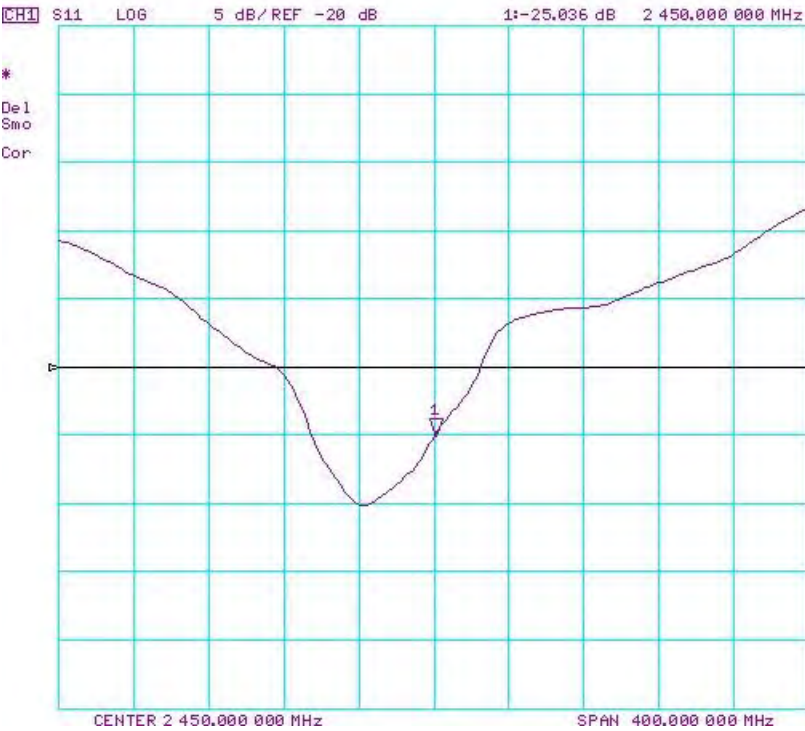
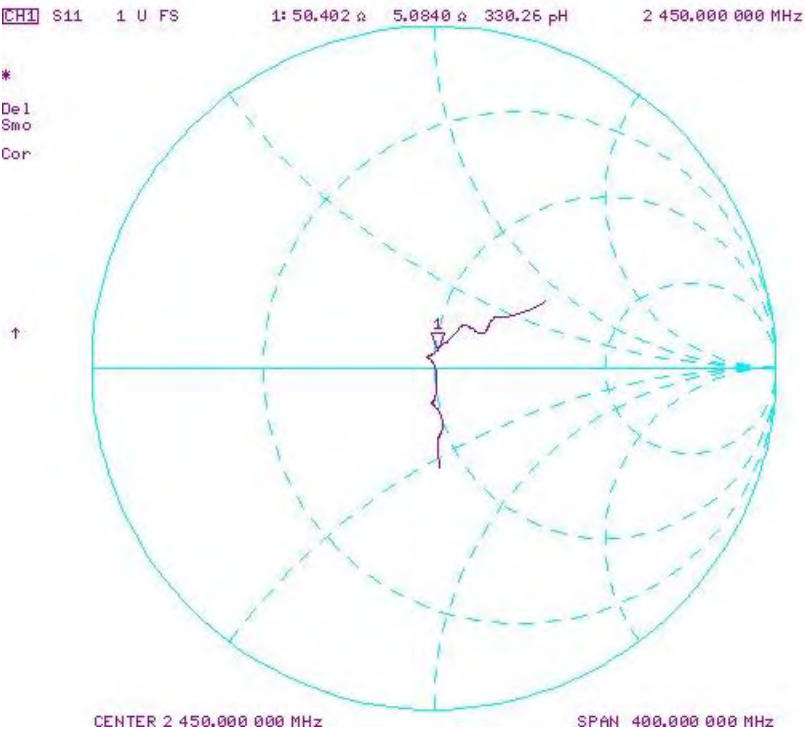
1. The measured SAR does not deviate more than 10% from the target on the calibration certificate.
2. The return-loss does not deviate more than 20% from the previous measurement and meets the required 20dB minimum return-loss requirement.
3. The measurement of real or imaginary parts of impedance does not deviate more than 5Ω from the previous measurement.

The following dipole was checked to pass the above 3 requirements to have 2-year calibration period from the calibration date:

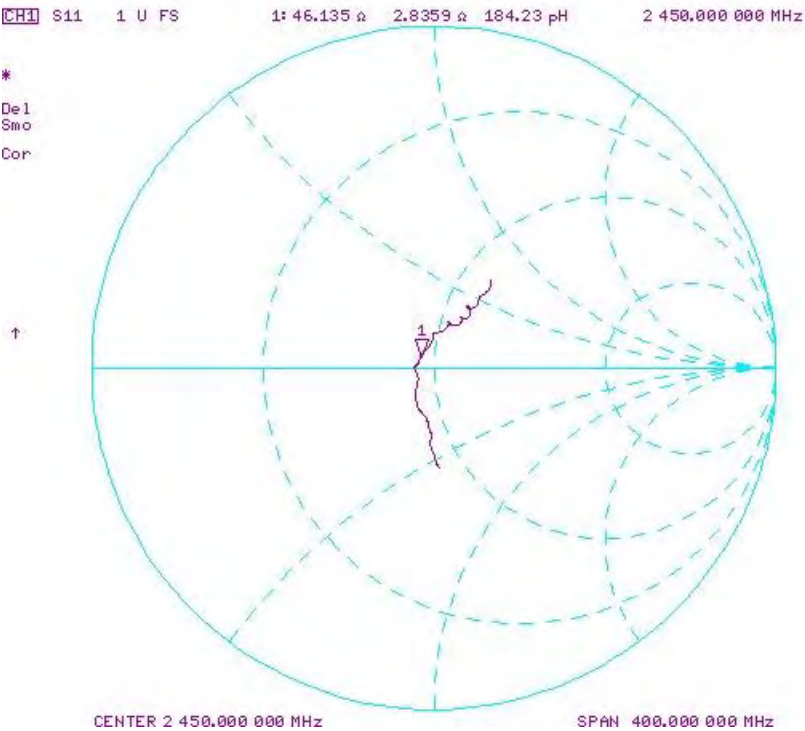
| Calibration Date | Extension Date | Certificate Electrical Delay (ns) | Certificate SAR Target Head (1g) W/kg @ 20.0 dBm | Measured Head SAR (1g) W/kg @ 20.0 dBm | Deviation 1g (%) | Certificate SAR Target Head (10g) W/kg @ 20.0 dBm | Measured Head SAR (10g) W/kg @ 20.0 dBm | Deviation 10g (%) | Certificate Impedance Head (Ohm) Real | Measured Impedance Head (Ohm) Real | Difference (Ohm) Real | Certificate Impedance Head (Ohm) Imaginary | Measured Impedance Head (Ohm) Imaginary | Difference (Ohm) Imaginary | Certificate Return Loss Head (dB) | Measured Return Loss Head (dB) | Deviation (%) | PASS/FAIL |
|------------------|----------------|-----------------------------------|--------------------------------------------------|----------------------------------------|------------------|---------------------------------------------------|-----------------------------------------|-------------------|---------------------------------------|------------------------------------|-----------------------|--------------------------------------------|-----------------------------------------|----------------------------|-----------------------------------|--------------------------------|---------------|-----------|
| 6/7/2017         | 6/1/2018       | 1.155                             | 5.33                                             | 5.54                                   | 3.94%            | 2.48                                              | 2.51                                    | 1.21%             | 53.7                                  | 50.4                               | 3.3                   | 5.8                                        | 5.1                                     | 0.7                        | -23.5                             | -25                            | -6.40%        | PASS      |

| Calibration Date | Extension Date | Certificate Electrical Delay (ns) | Certificate SAR Target Body (1g) W/kg @ 20.0 dBm | Measured Body SAR (1g) W/kg @ 20.0 dBm | Deviation 1g (%) | Certificate SAR Target Body (10g) W/kg @ 20.0 dBm | Measured Body SAR (10g) W/kg @ 20.0 dBm | Deviation 10g (%) | Certificate Impedance Body (Ohm) Real | Measured Impedance Body (Ohm) Real | Difference (Ohm) Real | Certificate Impedance Body (Ohm) Imaginary | Measured Impedance Body (Ohm) Imaginary | Difference (Ohm) Imaginary | Certificate Return Loss Body (dB) | Measured Return Loss Body (dB) | Deviation (%) | PASS/FAIL |
|------------------|----------------|-----------------------------------|--------------------------------------------------|----------------------------------------|------------------|---------------------------------------------------|-----------------------------------------|-------------------|---------------------------------------|------------------------------------|-----------------------|--------------------------------------------|-----------------------------------------|----------------------------|-----------------------------------|--------------------------------|---------------|-----------|
| 6/7/2017         | 6/1/2018       | 1.155                             | 5.12                                             | 4.9                                    | -4.30%           | 2.42                                              | 2.23                                    | -7.85%            | 49.7                                  | 46.1                               | 3.6                   | 6.7                                        | 2.8                                     | 3.9                        | -23.5                             | -24.5                          | -4.30%        | PASS      |

Impedance & Return-Loss Measurement Plot for Head TSL



Impedance & Return-Loss Measurement Plot for Body TSL





Accredited by the Swiss Accreditation Service (SAS)  
The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **PC Test**

Certificate No: **D2450V2-921\_Nov18**

## CALIBRATION CERTIFICATE

Object **D2450V2 - SN:921**

Calibration procedure(s) **QA CAL-05.v10  
Calibration procedure for dipole validation kits above 700 MHz**

SC ✓  
12/11/2018

Calibration date: **November 12, 2018**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature ( $22 \pm 3$ )°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards               | ID #               | Cal Date (Certificate No.)        | Scheduled Calibration  |
|---------------------------------|--------------------|-----------------------------------|------------------------|
| Power meter NRP                 | SN: 104778         | 04-Apr-18 (No. 217-02672/02673)   | Apr-19                 |
| Power sensor NRP-Z91            | SN: 103244         | 04-Apr-18 (No. 217-02672)         | Apr-19                 |
| Power sensor NRP-Z91            | SN: 103245         | 04-Apr-18 (No. 217-02673)         | Apr-19                 |
| Reference 20 dB Attenuator      | SN: 5058 (20k)     | 04-Apr-18 (No. 217-02682)         | Apr-19                 |
| Type-N mismatch combination     | SN: 5047.2 / 06327 | 04-Apr-18 (No. 217-02683)         | Apr-19                 |
| Reference Probe EX3DV4          | SN: 7349           | 30-Dec-17 (No. EX3-7349_Dec17)    | Dec-18                 |
| DAE4                            | SN: 601            | 04-Oct-18 (No. DAE4-601_Oct18)    | Oct-19                 |
| Secondary Standards             | ID #               | Check Date (in house)             | Scheduled Check        |
| Power meter EPM-442A            | SN: GB37480704     | 07-Oct-15 (in house check Oct-18) | In house check: Oct-20 |
| Power sensor HP 8481A           | SN: US37292783     | 07-Oct-15 (in house check Oct-18) | In house check: Oct-20 |
| Power sensor HP 8481A           | SN: MY41092317     | 07-Oct-15 (in house check Oct-18) | In house check: Oct-20 |
| RF generator R&S SMT-06         | SN: 100972         | 15-Jun-15 (in house check Oct-18) | In house check: Oct-20 |
| Network Analyzer Agilent E8358A | SN: US41080477     | 31-Mar-14 (in house check Oct-18) | In house check: Oct-19 |

Calibrated by: **Manu Seitz** **Function**  
**Laboratory Technician**

Approved by: **Katja Pokovic** **Technical Manager**

Signature

Issued: November 12, 2018

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.