

## APPENDIX F: DOWNLINK LTE CA RF CONDUCTED POWERS

|                                               |                                                                                                                                                 |                              |                                        |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------------------------|
| <b>FCC ID:</b> BCGA2324                       |  <b>PCTEST</b><br><small>Proud to be part of element</small> | <b>SAR EVALUATION REPORT</b> | <b>Reviewed by:</b><br>Quality Manager |
| <b>Test Dates:</b><br>07/27/2020 – 08/18/2020 | <b>DUT Type:</b><br>Tablet Device                                                                                                               |                              | <b>APPENDIX F:</b><br>Page 1 of 14     |

SAR test exclusion for LTE downlink Carrier Aggregation is determined by power measurements according to the number of component carriers (CCs) supported by the product implementation. Per April 2018 TCBC Workshop Notes, the following test reduction methodology was applied to determine the combinations required for conducted power measurements.

- The supported combinations were arranged by the number of component carriers in columns.
- Any limitations on the PCC or SCC for each combination were identified alongside the combination (e.g. CA\_2A-2A-4A-12A, but B12 can only be configured as a SCC).
- Power measurements were performed for "supersets" (LTE CA combinations with multiple components carriers) and any "subsets" (LTE CA combinations with fewer component carriers) that were not completely covered by the supersets.
- Only subsets that have the exact same components as a superset were excluded for measurement.
- When there were certain restrictions on component carriers that existed in the superset that were not applied for the subset, the subset configuration was additionally evaluated.
- Both inter-band and intra-band downlink carrier aggregation scenarios were considered.
- Downlink CA combinations for SISO and 4x4 Downlink MIMO operations were measured independently, per May 2017 TCBC Workshop notes.

| Index  |       | SIC               |                   | Supplemental Character (Revenue/Expense) |             |                   |                   | Restriction | Completely Covered by Measurement Support |  |
|--------|-------|-------------------|-------------------|------------------------------------------|-------------|-------------------|-------------------|-------------|-------------------------------------------|--|
| Index  | SIC   | CEA               | CCG               | CEA                                      | CCG         | CEA               | CCG               | Restriction | Completely Covered by Measurement Support |  |
| CEA 41 | C-2   | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 41                                   |             |                   |                   |             |                                           |  |
| CEA 42 | C-35A | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 42                                   | C-25, 26-29 | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 42      |                                           |  |
| CEA 43 | C-35B | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 43                                   | C-25, 26-29 | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 43      |                                           |  |
| CEA 44 | C-35C | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 44                                   | C-25, 26-29 | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 44      |                                           |  |
| CEA 45 | C-35D | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 45                                   | C-25, 26-29 | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 45      |                                           |  |
| CEA 46 | C-35E | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 46                                   | C-25, 26-29 | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 46      |                                           |  |
| CEA 47 | C-35F | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 47                                   | C-25, 26-29 | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 47      |                                           |  |
| CEA 48 | C-35G | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 48                                   | C-25, 26-29 | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 48      |                                           |  |
| CEA 49 | C-35H | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 49                                   | C-25, 26-29 | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 49      |                                           |  |
| CEA 50 | C-35I | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 50                                   | C-25, 26-29 | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 50      |                                           |  |
| CEA 51 | C-35J | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 51                                   | C-25, 26-29 | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 51      |                                           |  |
| CEA 52 | C-35K | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 52                                   | C-25, 26-29 | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 52      |                                           |  |
| CEA 53 | C-35L | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 53                                   | C-25, 26-29 | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 53      |                                           |  |
| CEA 54 | C-35M | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 54                                   | C-25, 26-29 | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 54      |                                           |  |
| CEA 55 | C-35N | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 55                                   | C-25, 26-29 | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 55      |                                           |  |
| CEA 56 | C-35O | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 56                                   | C-25, 26-29 | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 56      |                                           |  |
| CEA 57 | C-35P | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 57                                   | C-25, 26-29 | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 57      |                                           |  |
| CEA 58 | C-35Q | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 58                                   | C-25, 26-29 | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 58      |                                           |  |
| CEA 59 | C-35R | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 59                                   | C-25, 26-29 | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 59      |                                           |  |
| CEA 60 | C-35S | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 60                                   | C-25, 26-29 | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 60      |                                           |  |
| CEA 61 | C-35T | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 61                                   | C-25, 26-29 | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 61      |                                           |  |
| CEA 62 | C-35U | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 62                                   | C-25, 26-29 | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 62      |                                           |  |
| CEA 63 | C-35V | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 63                                   | C-25, 26-29 | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 63      |                                           |  |
| CEA 64 | C-35W | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 64                                   | C-25, 26-29 | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 | CEA 64      |                                           |  |
| CEA 65 | C-35X | 5, 10, 15, 20, 25 | 5, 10, 15, 20, 25 |                                          |             |                   |                   |             |                                           |  |

[illegible]

|                                               |                                                                                                                                                 |                              |                                        |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------------------------|
| <b>FCC ID:</b> BCGA2324                       |  <b>PCTEST</b><br><small>Proud to be part of element</small> | <b>SAR EVALUATION REPORT</b> | <b>Reviewed by:</b><br>Quality Manager |
| <b>Test Dates:</b><br>07/27/2020 – 08/18/2020 | <b>DUT Type:</b><br>Tablet Device                                                                                                               | APPENDIX F:<br>Page 2 of 14  |                                        |

## 1.2 LTE Downlink Only Carrier Aggregation Test Selection and Setup

SAR test exclusion for LTE downlink Carrier Aggregation is determined by power measurements according to the number component carriers (CCs) supported by the product implementation. For those configurations required by April 2018 TCBC Workshop Notes, 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. 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.

This device supports LAA with downlink carrier aggregation only. It uses carrier aggregation in the downlink to combine LTE in the unlicensed spectrum (i.e. LTE Band 46) with LTE in the licensed band (served as PCC). All uplink communications and acknowledgements on the PCC remain identical to specifications when downlink carrier aggregation is inactive.

Per FCC KDB Publication 941225 D05Av01r02, no SAR measurements are required for carrier aggregation configurations when the maximum 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. All bands required for SAR testing per FCC KDB procedures were considered. Based on the measured maximum powers below, no additional SAR tests were required for DLCA SAR configurations.

### General PCC and SCC configuration selection procedure

- PCC uplink channel, channel bandwidth, modulation and RB configurations were selected based on section C)3)b)iii) of KDB 941225 D05 V01r02. The downlink PCC channel was paired with the selected PCC uplink channel according to normal configurations without carrier aggregation.
- To maximize aggregated bandwidth, highest channel bandwidth available for that CA combination was selected for SCC. For inter-band CA, the SCC downlink channels were selected near the middle of their transmission bands. For contiguous intra-band CA, the downlink channel spacing between the component carriers was set to multiple of 300 kHz less than the nominal channel spacing defined in section 5.4.1A of 3GPP TS 36.521. For non-contiguous intra-band CA, the downlink channel spacing between the component carriers was set to be larger than the nominal channel spacing and provided maximum separation between the component carriers.
- All selected PCC and SCC(s) remained fully within the uplink/downlink transmission band of the respective component carrier.

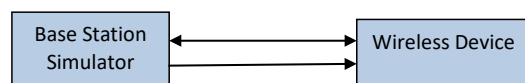


**Figure 1**  
**DL CA Power Measurement Setup**

|                                               |                                                                                                                                                                                                                      |                              |                                        |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------------------------|
| FCC ID: BCGA2324                              |  <b>PCTEST</b><br>Proud to be part of  element | <b>SAR EVALUATION REPORT</b> | <b>Reviewed by:</b><br>Quality Manager |
| <b>Test Dates:</b><br>07/27/2020 – 08/18/2020 | <b>DUT Type:</b><br>Tablet Device                                                                                                                                                                                    |                              | <b>APPENDIX F:</b><br>Page 3 of 14     |

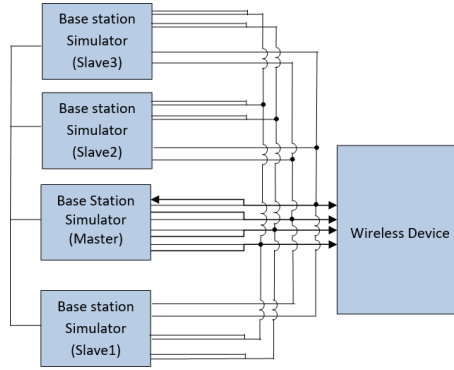


**Figure 2**  
**DL CA with DL 4x4 MIMO Power Measurement Setup**

## 1.3 Downlink Carrier Aggregation RF Conducted Powers

### 1.3.1 LTE Band 71 as PCC

**Table 1**  
**Output Powers – Ant 4**

| Combination       | PCC Band | PCC BW [MHz] | PCC Channel | PCC        |           |                  |                      | PCC (UL) RB | PCC UL RB Offset | PCC (DL) Channel | PCC (DL) Freq. [MHz] | SCC Band | SCC BW [MHz] | SCC (DL) Channel | SCC (DL) Freq. [MHz] | SCC Band | SCC BW [MHz] | SCC (DL) Channel | SCC (DL) Freq. [MHz] | SCC Band | SCC BW [MHz] | SCC Channel | SCC (DL) Freq. [MHz] | SCC Band | SCC BW [MHz] | SCC Channel | SCC (DL) Freq. [MHz] | LTE Tx Power with DL CA Enabled (dBm) | LTE Single Carrier Tx Power (dBm) |       |
|-------------------|----------|--------------|-------------|------------|-----------|------------------|----------------------|-------------|------------------|------------------|----------------------|----------|--------------|------------------|----------------------|----------|--------------|------------------|----------------------|----------|--------------|-------------|----------------------|----------|--------------|-------------|----------------------|---------------------------------------|-----------------------------------|-------|
|                   |          |              |             | Modulation | PCC UL RB | PCC UL RB Offset | PCC (UL) Freq. [MHz] |             |                  |                  |                      |          |              |                  |                      |          |              |                  |                      |          |              |             |                      |          |              |             |                      |                                       |                                   |       |
| CA 4A-4A-71A      | LTE B71  | 15           | 133297      | 680.5      | 16QAM     | 1                | 0                    | 68761       | 634.5            | LTE B4           | 20                   | 2175     | 2132.5       | LTE B4           | 10                   | 2350     | 2130         | -                | -                    | -        | -            | -           | -                    | -        | -            | -           | -                    | 22.48                                 | 22.50                             |       |
| CA 2A-4A-71A      | LTE B71  | 15           | 133297      | 680.5      | 16QAM     | 1                | 0                    | 68761       | 634.5            | LTE B2           | 20                   | 900      | 1990         | LTE B4           | 20                   | 2175     | 2132.5       | -                | -                    | -        | -            | -           | -                    | -        | -            | -           | -                    | -                                     | 22.46                             | 22.50 |
| CA 2A-2A-66A-71A  | LTE B71  | 15           | 133297      | 680.5      | 16QAM     | 1                | 0                    | 68761       | 634.5            | LTE B2           | 20                   | 900      | 1990         | LTE B2           | 20                   | 700      | 1940         | LTE B66          | 20                   | 66786    | 2145         | 22.50       | 22.50                | -        | -            | -           | -                    | -                                     | 22.46                             | 22.50 |
| CA 2A-66A-66A-71A | LTE B71  | 15           | 133297      | 680.5      | 16QAM     | 1                | 0                    | 68761       | 634.5            | LTE B2           | 20                   | 900      | 1990         | LTE B66          | 20                   | 66786    | 2145         | LTE B66          | 20                   | 67236    | 2190         | 22.47       | 22.50                | -        | -            | -           | -                    | -                                     | 22.46                             | 22.50 |
| CA 2A-66C-71A     | LTE B71  | 15           | 133297      | 680.5      | 16QAM     | 1                | 0                    | 68761       | 634.5            | LTE B2           | 20                   | 900      | 1990         | LTE B66          | 20                   | 66786    | 2145         | LTE B66          | 20                   | 66984    | 2164.8       | 22.46       | 22.50                | -        | -            | -           | -                    | -                                     | 22.46                             | 22.50 |

### 1.3.2 LTE Band 12 as PCC

**Table 2**  
**Output Powers – Ant 4**

| Combination           | PCC Band | PCC BW [MHz] | PCC (UL) Ch. | PCC                  |       |           |                  | SCC 1            |                      |          |              | SCC 2            |                      |          |              | SCC 3            |                      |          |              | SCC 4            |                      |          |              | Power            |                      |                                    |                                   |
|-----------------------|----------|--------------|--------------|----------------------|-------|-----------|------------------|------------------|----------------------|----------|--------------|------------------|----------------------|----------|--------------|------------------|----------------------|----------|--------------|------------------|----------------------|----------|--------------|------------------|----------------------|------------------------------------|-----------------------------------|
|                       |          |              |              | PCC (UL) Freq. [MHz] | Mod.  | PCC UL RB | PCC UL RB Offset | PCC (DL) Channel | PCC (DL) Freq. [MHz] | SCC Band | SCC BW [MHz] | SCC (DL) Channel | SCC (DL) Freq. [MHz] | SCC Band | SCC BW [MHz] | SCC (DL) Channel | SCC (DL) Freq. [MHz] | SCC Band | SCC BW [MHz] | SCC (DL) Channel | SCC (DL) Freq. [MHz] | SCC Band | SCC BW [MHz] | SCC (DL) Channel | SCC (DL) Freq. [MHz] | LTE Tx Power with CA Enabled (dBm) | LTE Single Carrier Tx Power (dBm) |
| CA 2A-12A (1)         | LTE B12  | 5            | 23035        | 701.5                | 16QAM | 1         | 12               | 6035             | 731.5                | LTE B2   | 20           | 900              | 1990                 | -        | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | 20.89                              | 20.90                             |
| CA 4A-12A (1)         | LTE B12  | 5            | 23035        | 701.5                | 16QAM | 1         | 12               | 6035             | 731.5                | LTE B4   | 20           | 2175             | 2132.5               | -        | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | 20.87                              | 20.90                             |
| CA 4A-12A (2)         | LTE B12  | 5            | 23035        | 701.5                | 16QAM | 1         | 12               | 6035             | 731.5                | LTE B4   | 20           | 2175             | 2132.5               | -        | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | 20.88                              | 20.90                             |
| CA 12A-25A            | LTE B12  | 5            | 23035        | 701.5                | 16QAM | 1         | 12               | 6035             | 731.5                | LTE B25  | 20           | 8365             | 1902.5               | -        | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | 20.84                              | 20.90                             |
| CA 12A-66A            | LTE B12  | 5            | 23035        | 701.5                | 16QAM | 1         | 12               | 6035             | 731.5                | LTE B66  | 20           | 66695            | 6537.5               | -        | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | 20.85                              | 20.90                             |
| CA 12A-66A (1)        | LTE B12  | 5            | 23035        | 701.5                | 16QAM | 1         | 12               | 6035             | 731.5                | LTE B66  | 20           | 66786            | 2145                 | -        | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | 20.90                              | 20.90                             |
| CA 12A-66A (2)        | LTE B12  | 5            | 23035        | 701.5                | 16QAM | 1         | 12               | 6035             | 731.5                | LTE B66  | 20           | 66786            | 2145                 | -        | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | 20.90                              | 20.90                             |
| CA 2C-12A             | LTE B12  | 5            | 23035        | 701.5                | 16QAM | 1         | 12               | 6035             | 731.5                | LTE B2   | 20           | 900              | 1990                 | LTE B2   | 20           | 700              | 1940.2               | -        | -            | -                | -                    | -        | -            | -                | -                    | 20.71                              | 20.90                             |
| CA 2A-2A-12B          | LTE B12  | 5            | 23035        | 701.5                | 16QAM | 1         | 12               | 6035             | 731.5                | LTE B12  | 10           | 5107             | 738.7                | LTE B2   | 20           | 900              | 1990                 | LTE B2   | 20           | 700              | 1940                 | -        | -            | -                | -                    | 20.62                              | 20.90                             |
| CA 4A-4A-12B          | LTE B12  | 5            | 23035        | 701.5                | 16QAM | 1         | 12               | 6035             | 731.5                | LTE B12  | 10           | 5107             | 738.7                | LTE B4   | 20           | 2175             | 2132.5               | LTE B4   | 20           | 2250             | 2190                 | -        | -            | -                | -                    | 20.70                              | 20.90                             |
| CA 2A-2A-12A          | LTE B12  | 5            | 23035        | 701.5                | 16QAM | 1         | 12               | 6035             | 731.5                | LTE B2   | 20           | 900              | 1990                 | LTE B2   | 20           | 700              | 1940                 | LTE B4   | 20           | 2175             | 2132.5               | -        | -            | -                | -                    | 20.73                              | 20.90                             |
| CA 2A-4A-12A          | LTE B12  | 5            | 23035        | 701.5                | 16QAM | 1         | 12               | 6035             | 731.5                | LTE B2   | 20           | 900              | 1990                 | LTE B4   | 20           | 2175             | 2132.5               | LTE B4   | 20           | 2250             | 2190                 | -        | -            | -                | -                    | 20.61                              | 20.90                             |
| CA 2A-4A-12B          | LTE B12  | 5            | 23035        | 701.5                | 16QAM | 1         | 12               | 6035             | 731.5                | LTE B12  | 10           | 5107             | 738.7                | LTE B2   | 20           | 900              | 1990                 | LTE B4   | 20           | 2175             | 2132.5               | -        | -            | -                | -                    | 20.67                              | 20.90                             |
| CA 2A-12A-66C         | LTE B12  | 5            | 23035        | 701.5                | 16QAM | 0         | 12               | 6035             | 731.5                | LTE B2   | 20           | 900              | 1990                 | LTE B66  | 20           | 66695            | 6537.5               | LTE B66  | 20           | 66786            | 2145                 | -        | -            | -                | -                    | 20.86                              | 20.90                             |
| CA 4A-4A-12A-30A      | LTE B12  | 5            | 23035        | 701.5                | 16QAM | 1         | 12               | 6035             | 731.5                | LTE B4   | 20           | 2175             | 2132.5               | LTE B4   | 20           | 2250             | 2190                 | LTE B30  | 10           | 8620             | 2355                 | -        | -            | -                | -                    | 20.63                              | 20.90                             |
| CA 2A-4A-7A-12A       | LTE B12  | 5            | 23035        | 701.5                | 16QAM | 1         | 12               | 6035             | 731.5                | LTE B2   | 20           | 900              | 1990                 | LTE B4   | 20           | 2175             | 2132.5               | LTE B7   | 20           | 3100             | 2695                 | -        | -            | -                | -                    | 20.64                              | 20.90                             |
| CA 2A-4A-12A-30A      | LTE B12  | 5            | 23035        | 701.5                | 16QAM | 0         | 12               | 6035             | 731.5                | LTE B2   | 20           | 900              | 1990                 | LTE B4   | 20           | 2175             | 2132.5               | LTE B30  | 10           | 8620             | 2355                 | -        | -            | -                | -                    | 20.63                              | 20.90                             |
| CA 2A-7A-12A-66A      | LTE B12  | 5            | 23035        | 701.5                | 16QAM | 1         | 12               | 6035             | 731.5                | LTE B2   | 20           | 900              | 1990                 | LTE B7   | 20           | 3100             | 2695                 | LTE B66  | 20           | 66786            | 2145                 | -        | -            | -                | -                    | 20.63                              | 20.90                             |
| CA 2A-2A-12A-66A-66A  | LTE B12  | 5            | 23035        | 701.5                | 16QAM | 1         | 12               | 6035             | 731.5                | LTE B2   | 20           | 900              | 1990                 | LTE B2   | 20           | 700              | 1940                 | LTE B66  | 20           | 66786            | 2145                 | LTE B66  | 20           | 67236            | 2190                 | 20.89                              | 20.90                             |
| CA 2A-2A-12A-30A-66A  | LTE B12  | 5            | 23035        | 701.5                | 16QAM | 0         | 12               | 6035             | 731.5                | LTE B2   | 20           | 900              | 1990                 | LTE B2   | 20           | 700              | 1940                 | LTE B30  | 10           | 8620             | 2355                 | LTE B66  | 20           | 66786            | 2145                 | 20.63                              | 20.90                             |
| CA 2A-12A-30A-66A-66A | LTE B12  | 5            | 23035        | 701.5                | 16QAM | 1         | 12               | 6035             | 731.5                | LTE B2   | 20           | 900              | 1990                 | LTE B30  | 10           | 8620             | 2355                 | LTE B66  | 20           | 66786            | 2145                 | LTE B66  | 20           | 67236            | 2190                 | 20.84                              | 20.90                             |

FCC ID: BCGA2324



SAR EVALUATION REPORT

Reviewed by:  
Quality Manager

Test Dates:  
07/27/2020 – 08/18/2020

DUT Type:  
Tablet Device

APPENDIX F:  
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## 1.3.3

## LTE Band 13 as PCC

Table 3  
Output Powers – Ant 4

| Combination  | PCC Band | PCC BW [MHz] | PCC (UL) Channel | PCC (UL) Freq. [MHz] | PCC      |              |                  |                      | Modulation | PCC UL RB | PCC UL RB Offset | PCC (DL) Channel | PCC (DL) Freq. [MHz] | SCC 1    |              |                  | SCC Band | SCC BW [MHz] | SCC (DL) Channel | SCC (DL) Freq. [MHz] | SCC Band | SCC BW [MHz] | SCC 2                |   |   | SCC (DL) Channel | SCC (DL) Freq. [MHz] | SCC Band | SCC BW [MHz] | SCC (DL) Channel | SCC (DL) Freq. [MHz] | SCC Band | SCC BW [MHz] | SCC (DL) Channel | SCC (DL) Freq. [MHz] | LTE Tx Power with DL CA Enabled [dBm] | LTE Single Carrier Tx Power [dBm] |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
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|              |          |              |                  |                      | SCC Band | SCC BW [MHz] | SCC (DL) Channel | SCC (DL) Freq. [MHz] |            |           |                  |                  |                      | SCC Band | SCC BW [MHz] | SCC (DL) Channel |          |              |                  |                      |          |              | SCC (DL) Freq. [MHz] |   |   |                  |                      |          |              |                  |                      |          |              |                  |                      |                                       |                                   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| CA 4A-4A-13A | LTE B13  | 10           | 23230            | 782                  | 16QAM    | 1            | 0                | 8230                 | 751        | LTE B4    | 20               | 2175             | 2132.5               | LTE B4   | 10           | 2350             | 2150     | -            | -                | -                    | -        | -            | -                    | - | - | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | -                                     | -                                 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

## 1.3.4

## LTE Band 14 as PCC

Table 4  
Output Powers – Ant 4

| Combination          | PCC Band | PCC          |              |                      |       |           |                  |                  |                      |          |              | SCC 1            |                      |          |              | SCC 2            |                      |          |              | SCC 3            |                      |          |              | SCC 4            |                      |                                       |                                   | Power |  |
|----------------------|----------|--------------|--------------|----------------------|-------|-----------|------------------|------------------|----------------------|----------|--------------|------------------|----------------------|----------|--------------|------------------|----------------------|----------|--------------|------------------|----------------------|----------|--------------|------------------|----------------------|---------------------------------------|-----------------------------------|-------|--|
|                      |          | PCC BW [MHz] | PCC (UL) Ch. | PCC (UL) Freq. [MHz] | Mod.  | PCC UL RB | PCC UL RB Offset | PCC (DL) Channel | PCC (DL) Freq. [MHz] | SCC Band | SCC BW [MHz] | SCC (DL) Channel | SCC (DL) Freq. [MHz] | SCC Band | SCC BW [MHz] | SCC (DL) Channel | SCC (DL) Freq. [MHz] | SCC Band | SCC BW [MHz] | SCC (DL) Channel | SCC (DL) Freq. [MHz] | SCC Band | SCC BW [MHz] | SCC (DL) Channel | SCC (DL) Freq. [MHz] | LTE Tx Power with DL CA Enabled (dBm) | LTE Single Carrier Tx Power (dBm) |       |  |
| CA 2A-2A-14A-66A-66A | LTE B14  | 10           | 23330        | 793                  | 16QAM | 1         | 25               | 3330             | 763                  | LTE B2   | 20           | 900              | 1960                 | LTE B2   | 20           | 700              | 1940                 | LTE B05  | 20           | 66786            | 2145                 | LTE B05  | 20           | 67236            | 2190                 | 20.66                                 | 21.06                             |       |  |
| CA 2A-2A-14A-3A-66A  | LTE B14  | 10           | 23330        | 793                  | 16QAM | 1         | 25               | 3330             | 763                  | LTE B2   | 20           | 900              | 1960                 | LTE B2   | 20           | 700              | 1940                 | LTE B30  | 10           | 66786            | 2145                 | LTE B05  | 20           | 66786            | 2145                 | 20.67                                 | 21.06                             |       |  |
| CA 2A-14A-3A-66A-66A | LTE B14  | 10           | 23330        | 793                  | 16QAM | 1         | 25               | 3330             | 763                  | LTE B2   | 20           | 900              | 1960                 | LTE B30  | 10           | 66786            | 2145                 | LTE B05  | 20           | 66786            | 2145                 | LTE B05  | 20           | 67236            | 2190                 | 20.70                                 | 21.06                             |       |  |

## 1.3.5

## LTE Band 5 as PCC

Table 5  
Output Powers – Ant 4

| Combination              |        | PCC Band | PCC BW [MHz] | PCC (UL) Ch | PCC                  |      |           |                  | PCC (DL) Channel | SCC 1    |              |                  |                      | SCC 2    |              |                  |                      | SCC 3    |              |                  |                      | SCC 4    |              |                  |                      | LTE Tx Power with DL CA Enabled (dBm) | LTE Single Carrier Tx Power (dBm) |
|--------------------------|--------|----------|--------------|-------------|----------------------|------|-----------|------------------|------------------|----------|--------------|------------------|----------------------|----------|--------------|------------------|----------------------|----------|--------------|------------------|----------------------|----------|--------------|------------------|----------------------|---------------------------------------|-----------------------------------|
|                          |        |          |              |             | PCC (UL) Freq. [MHz] | Mod. | PCC UL RB | PCC UL RB Offset |                  | SCC Band | SCC BW [MHz] | SCC (DL) Channel | SCC (DL) Freq. [MHz] | SCC Band | SCC BW [MHz] | SCC (DL) Channel | SCC (DL) Freq. [MHz] | SCC Band | SCC BW [MHz] | SCC (DL) Channel | SCC (DL) Freq. [MHz] | SCC Band | SCC BW [MHz] | SCC (DL) Channel | SCC (DL) Freq. [MHz] |                                       |                                   |
| CA 5A-7A                 | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B7   | 20           | 3100             | 2655                 | -        | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | 20.76                | 21.08                                 |                                   |
| CA 5A-2A                 | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B25  | 20           | 8365             | 1962.5               | -        | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | 21.10                | 21.08                                 |                                   |
| CA 5A-41A                | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B41  | 20           | 40620            | 2593                 | -        | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | 21.03                | 21.08                                 |                                   |
| CA 5A-46A (1)            | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B46  | 20           | 50065            | 5537.5               | -        | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | 20.83                | 21.08                                 |                                   |
| CA 5A-46A                | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B46  | 20           | 50065            | 5537.5               | -        | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | 20.77                | 21.08                                 |                                   |
| CA 2C-5A                 | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B2   | 20           | 900              | 1960                 | LTE B2   | 20           | 700              | 1940                 | -        | -            | -                | -                    | -        | -            | -                | 20.76                | 21.08                                 |                                   |
| CA 4A-3B (1)             | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B5   | 5            | 2477             | 874.7                | LTE B4   | 20           | 2175             | 2132.5               | -        | -            | -                | -                    | -        | -            | -                | 20.85                | 21.08                                 |                                   |
| CA 5A-7A-2A              | LTE B5 | 10       | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B7   | 20           | 3100             | 2655                 | LTE B7   | 20           | 2650             | 2630                 | -        | -            | -                | -                    | -        | -            | -                | 20.94                | 21.08                                 |                                   |
| CA 5A-7C                 | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B7   | 20           | 3100             | 2655                 | LTE B7   | 20           | 2650             | 2635.2               | -        | -            | -                | -                    | -        | -            | -                | 30.87                | 21.08                                 |                                   |
| CA 5A-66C (1)            | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B6   | 20           | 50065            | 5537.5               | LTE B40  | 20           | 50065            | 5537.7               | -        | -            | -                | -                    | -        | -            | -                | 30.89                | 21.08                                 |                                   |
| CA 2A-5A-66A             | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B2   | 20           | 900              | 1960                 | LTE B40  | 20           | 50065            | 5537.5               | -        | -            | -                | -                    | -        | -            | -                | 20.91                | 21.08                                 |                                   |
| CA 5A-46A-66A            | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B46  | 20           | 50065            | 5537.5               | LTE B05  | 20           | 66786            | 2145                 | -        | -            | -                | -                    | -        | -            | -                | 30.84                | 21.08                                 |                                   |
| CA 4A-4A-5B              | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B5   | 10           | 2453             | 874.3                | LTE B4   | 20           | 2175             | 2132.5               | LTE B4   | 10           | 2550             | 2150                 | -        | -            | -                | -                    | 20.95                                 | 21.08                             |
| CA 5A-46B (1)            | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B46  | 20           | 50065            | 5537.5               | LTE B40  | 20           | 50067            | 5537.7               | -        | -            | -                | -                    | -        | -            | -                | 21.03                | 21.08                                 |                                   |
| CA 5A-66A-66B            | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B05  | 20           | 66786            | 2145                 | LTE B05  | 5            | 67169            | 2182.2               | LTE B05  | 15           | 67261            | 2182.6               | -        | -            | -                | -                    | 20.96                                 | 21.08                             |
| CA 5A-66A-66C            | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B05  | 20           | 66786            | 2145                 | LTE B05  | 20           | 66786            | 2145                 | LTE B05  | 20           | 67236            | 2190                 | -        | -            | -                | -                    | 20.91                                 | 21.08                             |
| CA 5A-4A-7C              | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B5   | 10           | 2453             | 874.3                | LTE B2   | 20           | 700              | 1940                 | LTE B4   | 20           | 2175             | 2132.5               | -        | -            | -                | -                    | 20.87                                 | 21.08                             |
| CA 2A-5A-66A             | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B2   | 20           | 900              | 1960                 | LTE B4   | 20           | 2175             | 2132.5               | LTE B4   | 10           | 2550             | 2150                 | -        | -            | -                | -                    | 20.93                                 | 21.08                             |
| CA 2A-4A-5B              | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B5   | 10           | 2453             | 874.3                | LTE B2   | 20           | 900              | 1960                 | LTE B4   | 20           | 2175             | 2132.5               | -        | -            | -                | -                    | 20.91                                 | 21.08                             |
| CA 2A-5A-46C             | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B2   | 20           | 900              | 1960                 | LTE B40  | 20           | 50065            | 5537.5               | LTE B40  | 20           | 50067            | 5537.7               | -        | -            | -                | -                    | 20.83                                 | 21.08                             |
| CA 4A-4A-5A-3A           | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B4   | 20           | 2175             | 2132.5               | LTE B4   | 20           | 2250             | 2150                 | LTE B30  | 10           | 66786            | 2145                 | -        | -            | -                | -                    | 20.97                                 | 21.08                             |
| CA 5A-46C-66A            | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B46  | 20           | 50065            | 5537.5               | LTE B40  | 20           | 50067            | 5537.7               | LTE B40  | 20           | 66786            | 2145                 | -        | -            | -                | -                    | 20.94                                 | 21.08                             |
| CA 2A-4A-5A-3A           | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B2   | 20           | 900              | 1960                 | LTE B4   | 20           | 2175             | 2132.5               | LTE B30  | 10           | 66786            | 2145                 | -        | -            | -                | -                    | 20.86                                 | 21.08                             |
| CA 2A-2A-5A-66A-66A      | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B2   | 20           | 900              | 1960                 | LTE B2   | 20           | 700              | 1940                 | LTE B06  | 20           | 66786            | 2145                 | LTE B06  | 20           | 67236            | 2190                 | 20.82                                 | 21.08                             |
| CA 2A-5A-66B             | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B2   | 20           | 900              | 1960                 | LTE B2   | 20           | 700              | 1940                 | LTE B06  | 15           | 66786            | 2145                 | LTE B06  | 15           | 66786            | 2145                 | 20.86                                 | 21.08                             |
| CA 2A-5A-66C             | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B2   | 20           | 900              | 1960                 | LTE B2   | 20           | 700              | 1940                 | LTE B06  | 20           | 66786            | 2145                 | LTE B06  | 20           | 66786            | 2145                 | 20.86                                 | 21.08                             |
| CA 2A-5A-46B             | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B2   | 20           | 900              | 1960                 | LTE B2   | 20           | 700              | 1940                 | LTE B06  | 15           | 66786            | 2145                 | LTE B06  | 15           | 66786            | 2145                 | 20.86                                 | 21.08                             |
| CA 2A-5A-46C             | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B2   | 20           | 900              | 1960                 | LTE B2   | 20           | 700              | 1940                 | LTE B06  | 20           | 66786            | 2145                 | LTE B06  | 20           | 66786            | 2145                 | 20.86                                 | 21.08                             |
| CA 2A-5A-66A-66B         | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B2   | 20           | 900              | 1960                 | LTE B2   | 20           | 700              | 1940                 | LTE B06  | 15           | 66786            | 2145                 | LTE B06  | 15           | 66786            | 2145                 | 20.86                                 | 21.08                             |
| CA 2A-5A-66A-66C         | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B2   | 20           | 900              | 1960                 | LTE B2   | 20           | 700              | 1940                 | LTE B06  | 20           | 66786            | 2145                 | LTE B06  | 20           | 66786            | 2145                 | 20.86                                 | 21.08                             |
| CA 2A-5A-66A-66B-66C     | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B2   | 20           | 900              | 1960                 | LTE B2   | 20           | 700              | 1940                 | LTE B06  | 15           | 66786            | 2145                 | LTE B06  | 15           | 66786            | 2145                 | 20.86                                 | 21.08                             |
| CA 2A-5A-30A-66A         | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B5   | 10           | 2453             | 874.3                | LTE B2   | 20           | 900              | 1960                 | LTE B06  | 20           | 66786            | 2145                 | LTE B06  | 20           | 66786            | 2145                 | 20.86                                 | 21.08                             |
| CA 2A-5A-30A-66B         | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B5   | 10           | 2453             | 874.3                | LTE B2   | 20           | 900              | 1960                 | LTE B06  | 20           | 66786            | 2145                 | LTE B06  | 20           | 66786            | 2145                 | 20.86                                 | 21.08                             |
| CA 2A-5A-30A-66C         | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B5   | 10           | 2453             | 874.3                | LTE B2   | 20           | 900              | 1960                 | LTE B06  | 20           | 66786            | 2145                 | LTE B06  | 20           | 66786            | 2145                 | 20.86                                 | 21.08                             |
| CA 2A-5A-30A-66A-66B     | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B5   | 10           | 2453             | 874.3                | LTE B2   | 20           | 900              | 1960                 | LTE B06  | 20           | 66786            | 2145                 | LTE B06  | 20           | 66786            | 2145                 | 20.86                                 | 21.08                             |
| CA 2A-5A-30A-66A-66C     | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B5   | 10           | 2453             | 874.3                | LTE B2   | 20           | 900              | 1960                 | LTE B06  | 20           | 66786            | 2145                 | LTE B06  | 20           | 66786            | 2145                 | 20.86                                 | 21.08                             |
| CA 2A-5A-30A-66A-66B-66C | LTE B5 | 5        | 26525        | 836.5       | 64QAM                | 1    | 12        | 2525             | 881.5            | LTE B5   | 10           | 2453             | 874.3                | LTE B2   | 20           | 900              | 1960                 | LTE B06  | 20           | 66786            | 2145                 | LTE B06  | 20           | 66786            | 2145                 | 20.86                                 | 21.08                             |

**Table 7**  
**Output Powers - Ant 2a**

**Table 8**  
**Output Powers - Ant 4**

**Table 9**  
**Output Powers - Ant 1a**

## LTE Band 7 as PCC

**Table 10**  
**Output Powers - Ant 2A**

| Combination     | PCB Band | PCC          |              |                      |       |            |                  |                  |                      |          |              | SSC1             |                      |          |              | SSC2             |                      |          |              | SSC3             |                      |          |              | SSC4             |                      |   |   | LTE Tx Power<br>[dBm] | Power<br>Single<br>Carrier Tx<br>Power [dBm] |   |   |       |       |       |
|-----------------|----------|--------------|--------------|----------------------|-------|------------|------------------|------------------|----------------------|----------|--------------|------------------|----------------------|----------|--------------|------------------|----------------------|----------|--------------|------------------|----------------------|----------|--------------|------------------|----------------------|---|---|-----------------------|----------------------------------------------|---|---|-------|-------|-------|
|                 |          | PCC BW [MHz] | PCC [UL] Ch. | PCC [UL] Freq. [MHz] | Mod.  | PCC ULs RB | PCC UL RB Offset | PCC [DL] Channel | PCC [DL] Freq. [MHz] | SSC Band | SSC BW [MHz] | SSC [DL] Channel | SSC [DL] Freq. [MHz] | SSC Band | SSC BW [MHz] | SSC [DL] Channel | SSC [DL] Freq. [MHz] | SSC Band | SSC BW [MHz] | SSC [DL] Channel | SSC [DL] Freq. [MHz] | SSC Band | SSC BW [MHz] | SSC [DL] Channel | SSC [DL] Freq. [MHz] |   |   |                       |                                              |   |   |       |       |       |
| CA 7B           | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 8                | 3007                 | 2663.7   | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | 14.50 | 14.50 |       |
| CA 5A/7A        | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B5       | 10               | 2525                 | 881.5    | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | 14.50 | 14.50 |       |
| CA 7A/26A       | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B26      | 10               | 8865                 | 876.5    | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | 14.50 | 14.50 |       |
| CA 7A/44A (1)   | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B46      | 20               | 50665                | 5537.5   | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | 14.50 | 14.50 |       |
| CA 4A/47A (1)   | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B4       | 20               | 4175                 | 2132.5   | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | 14.50 | 14.50 |       |
| CA 5A/7A/26A    | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2850                 | 2630     | LTE B5       | 10               | 2525                 | 881.5    | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.45 | 14.50 |
| CA 5A/7A        | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2929                 | 2637.5   | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 7A/7A/26A    | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 8865                 | 876.5    | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 7A/46A (1)   | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B46      | 20               | 50665                | 5537.5   | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.46 | 14.50 |
| CA 7A/56A       | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2929                 | 2637.5   | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 7A/7A (1)    | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B46      | 20               | 50665                | 5537.5   | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 7A/56A (1)   | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2929                 | 2637.5   | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 2A/7A/7A     | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B46      | 20               | 50665                | 5537.5   | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 2A/7A/56A    | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2929                 | 2637.5   | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 5A/7A/12A    | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B2       | 20               | 800                  | 1960     | LTE B4       | 20               | 2175                 | 2132.5   | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 2A/7A/56A    | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2850                 | 2630     | LTE B5       | 10               | 2525                 | 881.5    | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.45 | 14.50 |
| CA 5A/7A/12A/6A | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2929                 | 2637.5   | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 5A/7A        | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2929                 | 2637.5   | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 7A/7A/12A    | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B2       | 20               | 800                  | 1960     | LTE B4       | 20               | 2175                 | 2132.5   | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 7A/7A/56A    | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2850                 | 2630     | LTE B5       | 10               | 2525                 | 881.5    | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.45 | 14.50 |
| CA 5A/7A/12A/6A | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2929                 | 2637.5   | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 5A/7A        | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2929                 | 2637.5   | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 7A/7A/12A    | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B2       | 20               | 800                  | 1960     | LTE B4       | 20               | 2175                 | 2132.5   | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 7A/7A/56A    | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2850                 | 2630     | LTE B5       | 10               | 2525                 | 881.5    | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.45 | 14.50 |
| CA 5A/7A/12A/6A | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2929                 | 2637.5   | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 5A/7A        | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2929                 | 2637.5   | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 7A/7A/12A    | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B2       | 20               | 800                  | 1960     | LTE B4       | 20               | 2175                 | 2132.5   | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 7A/7A/56A    | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2850                 | 2630     | LTE B5       | 10               | 2525                 | 881.5    | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.45 | 14.50 |
| CA 5A/7A/12A/6A | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2929                 | 2637.5   | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 5A/7A        | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2929                 | 2637.5   | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 7A/7A/12A    | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B2       | 20               | 800                  | 1960     | LTE B4       | 20               | 2175                 | 2132.5   | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 7A/7A/56A    | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2850                 | 2630     | LTE B5       | 10               | 2525                 | 881.5    | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.45 | 14.50 |
| CA 5A/7A/12A/6A | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2929                 | 2637.5   | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 5A/7A        | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2929                 | 2637.5   | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 7A/7A/12A    | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B2       | 20               | 800                  | 1960     | LTE B4       | 20               | 2175                 | 2132.5   | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 7A/7A/56A    | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2850                 | 2630     | LTE B5       | 10               | 2525                 | 881.5    | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.45 | 14.50 |
| CA 5A/7A/12A/6A | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2929                 | 2637.5   | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 5A/7A        | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2929                 | 2637.5   | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 7A/7A/12A    | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B2       | 20               | 800                  | 1960     | LTE B4       | 20               | 2175                 | 2132.5   | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 7A/7A/56A    | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2850                 | 2630     | LTE B5       | 10               | 2525                 | 881.5    | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.45 | 14.50 |
| CA 5A/7A/12A/6A | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2929                 | 2637.5   | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 5A/7A        | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2929                 | 2637.5   | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 7A/7A/12A    | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B2       | 20               | 800                  | 1960     | LTE B4       | 20               | 2175                 | 2132.5   | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 7A/7A/56A    | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2850                 | 2630     | LTE B5       | 10               | 2525                 | 881.5    | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.45 | 14.50 |
| CA 5A/7A/12A/6A | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2929                 | 2637.5   | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 5A/7A        | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2929                 | 2637.5   | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 7A/7A/12A    | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B2       | 20               | 800                  | 1960     | LTE B4       | 20               | 2175                 | 2132.5   | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.50 | 14.50 |
| CA 7A/7A/56A    | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2850                 | 2630     | LTE B5       | 10               | 2525                 | 881.5    | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - | -     | 14.45 | 14.50 |
| CA 5A/7A/12A/6A | LTE B7   | 15           | 2100         | 2635                 | 16QAM | -          | -                | 74               | 3100                 | 2655     | LTE B7       | 20               | 2929                 | 2637.5   | -            | -                | -                    | -        | -            | -                | -                    | -        | -            | -                | -                    | - | - | -                     | -                                            | - | - |       |       |       |

## LTE Band 41 as PCC

**Table 11**  
**Output Powers - Ant 2A**

| Channel        | Power | PCC      |                 |              |                         |       |           |                     |                  |                         |          | SCC1            |                  |                         |          | SCC2            |                  |                         |          | SCC3            |                  |                         |          | SCC4            |                  |                         |        | LTE Tx Power<br>[dBm] | LTE Single<br>Carrier Tx<br>Power [dBm] |      |
|----------------|-------|----------|-----------------|--------------|-------------------------|-------|-----------|---------------------|------------------|-------------------------|----------|-----------------|------------------|-------------------------|----------|-----------------|------------------|-------------------------|----------|-----------------|------------------|-------------------------|----------|-----------------|------------------|-------------------------|--------|-----------------------|-----------------------------------------|------|
|                |       | PCC Band | PCC BW<br>[MHz] | PCC [UL] Ch. | PCC [DL] Freq.<br>[MHz] | Mod.  | PCC UL RB | PCC UL RB<br>Offset | PCC [DL] Channel | PCC [DL] Freq.<br>[MHz] | SCC Band | SCC BW<br>[MHz] | SCC [DL] Channel | SCC [DL] Freq.<br>[MHz] | SCC Band | SCC BW<br>[MHz] | SCC [DL] Channel | SCC [DL] Freq.<br>[MHz] | SCC Band | SCC BW<br>[MHz] | SCC [DL] Channel | SCC [DL] Freq.<br>[MHz] | SCC Band | SCC BW<br>[MHz] | SCC [DL] Channel | SCC [DL] Freq.<br>[MHz] |        |                       |                                         |      |
| CA 41A-41A (1) |       | LTE B41  | 20              | 40185        | 2549.5                  | 16QAM | 0         | 0                   | 40185            | 2549.5                  | LTE B41  | 20              | 41490            | 2690                    | 5G N28   | 20              | 41490            | 2690                    | 5G N28   | 20              | 41490            | 2690                    | 5G N28   | 20              | 41490            | 2690                    | 5G N28 | 20                    | 41490                                   | 2690 |
| CA 4A-41A      |       | LTE B41  | 20              | 40185        | 2549.5                  | 16QAM | 0         | 0                   | 40185            | 2549.5                  | LTE B5   | 10              | 2025             | 881.5                   | -        | -               | -                | -                       | -        | -               | -                | -                       | -        | -               | -                | -                       | -      | -                     | -                                       | -    |
| CA 26A-41A     |       | LTE B41  | 20              | 40185        | 2549.5                  | 16QAM | 0         | 0                   | 40185            | 2549.5                  | LTE B29  | 10              | 8905             | 870.5                   | -        | -               | -                | -                       | -        | -               | -                | -                       | -        | -               | -                | -                       | -      | -                     | -                                       | -    |
| CA 41A-41C     |       | LTE B41  | 20              | 40185        | 2549.5                  | 16QAM | 0         | 0                   | 40185            | 2549.5                  | LTE B41  | 20              | 41500            | 2690.5                  | LTE B41  | 20              | 41490            | 2690                    | LTE B41  | 20              | 41490            | 2690                    | -        | -               | -                | -                       | -      | -                     | -                                       | -    |
| CA 41C-41A     |       | LTE B41  | 20              | 40185        | 2549.5                  | 16QAM | 0         | 0                   | 40185            | 2549.5                  | LTE B41  | 20              | 40360            | 2699.5                  | LTE B41  | 20              | 41490            | 2690                    | -        | -               | -                | -                       | -        | -               | -                | -                       | -      | -                     | -                                       | -    |
| CA 26A-25A-41A |       | LTE B41  | 20              | 40185        | 2549.5                  | 16QAM | 0         | 0                   | 40185            | 2549.5                  | LTE B29  | 20              | 8300             | 1862.5                  | LTE B29  | 20              | 8900             | 1865                    | -        | -               | -                | -                       | -        | -               | -                | -                       | -      | -                     | -                                       | -    |
| CA 26A-41C     |       | LTE B41  | 20              | 40185        | 2549.5                  | 16QAM | 0         | 0                   | 40185            | 2549.5                  | LTE B41  | 20              | 40360            | 2699.5                  | LTE B41  | 20              | 8900             | 1865                    | -        | -               | -                | -                       | -        | -               | -                | -                       | -      | -                     | -                                       | -    |
| CA 26A-41C     |       | LTE B41  | 20              | 40185        | 2549.5                  | 16QAM | 0         | 0                   | 40185            | 2549.5                  | LTE B41  | 20              | 40360            | 2699.5                  | LTE B29  | 10              | 8905             | 876.5                   | -        | -               | -                | -                       | -        | -               | -                | -                       | -      | -                     | -                                       | -    |
| CA 41C         |       | LTE B41  | 20              | 40185        | 2549.5                  | 16QAM | 0         | 0                   | 40185            | 2549.5                  | LTE B41  | 20              | 40360            | 2699.5                  | LTE B41  | 20              | 40580            | 2690.5                  | LTE B41  | 20              | 41490            | 2690                    | -        | -               | -                | -                       | -      | -                     | -                                       | -    |
| CA 41A-41D     |       | LTE B41  | 20              | 40185        | 2549.5                  | 16QAM | 0         | 0                   | 40185            | 2549.5                  | LTE B41  | 20              | 40360            | 2699.5                  | LTE B41  | 20              | 40580            | 2690.5                  | LTE B41  | 20              | 41490            | 2690                    | -        | -               | -                | -                       | -      | -                     | -                                       | -    |
| CA 41D-41C     |       | LTE B41  | 20              | 40185        | 2549.5                  | 16QAM | 0         | 0                   | 40185            | 2549.5                  | LTE B41  | 20              | 40360            | 2699.5                  | LTE B41  | 20              | 40580            | 2690.5                  | LTE B41  | 20              | 41490            | 2690                    | -        | -               | -                | -                       | -      | -                     | -                                       | -    |
| CA 26A-25A-41C |       | LTE B41  | 20              | 40185        | 2549.5                  | 16QAM | 0         | 0                   | 40185            | 2549.5                  | LTE B41  | 20              | 40360            | 2699.5                  | LTE B41  | 20              | 41260            | 2660.5                  | LTE B41  | 20              | 41490            | 2690                    | -        | -               | -                | -                       | -      | -                     | -                                       | -    |
| CA 26A-41C     |       | LTE B41  | 20              | 40185        | 2549.5                  | 16QAM | 0         | 0                   | 40185            | 2549.5                  | LTE B41  | 20              | 40360            | 2699.5                  | LTE B41  | 20              | 8905             | 876.5                   | -        | -               | -                | -                       | -        | -               | -                | -                       | -      | -                     | -                                       | -    |
| CA 41C-41D     |       | LTE B41  | 20              | 40185        | 2549.5                  | 16QAM | 0         | 0                   | 40185            | 2549.5                  | LTE B41  | 20              | 40360            | 2699.5                  | LTE B41  | 20              | 41090            | 2640.5                  | LTE B41  | 20              | 41260            | 2660.5                  | LTE B41  | 20              | 41490            | 2690                    | -      | -                     | -                                       | -    |
| CA 41D-41D     |       | LTE B41  | 20              | 40185        | 2549.5                  | 16QAM | 0         | 0                   | 40185            | 2549.5                  | LTE B41  | 20              | 40360            | 2699.5                  | LTE B41  | 20              | 40580            | 2690.5                  | LTE B41  | 20              | 41490            | 2690                    | -        | -               | -                | -                       | -      | -                     | -                                       | -    |
| CA 26A-25A-41D |       | LTE B41  | 20              | 40185        | 2549.5                  | 16QAM | 0         | 0                   | 40185            | 2549.5                  | LTE B41  | 20              | 40360            | 2699.5                  | LTE B41  | 20              | 41090            | 2640.5                  | LTE B41  | 20              | 41260            | 2660.5                  | LTE B41  | 20              | 41490            | 2690                    | -      | -                     | -                                       | -    |
| CA 26A-41D     |       | LTE B41  | 20              | 40185        | 2549.5                  | 16QAM | 0         | 0                   | 40185            | 2549.5                  | LTE B41  | 20              | 40360            | 2699.5                  | LTE B41  | 20              | 8905             | 876.5                   | -        | -               | -                | -                       | -        | -               | -                | -                       | -      | -                     | -                                       | -    |

## LTE Band 48 as PCC

**Table 12**  
**Output Powers - Ant 4**

|                                                                                                       |             |              |                         |                         |      |            |               |                         |          |              |                         |          |              |                         |          |              |                         |          |              |                         |          |              |                         |          | Power        |                         |                |                 |                         |                      |                    |       |       |    |       |       |
|-------------------------------------------------------------------------------------------------------|-------------|--------------|-------------------------|-------------------------|------|------------|---------------|-------------------------|----------|--------------|-------------------------|----------|--------------|-------------------------|----------|--------------|-------------------------|----------|--------------|-------------------------|----------|--------------|-------------------------|----------|--------------|-------------------------|----------------|-----------------|-------------------------|----------------------|--------------------|-------|-------|----|-------|-------|
| Combination                                                                                           | PCC Band    | PCC BW [MHz] | PCC                     |                         |      |            | SCS 1         |                         |          |              | SCS 2                   |          |              |                         | SCS 3    |              |                         |          | SCS 4        |                         |          |              | SCS 5                   |          |              |                         | LTE or 5G Band | LTE or 5G Power | LTE or 5G Carrier Power | LTE or 5G CA Enabled | LTE or 5G CA Power |       |       |    |       |       |
|                                                                                                       |             |              | PCC [DL/UL Freq. [MHz]] | PCC [DL/UL Freq. [MHz]] | Mod  | PCC LA# RB | PCC RB Offset | PCC [DL/UL Freq. [MHz]] | SCS Band | SCS BW [MHz] | SCS [DL/UL Freq. [MHz]] | SCS Band | SCS BW [MHz] | SCS [DL/UL Freq. [MHz]] | SCS Band | SCS BW [MHz] | SCS [DL/UL Freq. [MHz]] | SCS Band | SCS BW [MHz] | SCS [DL/UL Freq. [MHz]] | SCS Band | SCS BW [MHz] | SCS [DL/UL Freq. [MHz]] | SCS Band | SCS BW [MHz] | SCS [DL/UL Freq. [MHz]] |                |                 |                         |                      |                    |       |       |    |       |       |
| CA SA-BA                                                                                              | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA                                                                                           | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA                                                                                        | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA                                                                                     | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA                                                                                  | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA                                                                               | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA-BA                                                                            | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA-BA-BA                                                                         | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA-BA-BA-BA                                                                      | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA                                                                   | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA                                                                | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA                                                             | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA                                                          | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA                                                       | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA                                                    | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA                                                 | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA                                              | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA                                           | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA                                        | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA                                     | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA                                  | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA                               | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA                            | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA                         | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA                      | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA                   | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA                | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA             | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA          | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA       | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA    | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA | LTE-Band 20 | 50000        | 50000                   | 50000                   | QPSK | 20         | 0             | 50000                   | 50000    | LTE-Band 20  | 20                      | 20000    | 800-5        | 20                      | 20000    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5    | 20           | 20000                   | 800-5          | 20              | 20000                   | 800-5                | 20                 | 20000 | 800-5 | 20 | 20000 | 800-5 |
| CA SA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-BA-                        |             |              |                         |                         |      |            |               |                         |          |              |                         |          |              |                         |          |              |                         |          |              |                         |          |              |                         |          |              |                         |                |                 |                         |                      |                    |       |       |    |       |       |

#### 1.4 DL CA with DL 4x4 MIMO RF Conduction Powers

This device supports downlink 4x4 MIMO operations for some LTE bands. Uplink transmission is limited to a single output stream. When carrier aggregation was applicable, the general test selection and setup procedures described in Section 0 were applied.

Per May 2017 TCB Workshop Notes, SAR for 4x4 DL MIMO was not needed since the maximum average output power in 4x4 DL MIMO mode was not more than 0.25 dB higher than the maximum output power with 4x4 DL MIMO inactive. Additionally, SAR for 4x4 MIMO Downlink Carrier Aggregation was not needed since the maximum average output power in 4x4 MIMO Downlink Carrier Aggregation mode was not more than 0.25 dB higher than the maximum output power with 4x4 MIMO Downlink and downlink carrier aggregation inactive.

|                                               |                                                                                                                                                                                                                                            |                              |                                        |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------------------------|
| <b>FCC ID:</b> BCGA2324                       |  <b>PCTEST</b><br><small>Proud to be part of</small>  <b>element</b> | <b>SAR EVALUATION REPORT</b> | <b>Reviewed by:</b><br>Quality Manager |
| <b>Test Dates:</b><br>07/27/2020 – 08/18/2020 | <b>DUT Type:</b><br>Tablet Device                                                                                                                                                                                                          | APPENDIX F:<br>Page 7 of 14  |                                        |

## 1.4.1

## LTE 4x4 MIMO DL Standalone Powers

Table 13  
Output Powers - Ant 2a

| LTE Band | Bandwidth [MHz] | Channel | Frequency [MHz] | Modulation | RB Size | RB Offset | 4x4 DL MIMO Tx. Power [dBm] | Single Antenna Tx. Power [dBm] | Maximum Allowed Power [dBm] |
|----------|-----------------|---------|-----------------|------------|---------|-----------|-----------------------------|--------------------------------|-----------------------------|
| 66       | 10              | 132622  | 1775            | 64QAM      | 1       | 0         | 15.30                       | 15.27                          | 15.3                        |
| 7        | 15              | 21100   | 2535            | 16QAM      | 1       | 74        | 14.59                       | 14.60                          | 14.6                        |
| 41       | 20              | 40185   | 2549.5          | 16QAM      | 50      | 0         | 16.51                       | 16.57                          | 16.6                        |

Table 14  
Output Powers - Ant 4

| LTE Band | Bandwidth [MHz] | Channel | Frequency [MHz] | Modulation | RB Size | RB Offset | 4x4 DL MIMO Tx. Power [dBm] | Single Antenna Tx. Power [dBm] | Maximum Allowed Power [dBm] |
|----------|-----------------|---------|-----------------|------------|---------|-----------|-----------------------------|--------------------------------|-----------------------------|
| 25       | 5               | 26665   | 1912.5          | 16QAM      | 1       | 0         | 16.00                       | 16.00                          | 16.0                        |

Table 15  
Output Powers - Ant 1a

| LTE Band | Bandwidth [MHz] | Channel | Frequency [MHz] | Modulation | RB Size | RB Offset | 4x4 DL MIMO Tx. Power [dBm] | Single Antenna Tx. Power [dBm] | Maximum Allowed Power [dBm] |
|----------|-----------------|---------|-----------------|------------|---------|-----------|-----------------------------|--------------------------------|-----------------------------|
| 30       | 5               | 27710   | 2310            | 16QAM      | 1       | 0         | 14.43                       | 14.47                          | 14.5                        |

## 1.4.2

## LTE Band 71 as PCC

Table 16  
Output Powers – Ant 4

| Combination           | PCC Band | PCC          |              |                      |       |           |                  |              |                      |                 |          | SCC 1        |              |                      |                 | SCC 2    |              |              |                      | SCC 3           |          |              |              | Power                |                 |                                        |                                    |
|-----------------------|----------|--------------|--------------|----------------------|-------|-----------|------------------|--------------|----------------------|-----------------|----------|--------------|--------------|----------------------|-----------------|----------|--------------|--------------|----------------------|-----------------|----------|--------------|--------------|----------------------|-----------------|----------------------------------------|------------------------------------|
|                       |          | PCC BW [MHz] | PCC [UL] Ch. | PCC [UL] Freq. [MHz] | Mod.  | PCC UL RB | PCC UL RB Offset | PCC [DL] Ch. | PCC [DL] Freq. [MHz] | DL Ant. Config. | SCC Band | SCC BW [MHz] | SCC [DL] Ch. | SCC [DL] Freq. [MHz] | DL Ant. Config. | SCC Band | SCC BW [MHz] | SCC [DL] Ch. | SCC [DL] Freq. [MHz] | DL Ant. Config. | SCC Band | SCC BW [MHz] | SCC [DL] Ch. | SCC [DL] Freq. [MHz] | DL Ant. Config. | LTE Tx. Power with DL CA Enabled (dBm) | LTE Single Carrier Tx. Power (dBm) |
| CA [4A]-[4A]-71A      | LTE B71  | 15           | 133297       | 680.5                | 16QAM | 1         | 0                | 68761        | 634.5                | 2x2             | LTE B4   | 20           | 2175         | 2132.5               | 4x4             | LTE B4   | 10           | 2350         | 2150                 | 4x4             | -        | -            | -            | -                    | -               | 22.18                                  | 22.50                              |
| CA [2A]-[4A]-71A      | LTE B71  | 15           | 133297       | 680.5                | 16QAM | 1         | 0                | 68761        | 634.5                | 2x2             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B4   | 20           | 2175         | 2132.5               | 4x4             | -        | -            | -            | -                    | -               | 22.15                                  | 22.50                              |
| CA [2A]-[2A]-[6A]-71A | LTE B71  | 15           | 133297       | 680.5                | 16QAM | 1         | 0                | 68761        | 634.5                | 2x2             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B66  | 20           | 66786        | 2145                 | 4x4             | 22.10                                  | 22.50                              |
| CA [2A]-[6A]-[6A]-71A | LTE B71  | 15           | 133297       | 680.5                | 16QAM | 1         | 0                | 68761        | 634.5                | 2x2             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B66  | 20           | 66786        | 2145                 | 4x4             | LTE B66  | 20           | 67236        | 2150                 | 4x4             | 22.07                                  | 22.50                              |
| CA [2A]-[6C]-71A      | LTE B71  | 15           | 133297       | 680.5                | 16QAM | 1         | 0                | 68761        | 634.5                | 2x2             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B66  | 20           | 66786        | 2145                 | 4x4             | LTE B66  | 20           | 66984        | 2164.8               | 4x4             | 22.11                                  | 22.50                              |

FCC ID: BCGA2324



SAR EVALUATION REPORT

Reviewed by:  
Quality Manager

Test Dates:

07/27/2020 – 08/18/2020

DUT Type:

Tablet Device

APPENDIX F:  
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## LTE Band 12 as PCC

**Table 17**  
**Output Powers - Ant 4**

[illegible]

## LTE Band 13 as PCC

**Table 18**  
**Output Powers - Ant 4**

| Combination          | PCC      |              |                      |                |             |                    |                      |                 |          |              | SEC 1                |                 |          |              | SEC 2                |                 |          |              | SEC 3                |                 |          |              | SEC 4                |                 |                            |                                   | Power |  |
|----------------------|----------|--------------|----------------------|----------------|-------------|--------------------|----------------------|-----------------|----------|--------------|----------------------|-----------------|----------|--------------|----------------------|-----------------|----------|--------------|----------------------|-----------------|----------|--------------|----------------------|-----------------|----------------------------|-----------------------------------|-------|--|
|                      | PCC Band | PCC BW [MHz] | PCC [UL] Freq. [MHz] | PCC [UL] Modem | PCC [UL] RB | PCC [UL] RB Offset | PCC [DL] Freq. [MHz] | DL Ant. Config. | SEC Band | SEC BW [MHz] | SEC [DL] Freq. [MHz] | DL Ant. Config. | SEC Band | SEC BW [MHz] | SEC [DL] Freq. [MHz] | DL Ant. Config. | SEC Band | SEC BW [MHz] | SEC [DL] Freq. [MHz] | DL Ant. Config. | SEC Band | SEC BW [MHz] | SEC [DL] Freq. [MHz] | DL Ant. Config. | LTE Tx Power with CA (dBm) | LTE Single Carrier Tx Power (dBm) |       |  |
| CA (24.440-44.134)   | LTE-B13  | 10           | 21320                | 782            | 16QAM       | 1                  | 0                    | E230            | 751      | 2x2          | LTE-B46              | 20              | 21215    | 21215        | 4x4                  | LTE-B46         | 10       | 21250        | 21250                | 4x4             | ---      | ---          | ---                  | ---             | 21.08                      | 21.04                             |       |  |
| CA (24.440-44.134)   | LTE-B13  | 40           | 21250                | 782            | 16QAM       | 1                  | 0                    | E230            | 751      | 2x2          | LTE-B46              | 20              | 900      | 1960         | 4x4                  | LTE-B46         | 20       | 21215        | 21215                | 4x4             | ---      | ---          | ---                  | ---             | 21.08                      | 21.04                             |       |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (134.454-166.064) | LTE-B13  | 5            | 21320                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 55990    | 55990        | 8x32                 | 2x2             | LTE-B46  | 20           | 55990                | 55990           | 8x32     | ---          | ---                  | ---             | ---                        | 21.09                             | 21.05 |  |
| CA (134.454-166.064) | LTE-B13  | 5            | 21320                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 55990    | 55990        | 8x32                 | 2x2             | LTE-B46  | 20           | 55990                | 55990           | 8x32     | ---          | ---                  | ---             | ---                        | 21.09                             | 21.05 |  |
| CA (134.454-166.064) | LTE-B13  | 5            | 21320                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 55990    | 55990        | 8x32                 | 2x2             | LTE-B46  | 20           | 55990                | 55990           | 8x32     | ---          | ---                  | ---             | ---                        | 21.08                             | 21.05 |  |
| CA (134.454-166.064) | LTE-B13  | 5            | 21320                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 55990    | 55990        | 8x32                 | 2x2             | LTE-B46  | 20           | 55990                | 55990           | 8x32     | ---          | ---                  | ---             | ---                        | 21.08                             | 21.05 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      | 1960         | 4x4                  | ---             | LTE-B46  | 20           | 50605                | 5537.7          | 2x2      | ---          | ---                  | ---             | ---                        | 21.07                             | 21.07 |  |
| CA (24.440-44.134)   | LTE-B13  | 5            | 21230                | 782            | QPSK        | 1                  | 12                   | E230            | 751      | 2x2          | LTE-B46              | 20              | 800      |              |                      |                 |          |              |                      |                 |          |              |                      |                 |                            |                                   |       |  |

## LTE Band 14 as PCC

**Table 19**  
**Output Powers - Ant 4**

| Combination          | SSC      |              |                      |                      |           |                  |              |                      |                 |          | SSC 1        |              |                      |                 | SSC 2    |              |              |                      | SSC 3           |          |              |              | SSC 4                |                 |          |              | Power        |                      |                 |                    |                                   |
|----------------------|----------|--------------|----------------------|----------------------|-----------|------------------|--------------|----------------------|-----------------|----------|--------------|--------------|----------------------|-----------------|----------|--------------|--------------|----------------------|-----------------|----------|--------------|--------------|----------------------|-----------------|----------|--------------|--------------|----------------------|-----------------|--------------------|-----------------------------------|
|                      | PCC Band | PCC BW [MHz] | PCC [UL] Freq. [MHz] | PCC [DL] Freq. [MHz] | PCC UL RB | PCC UL RB Offset | PCC [DL] Ch. | PCC [DL] Freq. [MHz] | DL Ant. Config. | SSC Band | SSC BW [MHz] | SSC [DL] Ch. | SSC [DL] Freq. [MHz] | DL Ant. Config. | SSC Band | SSC BW [MHz] | SSC [DL] Ch. | SSC [DL] Freq. [MHz] | DL Ant. Config. | SSC Band | SSC BW [MHz] | SSC [DL] Ch. | SSC [DL] Freq. [MHz] | DL Ant. Config. | SSC Band | SSC BW [MHz] | SSC [DL] Ch. | SSC [DL] Freq. [MHz] | DL Ant. Config. | LTE Tx Power (dBm) | LTE Single Carrier Tx Power (dBm) |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 2x2             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B30  | 20           | 9820         | 2350                 | 4x4             |          |              |              |                      |                 | 24.68              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B2       | 20           | 900                  | 1960            | 4x4      | LTE B2       | 20           | 700                  | 1940            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B2       | 20           | 900                  | 1960            | 4x4      | LTE B2       | 20           | 700                  | 1940            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  | 16QAM     | 1                | 25           | 1330                 | 7x8             | 2x2      | LTE B30      | 10           | 9820                 | 2350            | 4x4      | LTE B2       | 20           | 6670                 | 1945            | 4x4      | LTE B30      | 10           | 9820                 | 2350            | 2x2      |              |              |                      |                 | 24.81              | 24.68                             |
| CA [2A][2A][14A][5A] | LTE B14  | 10           | 21330                | 793                  |           |                  |              |                      |                 |          |              |              |                      |                 |          |              |              |                      |                 |          |              |              |                      |                 |          |              |              |                      |                 |                    |                                   |

|                                               |                                                                                                                                                 |                              |                                        |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------------------------|
| FCC ID: BCGA2324                              |  <b>PCTEST</b><br><small>Proud to be part of element</small> | <b>SAR EVALUATION REPORT</b> | <b>Reviewed by:</b><br>Quality Manager |
| <b>Test Dates:</b><br>07/27/2020 – 08/18/2020 | <b>DUT Type:</b><br>Tablet Device                                                                                                               | APPENDIX F:<br>Page 9 of 14  |                                        |

## 1.4.6

## LTE Band 5 as PCC

Table 20  
Output Powers - Ant 4

| Combination             | PCC Band | PCC BW [MHz] | PCC [UL] Freq. [MHz] | Mod.  | PCC       |                  |              |          | DL Ant. Config. | SCC 1        |              |                      |          | DL Ant. Config. | SCC 2        |              |                      |          | DL Ant. Config. | SCC 3        |              |                      |          | DL Ant. Config. | SCC 4        |              |                      |                                       | Power                             |       |       |       |       |       |
|-------------------------|----------|--------------|----------------------|-------|-----------|------------------|--------------|----------|-----------------|--------------|--------------|----------------------|----------|-----------------|--------------|--------------|----------------------|----------|-----------------|--------------|--------------|----------------------|----------|-----------------|--------------|--------------|----------------------|---------------------------------------|-----------------------------------|-------|-------|-------|-------|-------|
|                         |          |              |                      |       | PCC UL RB | PCC UL RB Offset | PCC [DL] Ch. | SCC Band |                 | SCC BW [MHz] | SCC [DL] Ch. | SCC [DL] Freq. [MHz] | SCC Band |                 | SCC BW [MHz] | SCC [DL] Ch. | SCC [DL] Freq. [MHz] | SCC Band |                 | SCC BW [MHz] | SCC [DL] Ch. | SCC [DL] Freq. [MHz] | SCC Band |                 | SCC BW [MHz] | SCC [DL] Ch. | SCC [DL] Freq. [MHz] | LTE Tx Power with DL CA Enabled (dBm) | LTE Single Carrier Tx Power (dBm) |       |       |       |       |       |
| CA 5A(7A)               | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B7       | 20                   | 3100     | 2655            | 4x4          | -            | -                    | -        | -               | -            | -            | -                    | -        | -               | -            | -            | -                    | -                                     | -                                 | 20.99 | 21.08 |       |       |       |
| CA 5A(25A)              | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B25      | 20                   | 8365     | 1962.5          | 4x4          | -            | -                    | -        | -               | -            | -            | -                    | -        | -               | -            | -            | -                    | -                                     | -                                 | 21.00 | 21.08 |       |       |       |
| CA 5A(41A)              | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B41      | 20                   | 40620    | 2593            | 4x4          | -            | -                    | -        | -               | -            | -            | -                    | -        | -               | -            | -            | -                    | -                                     | -                                 | 21.07 | 21.08 |       |       |       |
| CA 12C(5A)              | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B2       | 20                   | 900      | 1960            | 4x4          | LTE B2       | 20                   | 700      | 1940.2          | 4x4          | -            | -                    | -        | -               | -            | -            | -                    | -                                     | -                                 | -     | 20.96 | 21.08 |       |       |
| CA 14A(5B)(1)           | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B5       | 5                    | 2477     | 876.7           | 2x2          | LTE B4       | 20                   | 2175     | 2132.5          | 4x4          | -            | -                    | -        | -               | -            | -            | -                    | -                                     | -                                 | -     | 20.99 | 21.08 |       |       |
| CA 5A(7A)(7A)           | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B7       | 20                   | 3100     | 2655            | 4x4          | LTE B7       | 20                   | 2900     | 2620            | 4x4          | -            | -                    | -        | -               | -            | -            | -                    | -                                     | -                                 | -     | 20.96 | 21.08 |       |       |
| CA 5A(7C)               | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B7       | 20                   | 3100     | 2655            | 4x4          | LTE B7       | 20                   | 2902     | 2635.2          | 4x4          | -            | -                    | -        | -               | -            | -            | -                    | -                                     | -                                 | -     | 20.94 | 21.08 |       |       |
| CA 12A(5A)(6A)          | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B2       | 20                   | 900      | 1960            | 4x4          | LTE B46      | 20                   | 50605    | 5537.5          | 2x2          | -            | -                    | -        | -               | -            | -            | -                    | -                                     | -                                 | -     | 21.00 | 21.08 |       |       |
| CA 5A(6A)(6A)           | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B66      | 20                   | 66786    | 2145            | 4x4          | LTE B66      | 20                   | 66786    | 2145            | 4x4          | -            | -                    | -        | -               | -            | -            | -                    | -                                     | -                                 | -     | 20.96 | 21.08 |       |       |
| CA 14A(4A)(5B)          | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B5       | 10                   | 2463     | 874.3           | 2x2          | LTE B4       | 20                   | 2175     | 2132.5          | 4x4          | LTE B4       | 30                   | 2350     | 2350            | 4x4          | -            | -                    | -                                     | -                                 | -     | -     | 21.05 | 21.08 |       |
| CA 5A(6A)(6B)           | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B66      | 20                   | 66786    | 2145            | 4x4          | LTE B66      | 5                    | 8718     | 2183.2          | 4x4          | LTE B66      | 15                   | 87281    | 2352.5          | 4x4          | -            | -                    | -                                     | -                                 | -     | -     | 20.99 | 21.08 |       |
| CA 5A(6A)(6C)           | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B66      | 20                   | 66786    | 2145            | 4x4          | LTE B66      | 20                   | 67258    | 2170.2          | 4x4          | LTE B66      | 20                   | 67258    | 2350            | 4x4          | -            | -                    | -                                     | -                                 | -     | -     | 21.01 | 21.08 |       |
| CA 12A(12A)(14A)(5A)    | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B2       | 20                   | 900      | 1960            | 4x4          | LTE B2       | 20                   | 700      | 1940            | 4x4          | LTE B4       | 20                   | 2175     | 2132.5          | 4x4          | -            | -                    | -                                     | -                                 | -     | -     | 20.94 | 21.08 |       |
| CA 12A(12A)(14A)(5A)    | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B2       | 20                   | 900      | 1960            | 4x4          | LTE B2       | 20                   | 700      | 1940            | 4x4          | LTE B2       | 20                   | 900      | 1960            | 4x4          | -            | -                    | -                                     | -                                 | -     | -     | 21.00 | 21.08 |       |
| CA 12A(14A)(14A)(5A)    | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B2       | 20                   | 900      | 1960            | 4x4          | LTE B4       | 20                   | 2175     | 2132.5          | 4x4          | LTE B4       | 20                   | 2350     | 2350            | 4x4          | -            | -                    | -                                     | -                                 | -     | -     | 21.01 | 21.08 |       |
| CA 12A(14A)(5B)         | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B5       | 10                   | 2463     | 874.3           | 2x2          | LTE B2       | 20                   | 900      | 1960            | 4x4          | LTE B4       | 20                   | 2175     | 2132.5          | 4x4          | -            | -                    | -                                     | -                                 | -     | -     | 21.02 | 21.08 |       |
| CA 12A(5A)(6C)          | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B2       | 20                   | 900      | 1960            | 4x4          | LTE B46      | 20                   | 50605    | 5537.5          | 2x2          | LTE B46      | 20                   | 50607    | 5537.7          | 2x2          | -            | -                    | -                                     | -                                 | -     | -     | 21.00 | 21.08 |       |
| CA 12A(5A)(6A)(6A)      | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B2       | 20                   | 900      | 1960            | 4x4          | LTE B66      | 20                   | 66786    | 2145            | 4x4          | LTE B66      | 20                   | 67258    | 2350            | 4x4          | -            | -                    | -                                     | -                                 | -     | -     | 21.01 | 21.08 |       |
| CA 12A(5A)(6A)(6A)      | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B2       | 20                   | 900      | 1960            | 4x4          | LTE B66      | 15                   | 66786    | 2145            | 4x4          | LTE B66      | 5                    | 66879    | 2154.3          | 4x4          | -            | -                    | -                                     | -                                 | -     | -     | 21.08 | 21.08 |       |
| CA 12A(12A)(14A)(6A)    | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B4       | 20                   | 2175     | 2132.5          | 4x4          | LTE B2       | 20                   | 900      | 1960            | 4x4          | LTE B2       | 20                   | 900      | 1960            | 4x4          | -            | -                    | -                                     | -                                 | -     | -     | 21.00 | 21.08 |       |
| CA 5A(30A)(6A)(6A)      | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B30      | 10                   | 9620     | 2355            | 4x4          | LTE B50      | 20                   | 66786    | 2145            | 4x4          | LTE B66      | 20                   | 67258    | 2350            | 4x4          | -            | -                    | -                                     | -                                 | -     | -     | 21.01 | 21.08 |       |
| CA 5A(40C)(6A)          | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B46      | 20                   | 50605    | 5537.5          | 2x2          | LTE B46      | 20                   | 50607    | 5537.7          | 2x2          | LTE B66      | 20                   | 66786    | 2145            | 4x4          | -            | -                    | -                                     | -                                 | -     | -     | 20.95 | 21.08 |       |
| CA 12A(14A)(14A)(5A)    | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B2       | 20                   | 900      | 1960            | 4x4          | LTE B4       | 20                   | 2175     | 2132.5          | 4x4          | LTE B30      | 10                   | 9620     | 2355            | 4x4          | -            | -                    | -                                     | -                                 | -     | -     | 20.99 | 21.08 |       |
| CA 12A(5A)(20A)(6A)     | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B2       | 20                   | 900      | 1960            | 4x4          | LTE B30      | 10                   | 9620     | 2355            | 4x4          | LTE B66      | 20                   | 66786    | 2145            | 4x4          | -            | -                    | -                                     | -                                 | -     | -     | 20.96 | 21.08 |       |
| CA 12A(12A)(5A)(6A)(6A) | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B2       | 20                   | 900      | 1960            | 4x4          | LTE B2       | 20                   | 700      | 1940            | 4x4          | LTE B66      | 20                   | 66786    | 2145            | 2x2          | LTE B66      | 20                   | 67258                                 | 2350                              | 2x2   | -     | -     | 20.77 | 21.08 |
| CA 12A(12A)(5A)(6B)     | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B2       | 20                   | 900      | 1960            | 4x4          | LTE B2       | 20                   | 700      | 1940            | 4x4          | LTE B66      | 15                   | 66786    | 2145            | 4x4          | LTE B66      | 5                    | 66879                                 | 2154.3                            | 2x2   | -     | -     | 20.77 | 21.08 |
| CA 12A(5A)(6A)(6C)      | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B2       | 20                   | 900      | 1960            | 4x4          | LTE B2       | 20                   | 700      | 1940            | 2x2          | LTE B66      | 20                   | 66786    | 2145            | 4x4          | LTE B66      | 20                   | 66786                                 | 2145                              | 4x4   | -     | -     | 20.72 | 21.08 |
| CA 12A(5A)(6A)          | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B5       | 10                   | 2463     | 874.3           | 2x2          | LTE B2       | 20                   | 900      | 1960            | 4x4          | LTE B66      | 15                   | 66786    | 2145            | 4x4          | LTE B66      | 5                    | 66879                                 | 2154.3                            | 4x4   | -     | -     | 20.78 | 21.08 |
| CA 12A(5B)(6C)          | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B5       | 10                   | 2463     | 874.3           | 2x2          | LTE B2       | 20                   | 900      | 1960            | 4x4          | LTE B66      | 20                   | 66786    | 2145            | 4x4          | LTE B66      | 20                   | 66786                                 | 2145                              | 4x4   | -     | -     | 20.72 | 21.08 |
| CA 12A(5B)(6A)(6A)      | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B5       | 10                   | 2463     | 874.3           | 2x2          | LTE B2       | 20                   | 900      | 1960            | 4x4          | LTE B66      | 20                   | 66786    | 2145            | 4x4          | LTE B66      | 20                   | 66786                                 | 2145                              | 4x4   | -     | -     | 20.75 | 21.08 |
| CA 5A(4C)(6A)           | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B46      | 20                   | 50605    | 5517.5          | 2x2          | LTE B46      | 20                   | 50607    | 5517.7          | 2x2          | LTE B46      | 20                   | 50603    | 5507.3          | 2x2          | LTE B66      | 20                   | 66786                                 | 2145                              | 4x4   | -     | -     | 20.80 | 21.08 |
| CA 5B(5B)(6A)(6A)       | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B5       | 10                   | 2463     | 874.3           | 2x2          | LTE B30      | 10                   | 9620     | 2355            | 4x4          | LTE B66      | 20                   | 66786    | 2145            | 4x4          | LTE B66      | 20                   | 66786                                 | 2145                              | 4x4   | -     | -     | 20.81 | 21.08 |
| CA 2A(2A)(5A)(10A)(6A)  | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B2       | 20                   | 900      | 1960            | 2x2          | LTE B2       | 20                   | 700      | 1940            | 2x2          | LTE B30      | 10                   | 9620     | 2355            | 4x4          | LTE B66      | 20                   | 66786                                 | 2145                              | 4x4   | -     | -     | 20.77 | 21.08 |
| CA 2A(2A)(5A)(10A)(6A)  | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B2       | 20                   | 900      | 1960            | 2x2          | LTE B2       | 20                   | 700      | 1940            | 2x2          | LTE B30      | 10                   | 9620     | 2355            | 2x2          | LTE B66      | 20                   | 66786                                 | 2145                              | 4x4   | -     | -     | 20.76 | 21.08 |
| CA 12A(5B)(30A)(6A)     | LTE B5   | 5            | 26025                | 816.5 | 64QAM     | 1                | 12           | 2525     | 881.5           | 2x2          | LTE B5       | 10                   | 2463     | 874.3           | 2x2          | LTE B2       | 20                   | 900      | 1960            | 4x4          | LTE B30      | 10                   | 9620     | 2355            | 4x4          | LTE B66      | 20                   | 66786                                 | 2145                              | 4x4   | -     | -     | 20.82 | 21.08 |

## 1.4.7

## LTE Band 26 as PCC

Table 21  
Output Powers - Ant 4

| Combination      | PCC Band | PCC BW [MHz] | PCC [UL] Ch. | PCC                  |       |            |                  |              |                      |                 |          | SCC 1        |              |                      |                 | SCC 2    |              |              |                      | Power           |                                       |                                   |   |   |   |   |   |   |   |   |   |   |   |
|------------------|----------|--------------|--------------|----------------------|-------|------------|------------------|--------------|----------------------|-----------------|----------|--------------|--------------|----------------------|-----------------|----------|--------------|--------------|----------------------|-----------------|---------------------------------------|-----------------------------------|---|---|---|---|---|---|---|---|---|---|---|
|                  |          |              |              | PCC [UL] Freq. [MHz] | Mod.  | PCC UL# RB | PCC UL RB Offset | PCC [DL] Ch. | PCC [DL] Freq. [MHz] | DL Ant. Config. | SCC Band | SCC BW [MHz] | SCC [DL] Ch. | SCC [DL] Freq. [MHz] | DL Ant. Config. | SCC Band | SCC BW [MHz] | SCC [DL] Ch. | SCC [DL] Freq. [MHz] | DL Ant. Config. | LTE Tx Power with DL CA Enabled (dBm) | LTE Single Carrier Tx Power (dBm) |   |   |   |   |   |   |   |   |   |   |   |
| CA 7A(26A)       | LTE B26  | 10           | 26740        | 819                  | 16QAM | 1          | 0                | 8740         | 864                  | 2x2             | LTE B7   | 20           | 3100         | 2655                 | 4x4             | -        | -            | -            | -                    | -               | -                                     | -                                 | - | - | - | - | - | - | - | - | - | - |   |
| CA 12SA(26A)     | LTE B26  | 10           | 26740        | 819                  | 16QAM | 1          | 0                | 8740         | 864                  | 2x2             | LTE B25  | 20           | 8365         | 1962.5               | 4x4             | -        | -            | -            | -                    | -               | -                                     | -                                 | - | - | - | - | - | - | - | - | - | - |   |
| CA 26A(41A)      | LTE B26  | 10           | 26740        | 819                  | 16QAM | 1          | 0                | 8740         | 864                  | 2x2             | LTE B41  | 20           | 40620        | 2593                 | 4x4             | -        | -            | -            | -                    | -               | -                                     | -                                 | - | - | - | - | - | - | - | - | - | - |   |
| CA 7A(7A)-26A    | LTE B26  | 10           | 26740        | 819                  | 16QAM | 1          | 0                | 8740         | 864                  | 2x2             | LTE B7   | 20           | 3100         | 2655                 | 4x4             | LTE B7   | 20           | 2850         | 2630                 | 4x4             | -                                     | -                                 | - | - | - | - | - | - | - | - | - | - |   |
| CA 12SA(26A)-26A | LTE B26  | 5            | 26715        | 816.5                | 16QAM | 1          | 0                | 8715         | 861.5                | 2x2             | LTE B25  | 20           | 8365         | 1962.5               | 4x4             | LTE B25  | 20           | 8590         | 1985                 | 4x4             | -                                     | -                                 | - | - | - | - | - | - | - | - | - | - |   |
| CA 26A(41C)      | LTE B26  | 10           | 26740        | 819                  | 16QAM | 1          | 0                | 8740         | 864                  | 2x2             | LTE B41  | 20           | 40620        | 2593                 | 4x4             | LTE B41  | 20           | 40422        | 2573.2               | 4x4             | -                                     | -                                 | - | - | - | - | - | - | - | - | - | - | - |

[illegible]

| Combination     | PCB Band | PCC          |              |                      |       |           |                  |              |                      |                 |          | SCC1         |              |                      |                 | SCC2     |              |              |                      | SCC3            |          |              |              | SCC4                 |                 |          |              | Power        |                      |                 |                            |                                   |
|-----------------|----------|--------------|--------------|----------------------|-------|-----------|------------------|--------------|----------------------|-----------------|----------|--------------|--------------|----------------------|-----------------|----------|--------------|--------------|----------------------|-----------------|----------|--------------|--------------|----------------------|-----------------|----------|--------------|--------------|----------------------|-----------------|----------------------------|-----------------------------------|
|                 |          | PCC BW [MHz] | PCC [UL] Ch. | PCC [UL] Freq. [MHz] | Mod.  | PCC UL RB | PCC UL RB Offset | PCC [DL] Ch. | PCC [DL] Freq. [MHz] | DL Ant. Config. | SCC Band | SCC BW [MHz] | SCC [DL] Ch. | SCC [DL] Freq. [MHz] | DL Ant. Config. | SCC Band | SCC BW [MHz] | SCC [DL] Ch. | SCC [DL] Freq. [MHz] | DL Ant. Config. | SCC Band | SCC BW [MHz] | SCC [DL] Ch. | SCC [DL] Freq. [MHz] | DL Ant. Config. | SCC Band | SCC BW [MHz] | SCC [DL] Ch. | SCC [DL] Freq. [MHz] | DL Ant. Config. | LTE Tx Power with CA (dBm) | LTE Single Carrier Tx Power (dBm) |
| CA 5A (5A10)    | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B20  | 50           | 2703         | 2a2                  | -               | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | 17.76           | 18.00                      |                                   |
| CA 12A (2A5)    | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B12  | 10           | 2050         | 777.5                | 2a2             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | 15.71           | 16.00                      |                                   |
| CA 25A (25A)    | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B20  | 10           | 8865         | 876.5                | 2a2             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | 15.71           | 16.00                      |                                   |
| CA 25A (25A4A)  | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B20  | 10           | 8865         | 876.5                | 2a2             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | 15.71           | 16.00                      |                                   |
| CA 25A (25A10A) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B20  | 20           | 8140         | 1940                 | 4aa             | LTE B20  | 5            | 8865         | 876.5                | 2a2             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A14A) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B20  | 20           | 8140         | 1940                 | 4aa             | LTE B41  | 20           | 8860         | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A141) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40320        | 2093                 | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A142) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40320        | 2093                 | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A143) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40320        | 2093                 | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A144) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B20  | 20           | 8140         | 1940                 | 4aa             | LTE B41  | 20           | 8860         | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A145) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B20  | 20           | 8140         | 1940                 | 4aa             | LTE B41  | 20           | 8860         | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A146) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A147) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A148) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A149) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A150) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A151) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A152) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A153) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A154) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A155) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A156) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A157) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A158) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A159) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A160) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A161) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A162) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A163) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A164) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A165) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A166) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A167) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A168) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A169) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A170) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A171) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A172) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A173) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A174) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A175) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A176) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A177) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A178) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A179) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A180) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                | 8665         | 1992.5               | 4aa             | LTE B41  | 20           | 40422        | 2073.2               | 4aa             | LTE B41  | 20           | 40520        | 2093                 | 4aa             | -        | -            | -            | -                    | -               | -        | -            | -            | -                    | -               | 15.66                      | 16.00                             |
| CA 25A (25A181) | LTE B20  | 5            | 26665        | 1912.5               | 16QAM | 1         | 0                |              |                      |                 |          |              |              |                      |                 |          |              |              |                      |                 |          |              |              |                      |                 |          |              |              |                      |                 |                            |                                   |

## LTE Band 30 as PCC

**Table 24**  
**Output Powers - Ant 1a**

| Combination       |         | SSC 1    |              |                      |       |           |                  |              |                      |                 |          | SSC 2        |              |                      |                 |          |              |              |                      |                 |          | SSC 3        |              |                      |                 |          |              |              |                      |                 |          | SSC 4        |              |                      |                 |                    |                                |  |  |  |  | Power |  |
|-------------------|---------|----------|--------------|----------------------|-------|-----------|------------------|--------------|----------------------|-----------------|----------|--------------|--------------|----------------------|-----------------|----------|--------------|--------------|----------------------|-----------------|----------|--------------|--------------|----------------------|-----------------|----------|--------------|--------------|----------------------|-----------------|----------|--------------|--------------|----------------------|-----------------|--------------------|--------------------------------|--|--|--|--|-------|--|
|                   |         | PCC Band | PCC BW [MHz] | PCC [UL] Freq. [MHz] | Mod.  | PCC UL RB | PCC UL BB Offset | PCC [DL] Ch. | PCC [DL] Freq. [MHz] | DL Ant. Config. | SSC Band | SSC BW [MHz] | SSC [DL] Ch. | SSC [DL] Freq. [MHz] | DL Ant. Config. | SSC Band | SSC BW [MHz] | SSC [DL] Ch. | SSC [DL] Freq. [MHz] | DL Ant. Config. | SSC Band | SSC BW [MHz] | SSC [DL] Ch. | SSC [DL] Freq. [MHz] | DL Ant. Config. | SSC Band | SSC BW [MHz] | SSC [DL] Ch. | SSC [DL] Freq. [MHz] | DL Ant. Config. | SSC Band | SSC BW [MHz] | SSC [DL] Ch. | SSC [DL] Freq. [MHz] | DL Ant. Config. | LTE Tx Power [dBm] | LTE Single Carrier Power (dbr) |  |  |  |  |       |  |
| CA (20/30A)       | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-DRA) | LTE B30 | 5        | 27720        | 2330                 | 16QAM | 1         | 0                | 1920         | 2335                 | 4x4             | LTE B2   | 20           | 900          | 1960                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | LTE B2   | 20           | 700          | 1940                 | 4x4             | 18.27              | 16.47                          |  |  |  |  |       |  |
| CA (20/20+5A-D    |         |          |              |                      |       |           |                  |              |                      |                 |          |              |              |                      |                 |          |              |              |                      |                 |          |              |              |                      |                 |          |              |              |                      |                 |          |              |              |                      |                 |                    |                                |  |  |  |  |       |  |

### 1.4.1

## LTE Band 7 as PCC

**Table 25**  
**Output Powers - Ant 2A**

[illegible]

## 1.4.2

## LTE Band 41 as PCC

**Table 26**  
**Output Powers - Ant 2A**

[illegible]

|                                               |                                                                                                                                                                                                                                               |                                                                            |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| <b>FCC ID:</b> BCGA2324                       |  <b>PCTEST</b><br><small>Proud to be part of</small>  <b>eSolutions</b> | <b>SAR EVALUATION REPORT</b><br><br><b>Reviewed by:</b><br>Quality Manager |
| <b>Test Dates:</b><br>07/27/2020 – 08/18/2020 | <b>DUT Type:</b><br>Tablet Device                                                                                                                                                                                                             | APPENDIX F:<br>Page 12 of 14                                               |

## LTE Band 48 as PCC

**Table 27**  
**Output Powers - Ant 4**

[illegible]

## 1.5 Downlink Carrier Aggregation with Uplink Carrier Aggregation enabled

This device supports uplink carrier aggregation (ULCA) with additional Carrier Aggregation configurations active in the downlink. Power measurements were performed with ULCA active and additional CA configurations active in the downlink for the configuration per Fall 2017 TCB Workshop Notes.

Per FCC Guidance, additional SAR measurements for these configurations were not required since their maximum output power was not more than 0.25 dB higher than the maximum output power for with only ULCA active.

### 1.5.1 DL Carrier Aggregation RF Conducted Powers

### 1.5.1.1 LTE Band 41

**Table 28**  
**Output Powers – Ant 2A**

[illegible]

### 1.5.2 DL Carrier Aggregation with DL 4x4 MIMO RF Conducted Powers

Note: 4x4 DL MIMO is only operating in the downlink. Uplink transmission is limited to a single output stream for each component carrier of ULCA.

### 1.5.2.1 LTE Band 41

**Table 29**  
**Output Powers – Ant 2A**

[illegible]

|                                               |                                                                                                                                                 |                              |                                        |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------------------------|
| <b>FCC ID:</b> BCGA2324                       |  <b>PCTEST</b><br><small>Proud to be part of element</small> | <b>SAR EVALUATION REPORT</b> | <b>Reviewed by:</b><br>Quality Manager |
| <b>Test Dates:</b><br>07/27/2020 – 08/18/2020 | <b>DUT Type:</b><br>Tablet Device                                                                                                               | APPENDIX F:<br>Page 13 of 14 |                                        |

## 1.5.2.2 LTE Band 7

**Table 30**  
**Output Powers - Ant 2A**

| Combination | PCC      |              |              |                      |      |            |                  |              |                      |                 | SCC 1    |              |              |                      |      |            |                  |              |                      |                 | Power                            |                     |
|-------------|----------|--------------|--------------|----------------------|------|------------|------------------|--------------|----------------------|-----------------|----------|--------------|--------------|----------------------|------|------------|------------------|--------------|----------------------|-----------------|----------------------------------|---------------------|
|             | PCC Band | PCC BW [MHz] | PCC (UL) Ch. | PCC (UL) Freq. [MHz] | Mod. | PCC UL# RB | PCC UL RB Offset | PCC (DL) Ch. | PCC (DL) Freq. [MHz] | DL Ant. Config. | SCC Band | SCC BW [MHz] | SCC (UL) Ch. | SCC (UL) Freq. [MHz] | Mod. | SCC UL# RB | SCC UL RB Offset | SCC (DL) Ch. | SCC (DL) Freq. [MHz] | DL Ant. Config. | ULCA Tx Power with DL CA Enabled | ULCA Tx Power (dBm) |
| CA [7C]     | LTE B7   | 20           | 20850        | 2510                 | QPSK | 100        | 0                | 2850         | 2630                 | 4x4             | LTE B7   | 20           | 21048        | 2529.8               | QPSK | 100        | 0                | 3048         | 2649.8               | 4x4             | 14.34                            | 14.40               |

|                                        |                                                                                                                                  |                       |                                 |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------|
| FCC ID: BCGA2324                       |  <b>PCTEST</b><br>Proud to be part of element | SAR EVALUATION REPORT | Reviewed by:<br>Quality Manager |
| Test Dates:<br>07/27/2020 – 08/18/2020 | DUT Type:<br>Tablet Device                                                                                                       |                       | APPENDIX F:<br>Page 14 of 14    |

## APPENDIX G: POWER REDUCTION VERIFICATION

|                                               |                                                                                                                                                 |                              |                                        |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------------------------|
| <b>FCC ID:</b> BCGA2324                       |  <b>PCTEST</b><br><small>Proud to be part of element</small> | <b>SAR EVALUATION REPORT</b> | <b>Approved by:</b><br>Quality Manager |
| <b>Test Dates:</b><br>07/27/2020 – 08/18/2020 | <b>DUT Type:</b><br>Tablet Device                                                                                                               |                              | <b>APPENDIX G</b><br>Page 1 of 2       |

The device supports manufacturer's proprietary power reduction mechanism called "Detect Mode" for the Main Cellular Antenna. Details of this mechanism can be found in the Operational Description. When the device is being used "on-body" or "held in hand" by the user, the device will detect motion and reduce the power of the main antenna. Per the manufacturer, the mechanism is agnostic to different cellular air interfaces. Detect Mode operation was verified for two test cases, on-body and held in hand, for each supported cellular band. The power reduction verification results are below.

## 1.1 Main Antenna Power Reduction Verification Summary

**Table G-1  
Main Antenna Power Reduction Verification**

| Mode/Band                     | Antenna    | Maximum Scenario<br>Maximum Allowed<br>Target Power [dBm] | Reduced Scenario<br>Maximum Allowed<br>Target Power [dBm] | Conducted Power [dBm] |             |             |         |
|-------------------------------|------------|-----------------------------------------------------------|-----------------------------------------------------------|-----------------------|-------------|-------------|---------|
|                               |            |                                                           |                                                           | Maximum               | Test Case 1 | Test Case 2 | Verdict |
| GPRS 850 (2 Tx)               | Antenna 4  | 31.25 (± 0.75)                                            | 27.45 (± 0.75)                                            | 30.71                 | 28.11       | 28.08       | PASS    |
|                               | Antenna 3B | 30.25 (± 0.75)                                            | 24.05 (± 0.75)                                            | 29.99                 | 24.32       | 24.29       | PASS    |
|                               | Antenna 4  | 29.25 (± 0.75)                                            | 22.25 (± 0.75)                                            | 28.03                 | 22.11       | 22.15       | PASS    |
| GPRS 1900 (2 Tx)              | Antenna 2A | 28.25 (± 0.75)                                            | 20.45 (± 0.75)                                            | 28.81                 | 20.93       | 20.92       | PASS    |
|                               | Antenna 1A | 26.25 (± 0.75)                                            | 21.25 (± 0.75)                                            | 29.32                 | 21.25       | 21.23       | PASS    |
|                               | Antenna 3A | 28.25 (± 0.75)                                            | 19.65 (± 0.75)                                            | 27.98                 | 19.90       | 19.92       | PASS    |
| WCDMA B5                      | Antenna 4  | 25.00 (± 0.5)                                             | 20.60 (± 0.5)                                             | 24.51                 | 20.75       | 20.73       | PASS    |
|                               | Antenna 3B | 24.25 (± 0.5)                                             | 17.60 (± 0.5)                                             | 23.97                 | 17.59       | 17.58       | PASS    |
|                               | Antenna 4  | 24.25 (± 0.5)                                             | 15.00 (± 0.5)                                             | 23.92                 | 14.65       | 14.64       | PASS    |
| WCDMA B4                      | Antenna 2A | 23.50 (± 0.5)                                             | 13.60 (± 1)                                               | 23.14                 | 13.12       | 13.11       | PASS    |
|                               | Antenna 1A | 24.00 (± 0.5)                                             | 14.60 (± 0.5)                                             | 23.97                 | 14.61       | 14.59       | PASS    |
|                               | Antenna 3A | 23.25 (± 0.5)                                             | 13.00 (± 1)                                               | 22.98                 | 13.00       | 13.01       | PASS    |
| WCDMA B2                      | Antenna 4  | 24.25 (± 0.5)                                             | 15.80 (± 0.5)                                             | 23.94                 | 15.48       | 15.49       | PASS    |
|                               | Antenna 2A | 23.50 (± 0.5)                                             | 13.80 (± 1)                                               | 23.51                 | 13.11       | 13.09       | PASS    |
|                               | Antenna 1A | 24.00 (± 0.5)                                             | 13.80 (± 1)                                               | 23.78                 | 13.21       | 13.25       | PASS    |
| LTE Band 71                   | Antenna 3A | 23.25 (± 0.5)                                             | 13.20 (± 1)                                               | 23.34                 | 13.05       | 13.07       | PASS    |
|                               | Antenna 4  | 25.00 (± 0.5)                                             | 22.00 (± 0.5)                                             | 25.01                 | 22.03       | 22.01       | PASS    |
|                               | Antenna 3B | 24.25 (± 0.5)                                             | 18.60 (± 0.5)                                             | 24.13                 | 18.57       | 18.56       | PASS    |
| LTE Band 12                   | Antenna 4  | 25.00 (± 0.5)                                             | 20.40 (± 0.5)                                             | 24.98                 | 20.33       | 20.31       | PASS    |
|                               | Antenna 3B | 24.25 (± 0.5)                                             | 18.40 (± 0.5)                                             | 24.12                 | 18.13       | 18.14       | PASS    |
|                               | Antenna 4  | 25.00 (± 0.5)                                             | 20.40 (± 0.5)                                             | 24.76                 | 20.11       | 20.09       | PASS    |
| LTE Band 17                   | Antenna 3B | 24.25 (± 0.5)                                             | 18.40 (± 0.5)                                             | 24.23                 | 18.08       | 18.06       | PASS    |
|                               | Antenna 4  | 25.00 (± 0.5)                                             | 20.60 (± 0.5)                                             | 25.13                 | 20.53       | 20.61       | PASS    |
|                               | Antenna 3B | 24.25 (± 0.5)                                             | 18.70 (± 0.5)                                             | 23.99                 | 18.43       | 18.41       | PASS    |
| LTE Band 13                   | Antenna 4  | 25.00 (± 0.5)                                             | 20.60 (± 0.5)                                             | 24.87                 | 20.22       | 20.24       | PASS    |
|                               | Antenna 3B | 24.25 (± 0.5)                                             | 18.70 (± 0.5)                                             | 24.66                 | 19.01       | 19.03       | PASS    |
|                               | Antenna 4  | 25.00 (± 0.5)                                             | 20.60 (± 0.5)                                             | 25.31                 | 21.03       | 21.02       | PASS    |
| LTE Band 26                   | Antenna 3B | 24.25 (± 0.5)                                             | 17.40 (± 0.5)                                             | 24.36                 | 17.17       | 17.18       | PASS    |
|                               | Antenna 4  | 25.00 (± 0.5)                                             | 20.60 (± 0.5)                                             | 24.99                 | 21.05       | 21.06       | PASS    |
|                               | Antenna 3B | 24.25 (± 0.5)                                             | 17.40 (± 0.5)                                             | 24.27                 | 16.88       | 16.97       | PASS    |
| LTE Band 4                    | Antenna 4  | 24.25 (± 0.5)                                             | 13.40 (± 1)                                               | 23.98                 | 14.11       | 14.10       | PASS    |
|                               | Antenna 2A | 23.50 (± 0.5)                                             | 14.80 (± 0.5)                                             | 23.33                 | 15.00       | 15.01       | PASS    |
|                               | Antenna 1A | 24.00 (± 0.5)                                             | 13.80 (± 1)                                               | 23.91                 | 13.02       | 13.03       | PASS    |
| LTE Band 66                   | Antenna 3A | 23.25 (± 0.5)                                             | 13.10 (± 1)                                               | 23.57                 | 13.91       | 13.90       | PASS    |
|                               | Antenna 4  | 24.25 (± 0.5)                                             | 13.40 (± 1)                                               | 23.97                 | 14.32       | 14.31       | PASS    |
|                               | Antenna 2A | 23.50 (± 0.5)                                             | 14.80 (± 0.5)                                             | 23.71                 | 15.13       | 15.12       | PASS    |
| LTE Band 2                    | Antenna 1A | 24.00 (± 0.5)                                             | 13.00 (± 1)                                               | 24.08                 | 14.77       | 14.78       | PASS    |
|                               | Antenna 3A | 23.25 (± 0.5)                                             | 13.10 (± 1)                                               | 23.57                 | 13.93       | 13.92       | PASS    |
|                               | Antenna 4  | 24.25 (± 0.5)                                             | 15.50 (± 0.5)                                             | 24.17                 | 15.31       | 15.30       | PASS    |
| LTE Band 25                   | Antenna 2A | 23.50 (± 0.5)                                             | 13.40 (± 1)                                               | 23.68                 | 13.79       | 13.77       | PASS    |
|                               | Antenna 1A | 24.00 (± 0.5)                                             | 13.60 (± 1)                                               | 24.91                 | 14.02       | 14.03       | PASS    |
|                               | Antenna 3A | 23.25 (± 0.5)                                             | 13.60 (± 1)                                               | 22.97                 | 13.11       | 13.12       | PASS    |
| LTE Band 30                   | Antenna 4  | 24.25 (± 0.5)                                             | 15.50 (± 0.5)                                             | 24.57                 | 15.78       | 15.77       | PASS    |
|                               | Antenna 2A | 23.50 (± 0.5)                                             | 13.40 (± 1)                                               | 23.31                 | 13.24       | 13.23       | PASS    |
|                               | Antenna 1A | 24.00 (± 0.5)                                             | 13.60 (± 1)                                               | 23.77                 | 12.78       | 12.77       | PASS    |
| LTE Band 7                    | Antenna 3A | 23.25 (± 0.5)                                             | 13.60 (± 1)                                               | 23.55                 | 13.56       | 13.55       | PASS    |
|                               | Antenna 4  | 22.20 (± 0.5)                                             | 12.70 (± 1)                                               | 22.12                 | 12.73       | 12.74       | PASS    |
|                               | Antenna 2A | 22.60 (± 0.5)                                             | 12.50 (± 1)                                               | 22.76                 | 12.65       | 12.63       | PASS    |
| LTE Band 38                   | Antenna 1A | 22.00 (± 0.5)                                             | 13.20 (± 1)                                               | 21.73                 | 13.11       | 13.12       | PASS    |
|                               | Antenna 3A | 23.00 (± 0.5)                                             | 12.70 (± 1)                                               | 22.73                 | 12.17       | 12.16       | PASS    |
|                               | Antenna 4  | 24.50 (± 0.5)                                             | 12.70 (± 1)                                               | 24.22                 | 12.31       | 12.34       | PASS    |
| LTE Band 41 (PC3)             | Antenna 3B | 23.25 (± 0.5)                                             | 13.60 (± 1)                                               | 22.96                 | 14.22       | 14.23       | PASS    |
|                               | Antenna 1A | 23.75 (± 0.5)                                             | 12.90 (± 1)                                               | 24.12                 | 12.79       | 12.77       | PASS    |
|                               | Antenna 3A | 23.00 (± 0.5)                                             | 11.00 (± 1)                                               | 22.97                 | 10.37       | 10.38       | PASS    |
| LTE Band 41 (PC2)             | Antenna 4  | 24.50 (± 0.5)                                             | 15.10 (± 0.5)                                             | 24.37                 | 15.16       | 15.15       | PASS    |
|                               | Antenna 2A | 23.50 (± 0.5)                                             | 15.10 (± 0.5)                                             | 23.33                 | 16.01       | 16.00       | PASS    |
|                               | Antenna 1A | 23.75 (± 0.5)                                             | 14.50 (± 0.5)                                             | 23.52                 | 14.23       | 14.24       | PASS    |
| LTE Band 48                   | Antenna 3A | 23.00 (± 0.5)                                             | 13.20 (± 1)                                               | 22.91                 | 14.01       | 14.00       | PASS    |
|                               | Antenna 4  | 24.00 (± 0.5)                                             | 15.10 (± 0.5)                                             | 24.12                 | 15.02       | 15.03       | PASS    |
|                               | Antenna 2A | 23.50 (± 0.5)                                             | 15.10 (± 0.5)                                             | 23.71                 | 16.10       | 16.08       | PASS    |
| LTE B7 Intra-Band ULCA        | Antenna 1A | 23.75 (± 0.5)                                             | 14.50 (± 0.5)                                             | 23.95                 | 14.33       | 14.34       | PASS    |
|                               | Antenna 3A | 23.00 (± 0.5)                                             | 13.20 (± 1)                                               | 22.67                 | 13.71       | 13.70       | PASS    |
|                               | Antenna 4  | 26.00 (± 0.5)                                             | 15.10 (± 0.5)                                             | 25.71                 | 14.93       | 14.92       | PASS    |
| LTE B38 ULCA                  | Antenna 2A | 26.75 (± 0.5)                                             | 16.10 (± 0.5)                                             | 27.02                 | 15.11       | 15.12       | PASS    |
|                               | Antenna 1A | 26.50 (± 0.5)                                             | 14.50 (± 0.5)                                             | 26.33                 | 14.07       | 14.06       | PASS    |
|                               | Antenna 3A | 26.00 (± 0.5)                                             | 13.20 (± 1)                                               | 26.06                 | 13.25       | 13.21       | PASS    |
| LTE B41 (PC2) Intra-Band ULCA | Antenna 4  | 24.75 (± 0.5)                                             | 16.00 (± 0.5)                                             | 25.12                 | 15.77       | 15.78       | PASS    |
|                               | Antenna 3B | 23.25 (± 0.5)                                             | 15.70 (± 0.5)                                             | 22.95                 | 15.69       | 15.67       | PASS    |
|                               | Antenna 4  | 23.75 (± 1)                                               | 20.10 (± 1)                                               | 23.11                 | 20.33       | 20.31       | PASS    |
| LTE B41 (PC3) Intra-Band ULCA | Antenna 3B | 22.75 (± 1)                                               | 16.90 (± 1)                                               | 22.14                 | 16.25       | 16.24       | PASS    |
|                               | Antenna 4  | 23.25 (± 1)                                               | 12.70 (± 1)                                               | 23.09                 | 12.01       | 12.03       | PASS    |
|                               | Antenna 2A | 22.25 (± 1)                                               | 13.60 (± 1)                                               | 22.52                 | 13.03       | 13.01       | PASS    |
| LTE B41 (PC2) ULCA            | Antenna 1A | 22.75 (± 1)                                               | 12.90 (± 1)                                               | 22.09                 | 12.57       | 12.56       | PASS    |
|                               | Antenna 3A | 22.00 (± 1)                                               | 11.00 (± 1)                                               | 22.14                 | 11.13       | 11.11       | PASS    |
|                               | Antenna 4  | 23.25 (± 1)                                               | 14.60 (± 1)                                               | 22.74                 | 14.16       | 14.15       | PASS    |
| LTE B41 (PC2) ULCA            | Antenna 2A | 22.25 (± 1)                                               | 15.60 (± 1)                                               | 22.36                 | 15.74       | 15.73       | PASS    |
|                               | Antenna 1A | 22.75 (± 1)                                               | 14.00 (± 1)                                               | 22.01                 | 13.81       | 13.82       | PASS    |
|                               | Antenna 3A | 22.00 (± 1)                                               | 13.20 (± 1)                                               | 21.36                 | 13.11       | 13.15       | PASS    |
| LTE B41 (PC2) ULCA            | Antenna 4  | 23.25 (± 1)                                               | 14.60 (± 1)                                               | 22.61                 | 13.78       | 13.77       | PASS    |
|                               | Antenna 2A | 22.25 (± 1)                                               | 15.60 (± 1)                                               | 21.69                 | 16.33       | 16.32       | PASS    |
|                               | Antenna 1A | 22.75 (± 1)                                               | 14.00 (± 1)                                               | 21.95                 | 14.38       | 14.40       | PASS    |
| LTE B41 (PC2) ULCA            | Antenna 3A | 22.00 (± 1)                                               | 13.20 (± 1)                                               | 21.98                 | 14.11       | 14.10       | PASS    |
|                               | Antenna 4  | 24.75 (± 1)                                               | 14.60 (± 1)                                               | 24.12                 | 14.39       | 14.45       | PASS    |
|                               | Antenna 2A | 24.25 (± 1)                                               | 15.60 (± 1)                                               | 23.97                 | 15.73       | 15.71       | PASS    |
|                               | Antenna 1A | 24.75 (± 1)                                               | 14.00 (± 1)                                               | 24.11                 | 14.45       | 14.44       | PASS    |
|                               | Antenna 3A | 24.00 (± 1)                                               | 13.20 (± 1)                                               | 24.36                 | 13.36       | 13.38       | PASS    |

Test Case 1: Device Held in Hand

Test Case 2: Device Resting on Lap

Test Cases represent typical scenarios in which the device power would be reduced. In these scenarios detect mode has been verified to identify typical on-body use-cases including when thin objects, such as a magazine or newspaper, are placed between the body and the device. In the absence of detect mode output, the device defaults to the most conservative power.

|                                               |                                                                                                                                                                                                                      |                              |                                        |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------------------------|
| FCC ID: BCGA2324                              |  <b>PCTEST</b><br>Proud to be part of  element | <b>SAR EVALUATION REPORT</b> | <b>Approved by:</b><br>Quality Manager |
| <b>Test Dates:</b><br>07/27/2020 – 08/18/2020 | <b>DUT Type:</b><br>Tablet Device                                                                                                                                                                                    |                              | <b>APPENDIX G</b><br>Page 2 of 2       |

## APPENDIX H: IEEE 802.11AX RU SAR EXCLUSION

|                                               |                                                                                                                                                 |                              |                                        |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------------------------|
| <b>FCC ID:</b> BCGA2324                       |  <b>PCTEST</b><br><small>Proud to be part of element</small> | <b>SAR EVALUATION REPORT</b> | <b>Reviewed by:</b><br>Quality Manager |
| <b>Test Dates:</b><br>07/27/2020 – 08/18/2020 | <b>DUT Type:</b><br>Tablet Device                                                                                                               |                              | <b>APPENDIX H:</b><br>Page 1 of 24     |

## 1.1 IEEE 802.11ax RU SAR Exclusion

To make the most efficient use of the additional available subcarriers (data tones), IEEE 802.11ax can utilize Orthogonal Frequency-Division Multiple Access (OFDMA) which divides the existing 802.11 channels into smaller subchannels called Resource Units (RUs). Possible RU sizes are: 26T, 52T, 106T, 242T, 484T, 996T.

Per FCC Guidance, 802.11ax was considered a higher order 802.11 mode when compared to a/b/g/n/ac to apply KDB Publication 248227 D01v02r02 for OFDM mode selection. Therefore, SAR tests were not required for 802.11ax based on the maximum allowed output powers of OFDM modes and the reported SAR values. Per FCC Guidance, maximum conducted powers were performed for each RU size to demonstrate that the output powers would not be higher than the other OFDM 802.11 modes.

## 1.2 IEEE 802.11ax RU Target Powers

### 1.2.1 Maximum 802.11ax RU Time-Averaged WLAN Output Power

| Mode/ Band                                             |                  | Tones   | 26T     |         | 52T     |         | 106T    |         | 242T    |         |
|--------------------------------------------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                                        |                  | Channel | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal |
| Modulated Average - Single Tx Chain (dBm) - Antenna 3A | 20 MHz Bandwidth | 1       | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   |
|                                                        |                  | 2       | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   |
|                                                        |                  | 3       | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   |
|                                                        |                  | 4       | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   |
|                                                        |                  | 5       | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   |
|                                                        |                  | 6       | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   |
|                                                        |                  | 7       | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   |
|                                                        |                  | 8       | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   |
|                                                        |                  | 9       | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   |
|                                                        |                  | 10      | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   |
|                                                        |                  | 11      | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   |
|                                                        |                  | 12      | 11.00   | 9.50    | 11.00   | 9.50    | 11.00   | 9.50    | 11.00   | 9.50    |
|                                                        |                  | 13      | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     |

| Mode/ Band                                        |                  | Tones   | 26T     |         | 52T     |         | 106T    |         | 242T    |         |
|---------------------------------------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                                   |                  | Channel | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal |
| Modulated Average - 2 Tx Chain (dBm) - Antenna 3A | 20 MHz Bandwidth | 1       | 12.50   | 11.00   | 12.50   | 11.00   | 12.50   | 11.00   | 12.50   | 11.00   |
|                                                   |                  | 2       | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   |
|                                                   |                  | 3       | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   |
|                                                   |                  | 4       | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   |
|                                                   |                  | 5       | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   |
|                                                   |                  | 6       | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   |
|                                                   |                  | 7       | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   |
|                                                   |                  | 8       | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   |
|                                                   |                  | 9       | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   |
|                                                   |                  | 10      | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   |
|                                                   |                  | 11      | 12.50   | 11.00   | 12.50   | 11.00   | 12.50   | 11.00   | 12.50   | 11.00   |
|                                                   |                  | 12      | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |
|                                                   |                  | 13      | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     |

Note: In MIMO operations, each antenna transmits at maximum allowed powers as indicated above.

| Mode/ Band                                             |                  | Tones   | 26T     |         | 52T     |         | 106T    |         | 242T    |         |
|--------------------------------------------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                                        |                  | Channel | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal |
| Modulated Average - Single Tx Chain (dBm) - Antenna 1A | 20 MHz Bandwidth | 1       | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   | 13.00   | 11.50   |
|                                                        |                  | 2       | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   |
|                                                        |                  | 3       | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   |
|                                                        |                  | 4       | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   |
|                                                        |                  | 5       | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   |
|                                                        |                  | 6       | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   |
|                                                        |                  | 7       | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   |
|                                                        |                  | 8       | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   |
|                                                        |                  | 9       | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   |
|                                                        |                  | 10      | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   |
|                                                        |                  | 11      | 13.50   | 12.00   | 13.50   | 12.00   | 13.50   | 12.00   | 13.50   | 12.00   |
|                                                        |                  | 12      | 11.00   | 9.50    | 11.00   | 9.50    | 11.00   | 9.50    | 11.00   | 9.50    |
|                                                        |                  | 13      | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     |

|                                        |                                                                                                                                  |                       |                                 |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------|
| FCC ID: BCGA2324                       |  <b>PCTEST</b><br>Proud to be part of element | SAR EVALUATION REPORT | Reviewed by:<br>Quality Manager |
| Test Dates:<br>07/27/2020 – 08/18/2020 | DUT Type:<br>Tablet Device                                                                                                       |                       | APPENDIX H:<br>Page 2 of 24     |

| Mode/ Band                                        |                  | Tones   | 26T     |         | 52T     |         | 106T    |         | 242T    |         |
|---------------------------------------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                                   |                  | Channel | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal |
| Modulated Average - 2 Tx Chain (dBm) - Antenna 1A | 20 MHz Bandwidth | 1       | 12.50   | 11.00   | 12.50   | 11.00   | 12.50   | 11.00   | 12.50   | 11.00   |
|                                                   |                  | 2       | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   |
|                                                   |                  | 3       | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   |
|                                                   |                  | 4       | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   |
|                                                   |                  | 5       | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   |
|                                                   |                  | 6       | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   |
|                                                   |                  | 7       | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   |
|                                                   |                  | 8       | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   |
|                                                   |                  | 9       | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   |
|                                                   |                  | 10      | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   | 13.75   | 12.25   |
|                                                   |                  | 11      | 12.50   | 11.00   | 12.50   | 11.00   | 12.50   | 11.00   | 12.50   | 11.00   |
|                                                   |                  | 12      | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |
|                                                   |                  | 13      | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     |

Note: In MIMO operations, each antenna transmits at maximum allowed powers as indicated above.

| Mode/ Band                                         |                  | Tones   | 26T     |         | 52T     |         | 106T    |         | 242T    |         | 484T    |         | 996T    |         |
|----------------------------------------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                                    |                  | Channel | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal |
| Modulated Average - Single Tx Chain (dBm) - Ant 2A | 20 MHz Bandwidth | 36      | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |         |         |         |         |
|                                                    |                  | 40      | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |         |         |         |         |
|                                                    |                  | 44      | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |         |         |         |         |
|                                                    |                  | 48      | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |         |         |         |         |
|                                                    |                  | 52      | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                    |                  | 56      | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                    |                  | 60      | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                    |                  | 64      | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                    |                  | 100     | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                    |                  | 104     | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                    |                  | 108     | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                    |                  | 112     | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                    |                  | 116     | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                    |                  | 120     | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                    |                  | 124     | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                    |                  | 128     | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                    |                  | 132     | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                    |                  | 136     | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                    |                  | 140     | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                    |                  | 144     | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                    |                  | 149     | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    |         |         |         |         |
|                                                    |                  | 153     | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    |         |         |         |         |
|                                                    |                  | 157     | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    |         |         |         |         |
|                                                    |                  | 161     | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    |         |         |         |         |
|                                                    |                  | 165     | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    |         |         |         |         |
|                                                    | 40 MHz Bandwidth | 38      | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |         |         |
|                                                    |                  | 46      | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |         |         |
|                                                    |                  | 54      | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |
|                                                    |                  | 62      | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |
|                                                    |                  | 102     | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |
|                                                    |                  | 110     | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |
|                                                    |                  | 118     | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |
|                                                    |                  | 126     | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |
|                                                    |                  | 134     | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |
|                                                    |                  | 142     | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |
|                                                    |                  | 151     | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    |         |         |
|                                                    |                  | 159     | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    |         |         |
|                                                    | 80 MHz Bandwidth | 42      | 10.00   | 8.50    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |
|                                                    |                  | 58      | 9.50    | 8.00    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |
|                                                    |                  | 106     | 9.50    | 8.00    | 10.50   | 9.00    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |
|                                                    |                  | 122     | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |
|                                                    |                  | 138     | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |
|                                                    |                  | 155     | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    |

|                                        |                                                                                                                                  |                       |                                 |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------|
| FCC ID: BCGA2324                       |  <b>PCTEST</b><br>Proud to be part of element | SAR EVALUATION REPORT | Reviewed by:<br>Quality Manager |
| Test Dates:<br>07/27/2020 – 08/18/2020 | DUT Type:<br>Tablet Device                                                                                                       |                       | APPENDIX H:<br>Page 3 of 24     |

| Mode/ Band                                              |                  | Tones   | 26T     |         | 52T     |         | 106T    |         | 242T    |         | 484T    |         | 996T    |         |
|---------------------------------------------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                                         |                  | Channel | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal |
| Modulated Average -<br>2 Tx Chain (dBm)<br>CDD - Ant 2A | 20 MHz Bandwidth | 36      | 8.00    | 6.50    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |         |         |         |         |
|                                                         |                  | 40      | 8.00    | 6.50    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |         |         |         |         |
|                                                         |                  | 44      | 8.00    | 6.50    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |         |         |         |         |
|                                                         |                  | 48      | 8.00    | 6.50    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |         |         |         |         |
|                                                         |                  | 52      | 8.00    | 6.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                         |                  | 56      | 8.00    | 6.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                         |                  | 60      | 8.00    | 6.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                         |                  | 64      | 8.00    | 6.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                         |                  | 100     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                         |                  | 104     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                         |                  | 108     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                         |                  | 112     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                         |                  | 116     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                         |                  | 120     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                         |                  | 124     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                         |                  | 128     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                         |                  | 132     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                         |                  | 136     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                         |                  | 140     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                         |                  | 144     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                         |                  | 149     | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    |         |         |         |         |
|                                                         |                  | 153     | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    |         |         |         |         |
|                                                         |                  | 157     | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    |         |         |         |         |
|                                                         |                  | 161     | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    |         |         |         |         |
|                                                         |                  | 165     | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    |         |         |         |         |
|                                                         | 40 MHz Bandwidth | 38      | 8.00    | 6.50    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |         |         |
|                                                         |                  | 46      | 8.00    | 6.50    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |         |         |
|                                                         |                  | 54      | 8.00    | 6.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |
|                                                         |                  | 62      | 8.00    | 6.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |
|                                                         |                  | 102     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |
|                                                         |                  | 110     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |
|                                                         |                  | 118     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |
|                                                         |                  | 126     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |
|                                                         |                  | 134     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |
|                                                         |                  | 142     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |
|                                                         |                  | 151     | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    |         |         |
|                                                         |                  | 159     | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    |         |         |
|                                                         | 80 MHz Bandwidth | 42      | 8.00    | 6.50    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |
|                                                         |                  | 58      | 8.00    | 6.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |
|                                                         |                  | 106     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |
|                                                         |                  | 122     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |
|                                                         |                  | 138     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |
|                                                         |                  | 155     | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    |
|                                                         |                  |         |         |         |         |         |         |         |         |         |         |         |         |         |

Note: In MIMO operations, each antenna transmits at maximum allowed powers as indicated above.

| Mode/ Band                                              |                  | Tones   | 26T     |         | 52T     |         | 106T    |         | 242T    |         | 484T    |         | 996T    |         |
|---------------------------------------------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                                         |                  | Channel | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal |
| Modulated Average -<br>2 Tx Chain (dBm)<br>SDM - Ant 2A | 20 MHz Bandwidth | 36      | 8.00    | 6.50    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |         |         |         |         |
|                                                         |                  | 40      | 8.00    | 6.50    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |         |         |         |         |
|                                                         |                  | 44      | 8.00    | 6.50    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |         |         |         |         |
|                                                         |                  | 48      | 8.00    | 6.50    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |         |         |         |         |
|                                                         |                  | 52      | 8.00    | 6.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                         |                  | 56      | 8.00    | 6.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                         |                  | 60      | 8.00    | 6.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                         |                  | 64      | 8.00    | 6.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                         |                  | 100     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                         |                  | 104     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                         |                  | 108     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                         |                  | 112     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                         |                  | 116     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                         |                  | 120     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                         |                  | 124     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                         |                  | 128     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                         |                  | 132     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                         |                  | 136     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                         |                  | 140     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                         |                  | 144     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |         |         |
|                                                         |                  | 149     | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    |         |         |         |         |
|                                                         |                  | 153     | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    |         |         |         |         |
|                                                         |                  | 157     | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    |         |         |         |         |
|                                                         |                  | 161     | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    |         |         |         |         |
|                                                         |                  | 165     | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    |         |         |         |         |
|                                                         | 40 MHz Bandwidth | 38      | 8.00    | 6.50    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |         |         |
|                                                         |                  | 46      | 8.00    | 6.50    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |         |         |
|                                                         |                  | 54      | 8.00    | 6.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |
|                                                         |                  | 62      | 8.00    | 6.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |
|                                                         |                  | 102     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |
|                                                         |                  | 110     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |
|                                                         |                  | 118     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |
|                                                         |                  | 126     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |
|                                                         |                  | 134     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |
|                                                         |                  | 142     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |         |         |
|                                                         |                  | 151     | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    |         |         |
|                                                         |                  | 159     | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    |         |         |
|                                                         | 80 MHz Bandwidth | 42      | 8.00    | 6.50    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |
|                                                         |                  | 58      | 8.00    | 6.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |
|                                                         |                  | 106     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |
|                                                         |                  | 122     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |
|                                                         |                  | 138     | 8.00    | 6.50    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    | 10.75   | 9.25    |
|                                                         |                  | 155     | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    | 11.25   | 9.75    |
|                                                         |                  |         |         |         |         |         |         |         |         |         |         |         |         |         |

Note: In MIMO operations, each antenna transmits at maximum allowed powers as indicated above.

|                                        |                                                                                                                                  |                       |                                 |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------|
| FCC ID: BCGA2324                       |  <b>PCTEST</b><br>Proud to be part of element | SAR EVALUATION REPORT | Reviewed by:<br>Quality Manager |
| Test Dates:<br>07/27/2020 – 08/18/2020 | DUT Type:<br>Tablet Device                                                                                                       |                       | APPENDIX H:<br>Page 4 of 24     |



| Mode/ Band                                              |                  | Tones   | 26T     |         | 52T     |         | 106T    |         | 242T    |         | 484T    |         | 996T    |         |
|---------------------------------------------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                                         |                  | Channel | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal |
| Modulated Average -<br>2 Tx Chain (dBm)<br>SDM - Ant 2B | 20 MHz Bandwidth | 36      | 9.00    | 7.50    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |         |         |         |         |
|                                                         |                  | 40      | 9.00    | 7.50    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |         |         |         |         |
|                                                         |                  | 44      | 9.00    | 7.50    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |         |         |         |         |
|                                                         |                  | 48      | 9.00    | 7.50    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |         |         |         |         |
|                                                         |                  | 52      | 9.00    | 7.50    | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   |         |         |         |         |
|                                                         |                  | 56      | 9.00    | 7.50    | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   |         |         |         |         |
|                                                         |                  | 60      | 9.00    | 7.50    | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   |         |         |         |         |
|                                                         |                  | 64      | 9.00    | 7.50    | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   |         |         |         |         |
|                                                         |                  | 100     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 104     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 108     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 112     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 116     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 120     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 124     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 128     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 132     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 136     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 140     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 144     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 149     | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                         |                  | 153     | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                         |                  | 157     | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                         |                  | 161     | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                         |                  | 165     | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                         | 40 MHz Bandwidth | 38      | 9.00    | 7.50    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |         |         |
|                                                         |                  | 46      | 9.00    | 7.50    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |         |         |
|                                                         |                  | 54      | 9.00    | 7.50    | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   | 10.00   | 11.50   | 10.00   |         |
|                                                         |                  | 62      | 9.00    | 7.50    | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   |         |         |
|                                                         |                  | 102     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 8.75    | 10.25   | 8.75    |         |
|                                                         |                  | 110     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                         |                  | 118     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                         |                  | 126     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                         |                  | 134     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                         |                  | 142     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                         |                  | 151     | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |
|                                                         |                  | 159     | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |
|                                                         | 80 MHz Bandwidth | 42      | 9.00    | 7.50    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    | 10.50   | 9.00    |
|                                                         |                  | 58      | 9.00    | 7.50    | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   |
|                                                         |                  | 106     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |
|                                                         |                  | 122     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |
|                                                         |                  | 138     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |
|                                                         |                  | 155     | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |

Note: In MIMO operations, each antenna transmits at maximum allowed powers as indicated above.

| Mode/ Band                                               |                  | Tones   | 26T     |         | 52T     |         | 106T    |         | 242T    |         | 484T    |         | 996T    |         |
|----------------------------------------------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                                          |                  | Channel | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal |
| Modulated Average -<br>Single Tx Chain<br>(dBm) - Ant 1B | 20 MHz Bandwidth | 36      | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   |         |         |         |         |
|                                                          |                  | 40      | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   |         |         |         |         |
|                                                          |                  | 44      | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   |         |         |         |         |
|                                                          |                  | 48      | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   |         |         |         |         |
|                                                          |                  | 52      | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                          |                  | 56      | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                          |                  | 60      | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                          |                  | 64      | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                          |                  | 100     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                          |                  | 104     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                          |                  | 108     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                          |                  | 112     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                          |                  | 116     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                          |                  | 120     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                          |                  | 124     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                          |                  | 128     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                          |                  | 132     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                          |                  | 136     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                          |                  | 140     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                          |                  | 144     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                          |                  | 149     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                          |                  | 153     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                          |                  | 157     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                          |                  | 161     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                          |                  | 165     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                          | 40 MHz Bandwidth | 38      | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   |         |         |
|                                                          |                  | 46      | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   |         |         |
|                                                          |                  | 54      | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |
|                                                          |                  | 62      | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |
|                                                          |                  | 102     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                          |                  | 110     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                          |                  | 118     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                          |                  | 126     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                          |                  | 134     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                          |                  | 142     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                          |                  | 151     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                          |                  | 159     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                          | 80 MHz Bandwidth | 42      | 11.00   | 9.50    | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   |
|                                                          |                  | 58      | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |
|                                                          |                  | 106     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |
|                                                          |                  | 122     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |
|                                                          |                  | 138     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |
|                                                          |                  | 155     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |

|                                               |                                                                                                                                                                                                              |                              |                                        |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------------------------|
| FCC ID: BCGA2324                              |  <b>PCTEST</b><br>Proud to be part of  | <b>SAR EVALUATION REPORT</b> | <b>Reviewed by:</b><br>Quality Manager |
| <b>Test Dates:</b><br>07/27/2020 – 08/18/2020 | <b>DUT Type:</b><br>Tablet Device                                                                                                                                                                            |                              | <b>APPENDIX H:</b><br>Page 6 of 24     |

| Mode/ Band                                             |                  | Tones   | 26T     |         | 52T     |         | 106T    |         | 242T    |         | 484T    |         | 996T    |         |
|--------------------------------------------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                                        |                  | Channel | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal |
| Modulated Average -<br>2 Tx Chain (dBm)<br>CDD -Ant 1B | 20 MHz Bandwidth | 36      | 9.00    | 7.50    | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   |         |         |         |         |
|                                                        |                  | 40      | 9.00    | 7.50    | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   |         |         |         |         |
|                                                        |                  | 44      | 9.00    | 7.50    | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   |         |         |         |         |
|                                                        |                  | 48      | 9.00    | 7.50    | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   |         |         |         |         |
|                                                        |                  | 52      | 9.00    | 7.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                        |                  | 56      | 9.00    | 7.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                        |                  | 60      | 9.00    | 7.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                        |                  | 64      | 9.00    | 7.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                        |                  | 100     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                        |                  | 104     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                        |                  | 108     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                        |                  | 112     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                        |                  | 116     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                        |                  | 120     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                        |                  | 124     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                        |                  | 128     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                        |                  | 132     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                        |                  | 136     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                        |                  | 140     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                        |                  | 144     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                        |                  | 149     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                        |                  | 153     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                        |                  | 157     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                        |                  | 161     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                        |                  | 165     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                        | 40 MHz Bandwidth | 38      | 9.00    | 7.50    | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   |         |         |
|                                                        |                  | 46      | 9.00    | 7.50    | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   |         |         |
|                                                        |                  | 54      | 9.00    | 7.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |
|                                                        |                  | 62      | 9.00    | 7.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |
|                                                        |                  | 102     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                        |                  | 110     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                        |                  | 118     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                        |                  | 126     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                        |                  | 134     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                        |                  | 142     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                        |                  | 151     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                        |                  | 159     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                        | 80 MHz Bandwidth | 42      | 9.00    | 7.50    | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   |
|                                                        |                  | 58      | 9.00    | 7.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |
|                                                        |                  | 106     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |
|                                                        |                  | 122     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |
|                                                        |                  | 138     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |
|                                                        |                  | 155     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |
|                                                        |                  |         |         |         |         |         |         |         |         |         |         |         |         |         |

Note: In MIMO operations, each antenna transmits at maximum allowed powers as indicated above.

| Mode/ Band                                              |                  | Tones   | 26T     |         | 52T     |         | 106T    |         | 242T    |         | 484T    |         | 996T    |         |
|---------------------------------------------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                                         |                  | Channel | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal |
| Modulated Average -<br>2 Tx Chain (dBm)<br>SDM - Ant 1B | 20 MHz Bandwidth | 36      | 9.00    | 7.50    | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   |         |         |         |         |
|                                                         |                  | 40      | 9.00    | 7.50    | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   |         |         |         |         |
|                                                         |                  | 44      | 9.00    | 7.50    | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   |         |         |         |         |
|                                                         |                  | 48      | 9.00    | 7.50    | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   |         |         |         |         |
|                                                         |                  | 52      | 9.00    | 7.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                         |                  | 56      | 9.00    | 7.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                         |                  | 60      | 9.00    | 7.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                         |                  | 64      | 9.00    | 7.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |         |         |
|                                                         |                  | 100     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 104     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 108     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 112     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 116     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 120     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 124     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 128     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 132     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 136     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 140     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 144     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 149     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 153     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 157     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 161     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         |                  | 165     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |         |         |
|                                                         | 40 MHz Bandwidth | 38      | 9.00    | 7.50    | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   |         |         |
|                                                         |                  | 46      | 9.00    | 7.50    | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   |         |         |
|                                                         |                  | 54      | 9.00    | 7.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |
|                                                         |                  | 62      | 9.00    | 7.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |         |         |
|                                                         |                  | 102     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                         |                  | 110     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                         |                  | 118     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                         |                  | 126     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                         |                  | 134     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                         |                  | 142     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                         |                  | 151     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                         |                  | 159     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |         |         |
|                                                         | 80 MHz Bandwidth | 42      | 9.00    | 7.50    | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   | 11.50   | 10.00   |
|                                                         |                  | 58      | 9.00    | 7.50    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    | 9.75    | 8.25    |
|                                                         |                  | 106     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |
|                                                         |                  | 122     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |
|                                                         |                  | 138     | 9.00    | 7.50    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |
|                                                         |                  | 155     | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    | 10.25   | 8.75    |
|                                                         |                  |         |         |         |         |         |         |         |         |         |         |         |         |         |

Note: In MIMO operations, each antenna transmits at maximum allowed powers as indicated above.

|                                               |                                                                                                                                                                                                                      |                              |                                        |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------------------------|
| FCC ID: BCGA2324                              |  <b>PCTEST</b><br>Proud to be part of  element | <b>SAR EVALUATION REPORT</b> | <b>Reviewed by:</b><br>Quality Manager |
| <b>Test Dates:</b><br>07/27/2020 – 08/18/2020 | <b>DUT Type:</b><br>Tablet Device                                                                                                                                                                                    |                              | <b>APPENDIX H:</b><br>Page 7 of 24     |

# Reduced 802.11ax RU Time-Averaged WLAN Output Power

Below table is applicable in the following conditions:

- Simultaneous conditions with Licensed Bands Antenna 3A/3B active
- Simultaneous conditions with LTE Inter-band ULCA active

| Mode/ Band                                             |                  | Tones   | 26T     |         | 52T     |         | 106T    |         | 242T    |         |
|--------------------------------------------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                                        |                  | Channel | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal |
| Modulated Average - Single Tx Chain (dBm) - Antenna 3A | 20 MHz Bandwidth | 1       | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    |
|                                                        |                  | 2       | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    |
|                                                        |                  | 3       | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    |
|                                                        |                  | 4       | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    |
|                                                        |                  | 5       | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    |
|                                                        |                  | 6       | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    |
|                                                        |                  | 7       | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    |
|                                                        |                  | 8       | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    |
|                                                        |                  | 9       | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    |
|                                                        |                  | 10      | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    |
|                                                        |                  | 11      | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    |
|                                                        |                  | 12      | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    |
|                                                        |                  | 13      | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     |

Below table is applicable in the following conditions:

- Simultaneous conditions with Licensed Bands Antenna 3A/3B active
- Simultaneous conditions with LTE Inter-band ULCA active

| Mode/ Band                                        |                  | Tones   | 26T     |         | 52T     |         | 106T    |         | 242T    |         |
|---------------------------------------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                                   |                  | Channel | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal |
| Modulated Average - 2 Tx Chain (dBm) - Antenna 3A | 20 MHz Bandwidth | 1       | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    |
|                                                   |                  | 2       | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    |
|                                                   |                  | 3       | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    |
|                                                   |                  | 4       | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    |
|                                                   |                  | 5       | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    |
|                                                   |                  | 6       | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    |
|                                                   |                  | 7       | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    |
|                                                   |                  | 8       | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    |
|                                                   |                  | 9       | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    |
|                                                   |                  | 10      | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    |
|                                                   |                  | 11      | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    |
|                                                   |                  | 12      | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    | 6.00    | 4.50    |
|                                                   |                  | 13      | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     |

Note: In MIMO operations, each antenna transmits at maximum allowed powers as indicated above.

Below table is applicable in the following conditions:

- Simultaneous conditions with Licensed Bands Antenna 1A active
- Simultaneous conditions with LTE Inter-band ULCA active

| Mode/ Band                                             |                  | Tones   | 26T     |         | 52T     |         | 106T    |         | 242T    |         |
|--------------------------------------------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                                        |                  | Channel | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal |
| Modulated Average - Single Tx Chain (dBm) - Antenna 1A | 20 MHz Bandwidth | 1       | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    |
|                                                        |                  | 2       | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    |
|                                                        |                  | 3       | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    |
|                                                        |                  | 4       | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    |
|                                                        |                  | 5       | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    |
|                                                        |                  | 6       | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    |
|                                                        |                  | 7       | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    |
|                                                        |                  | 8       | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    |
|                                                        |                  | 9       | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    |
|                                                        |                  | 10      | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    |
|                                                        |                  | 11      | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    |
|                                                        |                  | 12      | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    |
|                                                        |                  | 13      | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     |

|                                               |                                                                                                                                                                                                              |                              |                                        |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------------------------|
| FCC ID: BCGA2324                              |  <b>PCTEST</b><br>Proud to be part of  | <b>SAR EVALUATION REPORT</b> | <b>Reviewed by:</b><br>Quality Manager |
| <b>Test Dates:</b><br>07/27/2020 – 08/18/2020 | <b>DUT Type:</b><br>Tablet Device                                                                                                                                                                            |                              | <b>APPENDIX H:</b><br>Page 8 of 24     |

Below table is applicable in the following conditions:

- Simultaneous conditions with Licensed Bands Antenna 1A active
- Simultaneous conditions with LTE Inter-band ULCA active

| Mode/ Band                                        |                  | Tones   | 26T     |         | 52T     |         | 106T    |         | 242T    |         |
|---------------------------------------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                                   |                  | Channel | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal |
| Modulated Average - 2 Tx Chain (dBm) - Antenna 1A | 20 MHz Bandwidth | 1       | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    |
|                                                   |                  | 2       | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    |
|                                                   |                  | 3       | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    |
|                                                   |                  | 4       | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    |
|                                                   |                  | 5       | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    |
|                                                   |                  | 6       | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    |
|                                                   |                  | 7       | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    |
|                                                   |                  | 8       | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    |
|                                                   |                  | 9       | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    |
|                                                   |                  | 10      | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    |
|                                                   |                  | 11      | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    |
|                                                   |                  | 12      | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    | 6.75    | 5.25    |
|                                                   |                  | 13      | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     | N/A     |

Note: In MIMO operations, each antenna transmits at maximum allowed powers as indicated above.

Below table is applicable in the following conditions:

- Simultaneous conditions with Licensed Bands Antenna 2A active
- Simultaneous conditions with LTE Inter-band ULCA active

| Mode/ Band                                               |                  | Tones            | 26T     |         | 52T     |         | 106T    |         | 242T    |         | 484T    |         | 996T    |         |
|----------------------------------------------------------|------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                                          |                  | Channel          | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal |
| Modulated Average -<br>Single Tx Chain<br>(dBm) - Ant 2A | 20 MHz Bandwidth | 36               | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |         |         |         |
|                                                          |                  | 40               | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |         |         |         |
|                                                          |                  | 44               | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |         |         |         |
|                                                          |                  | 48               | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |         |         |         |
|                                                          |                  | 52               | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |
|                                                          |                  | 56               | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |
|                                                          |                  | 60               | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |
|                                                          |                  | 64               | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |
|                                                          |                  | 100              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |         |         |
|                                                          |                  | 104              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |         |         |
|                                                          |                  | 108              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |         |         |
|                                                          |                  | 112              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |         |         |
|                                                          |                  | 116              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |         |         |
|                                                          |                  | 120              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |         |         |
|                                                          |                  | 124              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |         |         |
|                                                          |                  | 128              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |         |         |
|                                                          |                  | 132              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |         |         |
|                                                          |                  | 136              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |         |         |
|                                                          |                  | 140              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |         |         |
|                                                          |                  | 144              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |         |         |
|                                                          | 149              | 4.25             | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    |         |         |         |         |         |
|                                                          | 153              | 4.25             | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    |         |         |         |         |         |
|                                                          | 157              | 4.25             | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    |         |         |         |         |         |
|                                                          | 161              | 4.25             | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    |         |         |         |         |         |
|                                                          | 165              | 4.25             | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    |         |         |         |         |         |
|                                                          | 40 MHz Bandwidth | 38               | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |         |
|                                                          |                  | 46               | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |         |
|                                                          |                  | 54               | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |
|                                                          |                  | 62               | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |
|                                                          |                  | 102              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |
|                                                          |                  | 110              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |
|                                                          |                  | 118              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |
|                                                          |                  | 126              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |
|                                                          |                  | 134              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |
|                                                          |                  | 142              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |
|                                                          |                  | 151              | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    |         |         |
|                                                          |                  | 159              | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    |         |         |
|                                                          |                  | 80 MHz Bandwidth | 42      | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    |
|                                                          | 58               |                  | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |
|                                                          | 106              |                  | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |
|                                                          | 122              |                  | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |
|                                                          | 138              |                  | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |
|                                                          | 155              |                  | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    |

|                                        |                                                                                                                                                                                                                      |                       |                                 |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------|
| FCC ID: BCGA2324                       |  <b>PCTEST</b><br>Proud to be part of  element | SAR EVALUATION REPORT | Reviewed by:<br>Quality Manager |
| Test Dates:<br>07/27/2020 – 08/18/2020 | DUT Type:<br>Tablet Device                                                                                                                                                                                           |                       | APPENDIX H:<br>Page 9 of 24     |

Below table is applicable in the following conditions:

-Simultaneous conditions with Licensed Bands Antenna 2A active

-Simultaneous conditions with LTE Inter-band ULCA active

| Mode/ Band                                              |                  | Tones            |         | 26T     |         | 52T     |         | 106T    |         | 242T    |         | 484T    |         | 996T    |      |
|---------------------------------------------------------|------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------|
|                                                         |                  | Channel          | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal |      |
| Modulated Average -<br>2 Tx Chain (dBm)<br>CDD - Ant 2A | 20 MHz Bandwidth | 36               | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |         |      |
|                                                         |                  | 40               | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |         |      |
|                                                         |                  | 44               | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |         |      |
|                                                         |                  | 48               | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |         |      |
|                                                         |                  | 52               | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |      |
|                                                         |                  | 56               | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |      |
|                                                         |                  | 60               | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |      |
|                                                         |                  | 64               | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |      |
|                                                         |                  | 100              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |      |
|                                                         |                  | 104              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |      |
|                                                         |                  | 108              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |      |
|                                                         |                  | 112              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |      |
|                                                         |                  | 116              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |      |
|                                                         |                  | 120              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |      |
|                                                         |                  | 124              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |      |
|                                                         |                  | 128              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |      |
|                                                         |                  | 132              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |      |
|                                                         |                  | 136              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |      |
|                                                         |                  | 140              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |      |
|                                                         |                  | 144              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |      |
|                                                         |                  | 149              | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    |         |         |      |
|                                                         |                  | 153              | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    |         |         |      |
|                                                         |                  | 157              | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    |         |         |      |
|                                                         |                  | 161              | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    |         |         |      |
|                                                         |                  | 165              | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    |         |         |      |
|                                                         | 40 MHz Bandwidth | 38               | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |      |
|                                                         |                  | 46               | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |      |
|                                                         |                  | 54               | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |      |
|                                                         |                  | 62               | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |      |
|                                                         |                  | 102              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |      |
|                                                         |                  | 110              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |      |
|                                                         |                  | 118              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |      |
|                                                         |                  | 126              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |      |
|                                                         |                  | 134              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |      |
|                                                         |                  | 142              | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |      |
|                                                         |                  | 151              | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    |      |
|                                                         |                  | 159              | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    |      |
|                                                         |                  | 80 MHz Bandwidth | 42      | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00 |
|                                                         |                  |                  | 58      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25 |
|                                                         |                  |                  | 106     | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25 |
|                                                         |                  |                  | 122     | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25 |
|                                                         | 138              |                  | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |      |
|                                                         | 155              |                  | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    |      |
|                                                         |                  |                  |         |         |         |         |         |         |         |         |         |         |         |         |      |

Note: In MIMO operations, each antenna transmits at maximum allowed powers as indicated above.

|                                        |                                                                                                                                  |                       |                                 |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------|
| FCC ID: BCGA2324                       |  <b>PCTEST</b><br>Prove to be part of element | SAR EVALUATION REPORT | Reviewed by:<br>Quality Manager |
| Test Dates:<br>07/27/2020 – 08/18/2020 | DUT Type:<br>Tablet Device                                                                                                       |                       | APPENDIX H:<br>Page 10 of 24    |

Below table is applicable in the following conditions:

-Simultaneous conditions with Licensed Bands Antenna 2A active

-Simultaneous conditions with LTE Inter-band ULCA active

| Mode/ Band                                              |                  | Tones   | 26T     |         | 52T     |         | 106T    |         | 242T    |         | 484T    |         | 996T    |         |
|---------------------------------------------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                                         |                  | Channel | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal |
| Modulated Average -<br>2 Tx Chain (dBm)<br>SDM - Ant 2A | 20 MHz Bandwidth | 36      | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |         |         |         |
|                                                         |                  | 40      | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |         |         |         |
|                                                         |                  | 44      | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |         |         |         |
|                                                         |                  | 48      | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |         |         |         |
|                                                         |                  | 52      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |
|                                                         |                  | 56      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |
|                                                         |                  | 60      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |
|                                                         |                  | 64      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |
|                                                         |                  | 100     | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |         |         |
|                                                         |                  | 104     | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |         |         |
|                                                         |                  | 108     | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |         |         |
|                                                         |                  | 112     | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |         |         |
|                                                         |                  | 116     | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |         |         |
|                                                         |                  | 120     | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |         |         |
|                                                         |                  | 124     | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |         |         |
|                                                         |                  | 128     | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |         |         |
|                                                         |                  | 132     | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |         |         |
|                                                         |                  | 136     | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |         |         |
|                                                         |                  | 140     | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |         |         |
|                                                         |                  | 144     | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |         |         |
|                                                         |                  | 149     | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    |         |         |         |         |
|                                                         |                  | 153     | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    |         |         |         |         |
|                                                         |                  | 157     | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    |         |         |         |         |
|                                                         |                  | 161     | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    |         |         |         |         |
|                                                         |                  | 165     | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    |         |         |         |         |
|                                                         | 40 MHz Bandwidth | 38      | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |         |
|                                                         |                  | 46      | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |         |
|                                                         |                  | 54      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |
|                                                         |                  | 62      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |
|                                                         |                  | 102     | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |
|                                                         |                  | 110     | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |
|                                                         |                  | 118     | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |
|                                                         |                  | 126     | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |
|                                                         |                  | 134     | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |
|                                                         |                  | 142     | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |         |         |
|                                                         | 80 MHz Bandwidth | 151     | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    |         |         |
|                                                         |                  | 159     | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    |         |         |
|                                                         |                  | 42      | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |
|                                                         |                  | 58      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |
|                                                         |                  | 106     | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |
|                                                         |                  | 122     | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |
|                                                         |                  | 138     | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    | 3.75    | 2.25    |
|                                                         |                  | 155     | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    | 4.25    | 2.75    |

Note: In MIMO operations, each antenna transmits at maximum allowed powers as indicated above.

|                                        |                                                                                                                                  |                       |                                 |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------|
| FCC ID: BCGA2324                       |  <b>PCTEST</b><br>Proud to be part of element | SAR EVALUATION REPORT | Reviewed by:<br>Quality Manager |
| Test Dates:<br>07/27/2020 – 08/18/2020 | DUT Type:<br>Tablet Device                                                                                                       |                       | APPENDIX H:<br>Page 11 of 24    |

Below table is applicable in the following conditions:

-Simultaneous conditions with Licensed Bands Antenna 2A active

-Simultaneous conditions with LTE Inter-band ULCA active

| Mode/ Band                                               |                  | Tones            | 26T     |         | 52T     |         | 106T    |         | 242T    |         | 484T    |         | 996T    |         |      |
|----------------------------------------------------------|------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------|
|                                                          |                  | Channel          | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal |      |
| Modulated Average -<br>Single Tx Chain<br>(dBm) - Ant 2B | 20 MHz Bandwidth | 36               | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |         |         |         |      |
|                                                          |                  | 40               | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |         |         |         |      |
|                                                          |                  | 44               | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |         |         |         |      |
|                                                          |                  | 48               | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |         |         |         |      |
|                                                          |                  | 52               | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |         |         |      |
|                                                          |                  | 56               | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |         |         |      |
|                                                          |                  | 60               | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |         |         |      |
|                                                          |                  | 64               | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |         |         |      |
|                                                          |                  | 100              | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |      |
|                                                          |                  | 104              | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |      |
|                                                          |                  | 108              | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |      |
|                                                          |                  | 112              | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |      |
|                                                          |                  | 116              | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |      |
|                                                          |                  | 120              | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |      |
|                                                          |                  | 124              | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |      |
|                                                          |                  | 128              | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |      |
|                                                          |                  | 132              | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |      |
|                                                          |                  | 136              | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |      |
|                                                          |                  | 140              | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |      |
|                                                          |                  | 144              | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |      |
|                                                          |                  | 148              | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |      |
|                                                          |                  | 153              | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |      |
|                                                          |                  | 157              | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |      |
|                                                          |                  | 161              | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |      |
|                                                          |                  | 165              | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |      |
|                                                          |                  | 40 MHz Bandwidth | 38      | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |      |
|                                                          | 46               |                  | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |         |      |
|                                                          | 54               |                  | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |      |
|                                                          | 62               |                  | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |      |
|                                                          | 102              |                  | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |      |
|                                                          | 110              |                  | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |      |
|                                                          | 118              |                  | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |      |
|                                                          | 126              |                  | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |      |
|                                                          | 134              |                  | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |      |
|                                                          | 142              |                  | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |      |
|                                                          | 151              |                  | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |      |
|                                                          | 159              |                  | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |      |
|                                                          | 80 MHz Bandwidth |                  | 42      | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00 |
|                                                          |                  |                  | 58      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00 |
|                                                          |                  | 106              | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |      |
|                                                          |                  | 122              | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |      |
|                                                          |                  | 138              | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |      |
|                                                          |                  | 155              | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |      |
|                                                          |                  |                  |         |         |         |         |         |         |         |         |         |         |         |         |      |
|                                                          |                  |                  |         |         |         |         |         |         |         |         |         |         |         |         |      |

Below table is applicable in the following conditions:

-Simultaneous conditions with Licensed Bands Antenna 2A active

-Simultaneous conditions with LTE Inter-band ULCA active

| Mode/ Band                                              |                  | Tones   | 26T     |         | 52T     |         | 106T    |         | 242T    |         | 484T    |         | 996T    |         |
|---------------------------------------------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                                         |                  | Channel | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal |
| Modulated Average -<br>2 Tx Chain (dBm)<br>SDM - Ant 2B | 20 MHz Bandwidth | 36      | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |         |         |         |
|                                                         |                  | 40      | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |         |         |         |
|                                                         |                  | 44      | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |         |         |         |
|                                                         |                  | 48      | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |         |         |         |
|                                                         |                  | 52      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |         |         |
|                                                         |                  | 56      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |         |         |
|                                                         |                  | 60      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |         |         |
|                                                         |                  | 64      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |         |         |
|                                                         |                  | 100     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 104     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 108     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 112     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 116     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 120     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 124     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 128     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 132     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 136     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 140     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 144     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 149     | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |
|                                                         |                  | 153     | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |
|                                                         |                  | 157     | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |
|                                                         |                  | 161     | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |
|                                                         |                  | 165     | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |
|                                                         | 40 MHz Bandwidth | 38      | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |         |
|                                                         |                  | 46      | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |         |         |
|                                                         |                  | 54      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |
|                                                         |                  | 62      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |
|                                                         |                  | 102     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                         |                  | 110     | 0.00    | -1.50   | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                         |                  | 118     | 0.00    | -1.50   | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                         |                  | 126     | 0.00    | -1.50   | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                         |                  | 134     | 0.00    | -1.50   | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                         |                  | 142     | 0.00    | -1.50   | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                         |                  | 151     | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |
|                                                         |                  | 159     | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |
|                                                         | 80 MHz Bandwidth | 42      | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    | 3.50    | 2.00    |
|                                                         |                  | 58      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |
|                                                         |                  | 106     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |
|                                                         |                  | 122     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |
|                                                         |                  | 138     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |
|                                                         |                  | 155     | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |

Note: In MIMO operations, each antenna transmits at maximum allowed powers as indicated above.

|                                        |                                                                                                                                  |                       |                                 |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------|
| FCC ID: BCGA2324                       |  <b>PCTEST</b><br>Proud to be part of element | SAR EVALUATION REPORT | Reviewed by:<br>Quality Manager |
| Test Dates:<br>07/27/2020 – 08/18/2020 | DUT Type:<br>Tablet Device                                                                                                       |                       | APPENDIX H:<br>Page 13 of 24    |

Below table is applicable in the following conditions:

-Simultaneous conditions with Licensed Bands Antenna 1A active

-Simultaneous conditions with LTE Inter-band ULCA active

| Mode/ Band                                           |                  | Tones   | 26T     |         | 52T     |         | 106T    |         | 242T    |         | 484T    |         | 996T    |         |
|------------------------------------------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                                      |                  | Channel | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal |
| Modulated Average -<br>Single Tx Chain<br>(dBm) - 18 | 20 MHz Bandwidth | 36      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |         |         |
|                                                      |                  | 40      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |         |         |
|                                                      |                  | 44      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |         |         |
|                                                      |                  | 48      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |         |         |
|                                                      |                  | 52      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |
|                                                      |                  | 56      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |
|                                                      |                  | 60      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |
|                                                      |                  | 64      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |
|                                                      |                  | 100     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                      |                  | 104     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                      |                  | 108     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                      |                  | 112     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                      |                  | 116     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                      |                  | 120     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                      |                  | 124     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                      |                  | 128     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                      |                  | 132     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                      |                  | 136     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                      |                  | 140     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                      |                  | 144     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                      |                  | 148     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                      |                  | 152     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                      |                  | 156     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                      |                  | 160     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                      |                  | 164     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                      | 40 MHz Bandwidth | 38      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |
|                                                      |                  | 46      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |
|                                                      |                  | 54      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |
|                                                      |                  | 62      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |
|                                                      |                  | 102     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                      |                  | 110     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                      |                  | 118     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                      |                  | 126     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                      |                  | 134     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                      |                  | 142     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                      | 80 MHz Bandwidth | 150     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                      |                  | 158     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                      |                  | 42      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |
|                                                      |                  | 58      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |
|                                                      |                  | 106     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |
|                                                      |                  | 122     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |
|                                                      |                  | 138     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |
|                                                      |                  | 155     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |

Note: In MIMO operations, each antenna transmits at maximum allowed powers as indicated above.

|                                        |                                                                                                                                                                                                                      |                       |                                 |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------|
| FCC ID: BCGA2324                       |  <b>PCTEST</b><br>Proud to be part of  element | SAR EVALUATION REPORT | Reviewed by:<br>Quality Manager |
| Test Dates:<br>07/27/2020 – 08/18/2020 | DUT Type:<br>Tablet Device                                                                                                                                                                                           |                       | APPENDIX H:<br>Page 14 of 24    |

Below table is applicable in the following conditions:

-Simultaneous conditions with Licensed Bands Antenna 1A active

-Simultaneous conditions with LTE Inter-band ULCA active

| Mode/ Band                                              |                  | Tones   | 26T     |         | 52T     |         | 106T    |         | 242T    |         | 484T    |         | 996T    |         |
|---------------------------------------------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                                         |                  | Channel | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal |
| Modulated Average -<br>2 Tx Chain (dBm)<br>CDD - Ant 1B | 20 MHz Bandwidth | 36      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |         |         |
|                                                         |                  | 40      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |         |         |
|                                                         |                  | 44      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |         |         |
|                                                         |                  | 48      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |         |         |
|                                                         |                  | 52      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |
|                                                         |                  | 56      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |
|                                                         |                  | 60      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |
|                                                         |                  | 64      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |
|                                                         |                  | 100     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 104     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 108     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 112     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 116     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 120     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 124     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 128     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 132     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 136     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 140     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 144     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 149     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 153     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 157     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 161     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 165     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         | 40 MHz Bandwidth | 38      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |
|                                                         |                  | 46      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |
|                                                         |                  | 54      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |
|                                                         |                  | 62      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |
|                                                         |                  | 102     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                         |                  | 110     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                         |                  | 118     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                         |                  | 126     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                         |                  | 134     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                         |                  | 142     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                         | 80 MHz Bandwidth | 151     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                         |                  | 159     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                         |                  | 42      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |
|                                                         |                  | 58      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |
|                                                         |                  | 106     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |
|                                                         |                  | 122     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |
|                                                         |                  | 138     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |
|                                                         |                  | 155     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |

Note: In MIMO operations, each antenna transmits at maximum allowed powers as indicated above.

|                                        |                                                                                                                                  |                       |                                 |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------|
| FCC ID: BCGA2324                       |  <b>PCTEST</b><br>Proud to be part of element | SAR EVALUATION REPORT | Reviewed by:<br>Quality Manager |
| Test Dates:<br>07/27/2020 – 08/18/2020 | DUT Type:<br>Tablet Device                                                                                                       |                       | APPENDIX H:<br>Page 15 of 24    |

Below table is applicable in the following conditions:

-Simultaneous conditions with Licensed Bands Antenna 1A active

-Simultaneous conditions with LTE Inter-band ULCA active

| Mode/ Band                                              |                  | Tones   | 26T     |         | 52T     |         | 106T    |         | 242T    |         | 484T    |         | 996T    |         |
|---------------------------------------------------------|------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                                         |                  | Channel | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal | Maximum | Nominal |
| Modulated Average -<br>2 Tx Chain (dBm)<br>SDM - Ant 1B | 20 MHz Bandwidth | 36      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |         |         |
|                                                         |                  | 40      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |         |         |
|                                                         |                  | 44      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |         |         |
|                                                         |                  | 48      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |         |         |
|                                                         |                  | 52      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |
|                                                         |                  | 56      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |
|                                                         |                  | 60      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |
|                                                         |                  | 64      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |         |         |
|                                                         |                  | 100     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 104     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 108     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 112     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 116     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 120     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 124     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 128     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 132     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 136     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 140     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 144     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 149     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 153     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 157     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 161     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         |                  | 165     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |         |         |
|                                                         | 40 MHz Bandwidth | 38      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |
|                                                         |                  | 46      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |         |         |
|                                                         |                  | 54      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |
|                                                         |                  | 62      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |         |         |
|                                                         |                  | 102     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                         |                  | 110     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                         |                  | 118     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                         |                  | 126     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                         |                  | 134     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                         |                  | 142     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                         | 80 MHz Bandwidth | 151     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                         |                  | 159     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |         |         |
|                                                         |                  | 42      | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    | 4.50    | 3.00    |
|                                                         |                  | 58      | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    | 2.75    | 1.25    |
|                                                         |                  | 106     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |
|                                                         |                  | 122     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |
|                                                         |                  | 138     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |
|                                                         |                  | 155     | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    | 3.25    | 1.75    |

Note: In MIMO operations, each antenna transmits at maximum allowed powers as indicated above.

|                                        |                                                                                                                                  |                       |                                 |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------|
| FCC ID: BCGA2324                       |  <b>PCTEST</b><br>Proud to be part of element | SAR EVALUATION REPORT | Reviewed by:<br>Quality Manager |
| Test Dates:<br>07/27/2020 – 08/18/2020 | DUT Type:<br>Tablet Device                                                                                                       |                       | APPENDIX H:<br>Page 16 of 24    |

## 1.1 IEEE 802.11ax Measured Powers

**Table 1**  
**Maximum 2.4 GHz 802.11ax RU Time-Averaged WLAN Output Power – Ant 3A**

| Freq [MHz] | Channel | Tones | RU Index | Avg Conducted Powers (dBm) | Freq [MHz] | Channel | Tones | RU Index | Avg Conducted Powers (dBm) |
|------------|---------|-------|----------|----------------------------|------------|---------|-------|----------|----------------------------|
| 2412       | 1       | 26T   | 0        | 12.71                      | 2412       | 1       | 52T   | 37       | 12.74                      |
|            |         |       | 4        | 12.59                      |            |         |       | 38       | 12.78                      |
|            |         |       | 8        | 12.35                      |            |         |       | 40       | 12.56                      |
| 2437       | 6       | 26T   | 0        | 12.29                      | 2437       | 6       | 52T   | 37       | 12.23                      |
|            |         |       | 4        | 12.51                      |            |         |       | 38       | 12.62                      |
|            |         |       | 8        | 12.27                      |            |         |       | 40       | 12.35                      |
| 2462       | 11      | 26T   | 0        | 12.56                      | 2462       | 11      | 52T   | 37       | 12.73                      |
|            |         |       | 4        | 12.62                      |            |         |       | 38       | 12.78                      |
|            |         |       | 8        | 12.37                      |            |         |       | 40       | 12.13                      |

| Freq [MHz] | Channel | Tones | RU Index | Avg Conducted Powers (dBm) | Freq [MHz] | Channel | Tones | RU Index | Avg Conducted Powers (dBm) |
|------------|---------|-------|----------|----------------------------|------------|---------|-------|----------|----------------------------|
| 2412       | 1       | 106T  | 53       | 12.61                      | 2412       | 1       | 242T  | 61       | 12.89                      |
|            |         |       | 54       | 12.81                      |            |         |       |          |                            |
| 2437       | 6       | 106T  | 53       | 12.37                      | 2437       | 6       | 242T  | 61       | 12.73                      |
|            |         |       | 54       | 12.34                      |            |         |       |          |                            |
| 2462       | 11      | 106T  | 53       | 12.27                      | 2462       | 11      | 242T  | 61       | 12.82                      |
|            |         |       | 54       | 12.89                      |            |         |       |          |                            |

|                                        |                                                                                                                                                                                                              |                       |                                 |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------|
| FCC ID: BCGA2324                       |  <b>PCTEST</b><br>Proud to be part of  | SAR EVALUATION REPORT | Reviewed by:<br>Quality Manager |
| Test Dates:<br>07/27/2020 – 08/18/2020 | DUT Type:<br>Tablet Device                                                                                                                                                                                   |                       | APPENDIX H:<br>Page 17 of 24    |

**Table 2**  
**Maximum 2.4 GHz 802.11ax RU Time-Averaged WLAN Output Power – Ant 1A**

| Freq [MHz] | Channel | Tones | RU Index | Avg Conducted Powers (dBm) | Freq [MHz] | Channel | Tones | RU Index | Avg Conducted Powers (dBm) |
|------------|---------|-------|----------|----------------------------|------------|---------|-------|----------|----------------------------|
| 2412       | 1       | 26T   | 0        | 12.40                      | 2412       | 1       | 52T   | 37       | 12.56                      |
|            |         |       | 4        | 12.57                      |            |         |       | 38       | 12.78                      |
|            |         |       | 8        | 12.24                      |            |         |       | 40       | 12.22                      |
| 2417       | 2       | 26T   | 0        | 13.16                      | 2417       | 2       | 52T   | 37       | 12.92                      |
|            |         |       | 4        | 13.67                      |            |         |       | 38       | 13.64                      |
|            |         |       | 8        | 13.03                      |            |         |       | 40       | 13.48                      |
| 2437       | 6       | 26T   | 0        | 13.11                      | 2437       | 6       | 52T   | 37       | 13.19                      |
|            |         |       | 4        | 13.33                      |            |         |       | 38       | 13.31                      |
|            |         |       | 8        | 13.42                      |            |         |       | 40       | 13.03                      |
| 2457       | 10      | 26T   | 0        | 13.06                      | 2457       | 10      | 52T   | 37       | 13.73                      |
|            |         |       | 4        | 13.32                      |            |         |       | 38       | 13.38                      |
|            |         |       | 8        | 12.98                      |            |         |       | 40       | 12.92                      |
| 2462       | 11      | 26T   | 0        | 13.39                      | 2462       | 11      | 52T   | 37       | 13.07                      |
|            |         |       | 4        | 13.04                      |            |         |       | 38       | 13.18                      |
|            |         |       | 8        | 12.72                      |            |         |       | 40       | 12.87                      |

| Freq [MHz] | Channel | Tones | RU Index | Avg Conducted Powers (dBm) |      | Freq [MHz] | Channel | Tones | RU Index | Avg Conducted Powers (dBm) |
|------------|---------|-------|----------|----------------------------|------|------------|---------|-------|----------|----------------------------|
| 2412       | 1       | 106T  | 53       | 12.53                      |      |            |         |       |          |                            |
|            |         |       | 54       | 12.64                      |      |            |         |       |          |                            |
| 2417       | 2       | 106T  | 53       | 12.99                      |      |            |         |       |          |                            |
|            |         |       | 54       | 13.37                      |      |            |         |       |          |                            |
| 2437       | 6       | 106T  | 53       | 13.35                      |      |            |         |       |          |                            |
|            |         |       | 54       | 12.89                      |      |            |         |       |          |                            |
| 2457       | 10      | 106T  | 53       | 13.44                      |      |            |         |       |          |                            |
|            |         |       | 54       | 12.84                      |      |            |         |       |          |                            |
| 2462       | 11      | 106T  | 53       | 13.35                      |      |            |         |       |          |                            |
|            |         |       | 54       | 12.89                      |      |            |         |       |          |                            |
|            |         |       |          |                            | 2412 | 1          | 242T    | 61    | 12.95    |                            |
|            |         |       |          |                            | 2417 | 2          | 242T    | 61    | 13.25    |                            |
|            |         |       |          |                            | 2437 | 6          | 242T    | 61    | 12.99    |                            |
|            |         |       |          |                            | 2457 | 10         | 242T    | 61    | 12.35    |                            |
|            |         |       |          |                            | 2462 | 11         | 242T    | 61    | 13.33    |                            |

|                                        |                                                                                                                                  |                       |                                 |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------|
| FCC ID: BCGA2324                       |  <b>PCTEST</b><br>Prove to be part of element | SAR EVALUATION REPORT | Reviewed by:<br>Quality Manager |
| Test Dates:<br>07/27/2020 – 08/18/2020 | DUT Type:<br>Tablet Device                                                                                                       |                       | APPENDIX H:<br>Page 18 of 24    |

**Table 3**  
**Maximum 5 GHz 802.11ax RU Time-Averaged WLAN Output Power – Ant 2B**

| 20MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |       |
|----------|------|------------|---------|-------|---------------------------|-------|-------|
|          |      |            |         |       | RU Index                  |       |       |
|          |      |            |         |       | 0                         | 4     | 8     |
|          | 1    | 5180       | 36      | 26T   | 9.91                      | 10.45 | 10.08 |
| 5200     |      | 40         | 26T     | 9.68  | 10.44                     | 9.88  |       |
| 5220     |      | 44         | 26T     | 9.71  | 10.38                     | 9.97  |       |
| 5240     |      | 48         | 26T     | 9.75  | 10.37                     | 10.09 |       |
| 5260     |      | 52         | 26T     | 11.04 | 11.48                     | 11.06 |       |
| 5280     |      | 56         | 26T     | 10.84 | 11.42                     | 10.93 |       |
| 5300     |      | 60         | 26T     | 10.90 | 11.42                     | 10.96 |       |
| 5320     |      | 64         | 26T     | 10.97 | 11.47                     | 11.00 |       |
| 2A       | 5500 | 100        | 26T     | 9.63  | 10.14                     | 9.58  |       |
|          | 5600 | 120        | 26T     | 9.70  | 10.17                     | 9.72  |       |
|          | 5620 | 124        | 26T     | 9.62  | 10.21                     | 9.82  |       |
|          | 5720 | 144        | 26T     | 9.58  | 10.01                     | 9.42  |       |
| 3        | 5745 | 149        | 26T     | 8.97  | 9.56                      | 9.15  |       |
|          | 5785 | 157        | 26T     | 8.82  | 9.31                      | 8.90  |       |
|          | 5825 | 165        | 26T     | 9.75  | 9.16                      | 8.92  |       |

| 20MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |      |
|----------|------|------------|---------|-------|---------------------------|-------|------|
|          |      |            |         |       | RU Index                  |       |      |
|          |      |            |         |       | 37                        | 39    | 40   |
|          | 1    | 5180       | 36      | 52T   | 9.85                      | 10.30 | 9.99 |
| 5200     |      | 40         | 52T     | 9.87  | 10.38                     | 10.50 |      |
| 5220     |      | 44         | 52T     | 9.82  | 10.25                     | 10.14 |      |
| 5240     |      | 48         | 52T     | 9.96  | 10.34                     | 10.03 |      |
| 5260     |      | 52         | 52T     | 10.82 | 11.06                     | 10.84 |      |
| 5280     |      | 56         | 52T     | 10.83 | 11.04                     | 10.75 |      |
| 5300     |      | 60         | 52T     | 10.68 | 11.00                     | 10.77 |      |
| 5320     |      | 64         | 52T     | 10.72 | 11.08                     | 10.73 |      |
| 2A       | 5500 | 100        | 52T     | 9.84  | 10.10                     | 9.72  |      |
|          | 5600 | 120        | 52T     | 9.86  | 10.17                     | 9.91  |      |
|          | 5580 | 124        | 52T     | 9.84  | 10.15                     | 9.94  |      |
|          | 5720 | 144        | 52T     | 9.49  | 10.01                     | 9.73  |      |
| 3        | 5745 | 149        | 52T     | 9.09  | 9.51                      | 9.21  |      |
|          | 5785 | 157        | 52T     | 8.80  | 9.31                      | 9.02  |      |
|          | 5825 | 165        | 52T     | 8.79  | 9.15                      | 8.96  |      |

| 20MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |     |
|----------|------|------------|---------|-------|---------------------------|-------|-----|
|          |      |            |         |       | RU Index                  |       |     |
|          |      |            |         |       | 53                        | 54    | N/A |
|          | 1    | 5180       | 36      | 106T  | 10.03                     | 10.12 |     |
| 5200     |      | 40         | 106T    | 10.13 | 10.17                     |       |     |
| 5220     |      | 44         | 106T    | 9.97  | 10.16                     |       |     |
| 5240     |      | 48         | 106T    | 10.02 | 10.10                     |       |     |
| 2A       | 5260 | 52         | 106T    | 10.75 | 10.68                     |       |     |
|          | 5280 | 56         | 106T    | 10.71 | 10.79                     |       |     |
|          | 5300 | 60         | 106T    | 10.62 | 10.70                     |       |     |
|          | 5320 | 64         | 106T    | 10.61 | 10.55                     |       |     |
| 2C       | 5500 | 100        | 106T    | 9.95  | 9.93                      |       |     |
|          | 5600 | 120        | 106T    | 9.61  | 9.61                      |       |     |
|          | 5620 | 124        | 106T    | 9.71  | 9.72                      |       |     |
|          | 5720 | 144        | 106T    | 9.51  | 9.61                      |       |     |
| 3        | 5745 | 149        | 106T    | 9.23  | 9.31                      |       |     |
|          | 5785 | 157        | 106T    | 9.00  | 9.19                      |       |     |
|          | 5825 | 165        | 106T    | 8.87  | 8.96                      |       |     |

| 20MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |     |     |
|----------|------|------------|---------|-------|---------------------------|-----|-----|
|          |      |            |         |       | RU Index                  |     |     |
|          |      |            |         |       | 61                        | N/A | N/A |
|          | 1    | 5180       | 36      | 242T  | 10.18                     |     |     |
| 5200     |      | 40         | 242T    | 10.21 |                           |     |     |
| 5220     |      | 44         | 242T    | 10.15 |                           |     |     |
| 5240     |      | 48         | 242T    | 10.01 |                           |     |     |
| 2A       | 5260 | 52         | 242T    | 10.89 |                           |     |     |
|          | 5280 | 56         | 242T    | 10.92 |                           |     |     |
|          | 5300 | 60         | 242T    | 10.96 |                           |     |     |
|          | 5320 | 64         | 242T    | 10.84 |                           |     |     |
| 2C       | 5500 | 100        | 242T    | 9.96  |                           |     |     |
|          | 5600 | 120        | 242T    | 10.15 |                           |     |     |
|          | 5620 | 124        | 242T    | 10.21 |                           |     |     |
|          | 5720 | 144        | 242T    | 10.02 |                           |     |     |
| 3        | 5745 | 149        | 242T    | 9.50  |                           |     |     |
|          | 5785 | 157        | 242T    | 9.45  |                           |     |     |
|          | 5825 | 165        | 242T    | 9.32  |                           |     |     |

| 40MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |      |
|----------|------|------------|---------|-------|---------------------------|-------|------|
|          |      |            |         |       | RU Index                  |       |      |
|          |      |            |         |       | 0                         | 8     | 17   |
|          | 1    | 5190       | 38      | 26T   | 9.51                      | 10.45 | 9.92 |
| 5230     |      | 46         | 26T     | 9.53  | 10.46                     | 9.83  |      |
| 5270     |      | 54         | 26T     | 10.68 | 11.46                     | 10.91 |      |
| 5310     |      | 62         | 26T     | 10.70 | 11.48                     | 10.97 |      |
| 2A       | 5510 | 102        | 26T     | 9.28  | 10.07                     | 9.45  |      |
|          | 5590 | 118        | 26T     | 9.31  | 9.91                      | 9.33  |      |
|          | 5630 | 126        | 26T     | 9.47  | 10.22                     | 9.58  |      |
|          | 5710 | 142        | 26T     | 9.28  | 10.23                     | 9.47  |      |
| 3        | 5755 | 151        | 26T     | 8.84  | 9.72                      | 9.14  |      |
|          | 5795 | 159        | 26T     | 8.82  | 9.74                      | 9.15  |      |

| 40MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |      |
|----------|------|------------|---------|-------|---------------------------|-------|------|
|          |      |            |         |       | RU Index                  |       |      |
|          |      |            |         |       | 37                        | 40    | 44   |
|          | 1    | 5190       | 38      | 52T   | 9.65                      | 10.46 | 9.95 |
| 5230     |      | 46         | 52T     | 9.63  | 10.47                     | 9.99  |      |
| 5270     |      | 54         | 52T     | 10.53 | 11.38                     | 10.90 |      |
| 5310     |      | 62         | 52T     | 10.52 | 11.32                     | 10.64 |      |
| 2A       | 5510 | 102        | 52T     | 9.29  | 9.87                      | 9.32  |      |
|          | 5590 | 118        | 52T     | 9.42  | 10.08                     | 9.43  |      |
|          | 5630 | 126        | 52T     | 9.39  | 10.07                     | 9.36  |      |
|          | 5710 | 142        | 52T     | 9.32  | 10.03                     | 9.42  |      |
| 3        | 5755 | 151        | 52T     | 8.79  | 9.58                      | 9.01  |      |
|          | 5795 | 159        | 52T     | 8.91  | 9.65                      | 9.27  |      |

| 40MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |      |
|----------|------|------------|---------|-------|---------------------------|-------|------|
|          |      |            |         |       | RU Index                  |       |      |
|          |      |            |         |       | 53                        | 54    | 56   |
|          | 1    | 5190       | 38      | 106T  | 9.54                      | 10.15 | 9.84 |
| 5230     |      | 46         | 106T    | 9.57  | 10.20                     | 9.88  |      |
| 5270     |      | 54         | 106T    | 10.69 | 11.25                     | 10.77 |      |
| 5310     |      | 62         | 106T    | 10.69 | 11.27                     | 10.80 |      |
| 2A       | 5510 | 102        | 106T    | 9.31  | 9.87                      | 9.42  |      |
|          | 5590 | 118        | 106T    | 9.52  | 10.04                     | 9.61  |      |
|          | 5670 | 126        | 106T    | 9.46  | 10.17                     | 9.56  |      |
|          | 5710 | 142        | 106T    | 9.33  | 10.01                     | 9.58  |      |
| 3        | 5755 | 151        | 106T    | 8.99  | 9.65                      | 9.19  |      |
|          | 5795 | 159        | 106T    | 8.80  | 9.42                      | 9.07  |      |

| 40MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |      |     |
|----------|------|------------|---------|-------|---------------------------|------|-----|
|          |      |            |         |       | RU Index                  |      |     |
|          |      |            |         |       | 61                        | 62   | N/A |
|          | 1    | 5190       | 38      | 242T  | 9.58                      | 9.64 |     |
| 5230     |      | 46         | 242T    | 9.60  | 9.78                      |      |     |
| 5270     |      | 54         | 242T    | 10.89 | 11.18                     |      |     |
| 5310     |      | 62         | 242T    | 10.98 | 11.01                     |      |     |
| 2A       | 5510 | 102        | 242T    | 9.52  | 9.82                      |      |     |
|          | 5590 | 118        | 242T    | 9.69  | 9.83                      |      |     |
|          | 5670 | 126        | 242T    | 9.71  | 9.81                      |      |     |
|          | 5710 | 142        | 242T    | 9.70  | 9.68                      |      |     |
| 3        | 5755 | 151        | 242T    | 9.07  | 9.19                      |      |     |
|          | 5795 | 159        | 242T    | 9.05  | 9.15                      |      |     |

| 40MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |     |     |
|----------|------|------------|---------|-------|---------------------------|-----|-----|
|          |      |            |         |       | RU Index                  |     |     |
|          |      |            |         |       | 65                        | N/A | N/A |
|          |      |            |         |       |                           |     |     |
| 1        | 2A   | 5190       | 38      | 484T  | 9.95                      |     |     |
|          |      | 5230       | 46      | 484T  | 10.05                     |     |     |
|          |      | 5270       | 54      | 484T  | 10.83                     |     |     |
| 2C       | 2C   | 5310       | 62      | 484T  | 10.88                     |     |     |
|          |      | 5510       | 102     | 484T  | 9.89                      |     |     |
|          |      | 5590       | 118     | 484T  | 10.03                     |     |     |
|          |      | 5630       | 126     | 484T  | 9.93                      |     |     |
|          |      | 5710       | 142     | 484T  | 9.97                      |     |     |
| 3        | 3    | 5755       | 151     | 484T  | 8.53                      |     |     |
|          |      | 5795       | 159     | 484T  | 8.56                      |     |     |

| 80MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |       |
|----------|------|------------|---------|-------|---------------------------|-------|-------|
|          |      |            |         |       | RU Index                  |       |       |
|          |      |            |         |       | 0                         | 18    | 36    |
|          |      |            |         |       |                           |       |       |
| 1        | 5210 | 42         | 26T     |       | 9.75                      | 10.45 | 10.03 |
| 2A       | 5290 | 58         | 26T     |       | 9.53                      | 10.32 | 9.61  |
| 2C       | 5530 | 106        | 26T     |       | 9.63                      | 10.23 | 9.62  |
|          | 5610 | 122        | 26T     |       | 9.67                      | 9.99  | 9.65  |
|          | 5690 | 138        | 26T     |       | 9.30                      | 9.95  | 9.34  |
| 3        | 5775 | 155        | 26T     |       | 8.80                      | 9.26  | 8.99  |

| 80MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |       |
|----------|------|------------|---------|-------|---------------------------|-------|-------|
|          |      |            |         |       | RU Index                  |       |       |
|          |      |            |         |       | 37                        | 44    | 52    |
|          |      |            |         |       |                           |       |       |
| 1        | 5210 | 42         | 52T     |       | 9.75                      | 10.47 | 9.93  |
| 2A       | 5290 | 58         | 52T     |       | 10.63                     | 11.36 | 10.76 |
| 2C       | 5530 | 106        | 52T     |       | 9.64                      | 10.18 | 9.83  |
|          | 5610 | 122        | 52T     |       | 9.76                      | 10.16 | 9.83  |
|          | 5690 | 138        | 52T     |       | 9.73                      | 10.22 | 9.72  |
| 3        | 5775 | 155        | 52T     |       | 9.14                      | 9.71  | 9.33  |

| 80MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |       |
|----------|------|------------|---------|-------|---------------------------|-------|-------|
|          |      |            |         |       | RU Index                  |       |       |
|          |      |            |         |       | 53                        | 56    | 60    |
|          |      |            |         |       |                           |       |       |
| 1        | 5210 | 42         | 106T    |       | 10.10                     | 10.48 | 10.34 |
| 2A       | 5290 | 58         | 106T    |       | 10.98                     | 11.42 | 11.03 |
| 2C       | 5530 | 106        | 106T    |       | 9.83                      | 10.21 | 9.93  |
|          | 5610 | 122        | 106T    |       | 9.87                      | 10.21 | 10.02 |
|          | 5690 | 138        | 106T    |       | 9.71                      | 10.02 | 9.70  |
| 3        | 5775 | 155        | 106T    |       | 8.97                      | 9.33  | 8.98  |

| 80MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |       |
|----------|------|------------|---------|-------|---------------------------|-------|-------|
|          |      |            |         |       | RU Index                  |       |       |
|          |      |            |         |       | 61                        | 62    | 64    |
|          |      |            |         |       |                           |       |       |
| 1        | 5210 | 42         | 242T    |       | 9.88                      | 10.40 | 10.05 |
| 2A       | 5290 | 58         | 242T    |       | 10.82                     | 11.33 | 10.75 |
| 2C       | 5530 | 106        | 242T    |       | 9.81                      | 10.21 | 10.00 |
|          | 5610 | 122        | 242T    |       | 9.96                      | 10.23 | 10.18 |
|          | 5690 | 138        | 242T    |       | 9.79                      | 10.23 | 9.78  |
| 3        | 5775 | 155        | 242T    |       | 9.37                      | 9.70  | 9.45  |

| 80MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |     |
|----------|------|------------|---------|-------|---------------------------|-------|-----|
|          |      |            |         |       | RU Index                  |       |     |
|          |      |            |         |       | 65                        | 66    | N/A |
|          |      |            |         |       |                           |       |     |
| 1        | 5210 | 42         | 484T    |       | 10.18                     | 10.19 |     |
| 2A       | 5290 | 58         | 484T    |       | 10.75                     | 10.86 |     |
| 2C       | 5530 | 106        | 484T    |       | 9.96                      | 10.24 |     |
|          | 5610 | 122        | 484T    |       | 10.10                     | 10.07 |     |
|          | 5690 | 138        | 484T    |       | 10.02                     | 10.24 |     |
| 3        | 5775 | 155        | 484T    |       | 9.23                      | 9.27  |     |

| 80MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |     |     |
|----------|------|------------|---------|-------|---------------------------|-----|-----|
|          |      |            |         |       | RU Index                  |     |     |
|          |      |            |         |       | 67                        | N/A | N/A |
|          |      |            |         |       |                           |     |     |
| 1        | 5210 | 42         | 996T    |       | 10.18                     |     |     |
| 2A       | 5290 | 58         | 996T    |       | 11.24                     |     |     |
| 2C       | 5530 | 106        | 996T    |       | 9.85                      |     |     |
|          | 5610 | 122        | 996T    |       | 9.90                      |     |     |
|          | 5690 | 138        | 996T    |       | 10.00                     |     |     |
| 3        | 5775 | 155        | 996T    |       | 9.45                      |     |     |

|                                        |                                                                                                                                      |                       |                                 |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------|
| FCC ID: BCGA2324                       |  <b>PCTEST</b><br>Prove to be part of the element | SAR EVALUATION REPORT | Reviewed by:<br>Quality Manager |
| Test Dates:<br>07/27/2020 – 08/18/2020 | DUT Type:<br>Tablet Device                                                                                                           |                       | APPENDIX H:<br>Page 20 of 24    |

**Table 4**  
**Maximum 5 GHz 802.11ax RU Time-Averaged WLAN Output Power – Ant 2A**

| 20MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |       |
|----------|------|------------|---------|-------|---------------------------|-------|-------|
|          |      |            |         |       | RU Index                  |       |       |
|          |      |            |         |       | 0                         | 4     | 8     |
| 1        |      | 5180       | 36      | 26T   | 9.80                      | 10.26 | 9.82  |
|          |      | 5200       | 40      | 26T   | 9.80                      | 10.35 | 9.88  |
|          |      | 5220       | 44      | 26T   | 9.77                      | 10.37 | 10.01 |
|          |      | 5240       | 48      | 26T   | 10.00                     | 10.47 | 10.11 |
|          |      | 5260       | 52      | 26T   | 8.80                      | 9.41  | 8.81  |
| 2A       |      | 5280       | 56      | 26T   | 9.01                      | 9.59  | 9.21  |
|          |      | 5300       | 60      | 26T   | 9.07                      | 9.74  | 9.25  |
|          |      | 5320       | 64      | 26T   | 8.95                      | 9.58  | 9.19  |
|          |      | 5500       | 100     | 26T   | 9.85                      | 10.44 | 10.02 |
| 2C       |      | 5520       | 120     | 26T   | 9.82                      | 10.46 | 9.85  |
|          |      | 5620       | 124     | 26T   | 9.80                      | 10.30 | 9.89  |
|          |      | 5720       | 144     | 26T   | 9.96                      | 10.42 | 9.92  |
|          |      | 5745       | 149     | 26T   | 10.56                     | 11.02 | 10.41 |
| 3        |      | 5785       | 157     | 26T   | 10.31                     | 10.79 | 10.26 |
|          |      | 5825       | 165     | 26T   | 10.70                     | 11.23 | 10.57 |

| 20MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |       |
|----------|------|------------|---------|-------|---------------------------|-------|-------|
|          |      |            |         |       | RU Index                  |       |       |
|          |      |            |         |       | 37                        | 39    | 40    |
| 1        |      | 5180       | 36      | 52T   | 9.88                      | 10.28 | 9.95  |
|          |      | 5200       | 40      | 52T   | 9.98                      | 10.32 | 10.05 |
|          |      | 5220       | 44      | 52T   | 9.92                      | 10.33 | 10.03 |
|          |      | 5240       | 48      | 52T   | 9.90                      | 10.40 | 10.03 |
|          |      | 5260       | 52      | 52T   | 8.77                      | 9.22  | 8.86  |
| 2A       |      | 5280       | 56      | 52T   | 8.85                      | 9.36  | 9.01  |
|          |      | 5300       | 60      | 52T   | 9.11                      | 9.55  | 9.20  |
|          |      | 5320       | 64      | 52T   | 8.97                      | 9.51  | 9.20  |
|          |      | 5500       | 100     | 52T   | 10.01                     | 10.41 | 10.10 |
| 2C       |      | 5600       | 120     | 52T   | 9.94                      | 10.36 | 10.04 |
|          |      | 5580       | 124     | 52T   | 9.94                      | 10.25 | 9.97  |
|          |      | 5720       | 144     | 52T   | 9.84                      | 10.13 | 9.86  |
|          |      | 5745       | 149     | 52T   | 10.68                     | 10.93 | 10.50 |
| 3        |      | 5785       | 157     | 52T   | 10.40                     | 10.69 | 10.36 |
|          |      | 5825       | 165     | 52T   | 10.84                     | 11.06 | 10.81 |

| 20MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |     |
|----------|------|------------|---------|-------|---------------------------|-------|-----|
|          |      |            |         |       | RU Index                  |       |     |
|          |      |            |         |       | 53                        | 54    | N/A |
| 1        |      | 5180       | 36      | 106T  | 10.01                     | 10.06 |     |
|          |      | 5200       | 40      | 106T  | 10.12                     | 10.18 |     |
|          |      | 5220       | 44      | 106T  | 10.15                     | 10.31 |     |
|          |      | 5240       | 48      | 106T  | 10.10                     | 10.20 |     |
|          |      | 5260       | 52      | 106T  | 8.93                      | 9.07  |     |
| 2A       |      | 5280       | 56      | 106T  | 8.95                      | 9.14  |     |
|          |      | 5300       | 60      | 106T  | 9.22                      | 9.38  |     |
|          |      | 5320       | 64      | 106T  | 9.23                      | 9.31  |     |
|          |      | 5500       | 100     | 106T  | 10.14                     | 10.29 |     |
| 2C       |      | 5600       | 120     | 106T  | 10.19                     | 10.15 |     |
|          |      | 5620       | 124     | 106T  | 10.10                     | 10.20 |     |
|          |      | 5720       | 144     | 106T  | 9.90                      | 9.76  |     |
|          |      | 5745       | 149     | 106T  | 10.75                     | 10.76 |     |
| 3        |      | 5785       | 157     | 106T  | 10.61                     | 10.57 |     |
|          |      | 5825       | 165     | 106T  | 10.96                     | 11.02 |     |

| 20MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |     |     |
|----------|------|------------|---------|-------|---------------------------|-----|-----|
|          |      |            |         |       | RU Index                  |     |     |
|          |      |            |         |       | 61                        | N/A | N/A |
| 1        |      | 5180       | 36      | 242T  | 10.13                     |     |     |
|          |      | 5200       | 40      | 242T  | 10.29                     |     |     |
|          |      | 5200       | 44      | 242T  | 10.17                     |     |     |
|          |      | 5240       | 48      | 242T  | 10.23                     |     |     |
|          |      | 5260       | 52      | 242T  | 9.34                      |     |     |
| 2A       |      | 5260       | 56      | 242T  | 9.35                      |     |     |
|          |      | 5300       | 60      | 242T  | 9.51                      |     |     |
|          |      | 5320       | 64      | 242T  | 9.41                      |     |     |
|          |      | 5500       | 100     | 242T  | 10.18                     |     |     |
| 2C       |      | 5600       | 120     | 242T  | 10.25                     |     |     |
|          |      | 5620       | 124     | 242T  | 10.09                     |     |     |
|          |      | 5720       | 144     | 242T  | 9.83                      |     |     |
|          |      | 5745       | 149     | 242T  | 10.26                     |     |     |
| 3        |      | 5785       | 157     | 242T  | 10.53                     |     |     |
|          |      | 5825       | 165     | 242T  | 10.93                     |     |     |

| 40MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |       |
|----------|------|------------|---------|-------|---------------------------|-------|-------|
|          |      |            |         |       | RU Index                  |       |       |
|          |      |            |         |       | 0                         | 8     | 17    |
| 1        |      | 5190       | 38      | 26T   | 9.78                      | 10.40 | 9.81  |
|          |      | 5230       | 46      | 26T   | 9.57                      | 10.48 | 9.88  |
|          |      | 5270       | 54      | 26T   | 8.43                      | 9.36  | 8.80  |
| 2A       |      | 5310       | 62      | 26T   | 8.60                      | 9.58  | 9.06  |
|          |      | 5510       | 102     | 26T   | 9.76                      | 10.54 | 10.00 |
|          |      | 5590       | 118     | 26T   | 9.90                      | 10.74 | 10.03 |
|          |      | 5630       | 126     | 26T   | 9.80                      | 10.57 | 9.90  |
| 2C       |      | 5710       | 142     | 26T   | 9.84                      | 10.57 | 9.83  |
|          |      | 5755       | 151     | 26T   | 10.29                     | 10.90 | 10.25 |
|          |      | 5795       | 159     | 26T   | 10.52                     | 11.23 | 10.69 |

| 40MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |       |
|----------|------|------------|---------|-------|---------------------------|-------|-------|
|          |      |            |         |       | RU Index                  |       |       |
|          |      |            |         |       | 37                        | 40    | 44    |
| 1        |      | 5190       | 38      | 52T   | 9.65                      | 10.45 | 10.00 |
|          |      | 5230       | 46      | 52T   | 9.75                      | 10.48 | 9.97  |
|          |      | 5270       | 54      | 52T   | 8.90                      | 9.48  | 8.85  |
| 2A       |      | 5310       | 62      | 52T   | 8.85                      | 9.63  | 9.10  |
|          |      | 5510       | 102     | 52T   | 9.90                      | 10.68 | 10.10 |
|          |      | 5590       | 118     | 52T   | 9.90                      | 10.60 | 9.99  |
|          |      | 5630       | 126     | 52T   | 9.86                      | 10.47 | 9.85  |
| 2C       |      | 5710       | 142     | 52T   | 9.78                      | 10.30 | 9.58  |
|          |      | 5755       | 151     | 52T   | 10.46                     | 11.06 | 10.42 |
|          |      | 5795       | 159     | 52T   | 10.42                     | 10.96 | 10.47 |

| 40MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |       |
|----------|------|------------|---------|-------|---------------------------|-------|-------|
|          |      |            |         |       | RU Index                  |       |       |
|          |      |            |         |       | 53                        | 54    | 56    |
| 1        |      | 5190       | 38      | 106T  | 9.61                      | 10.33 | 9.99  |
|          |      | 5230       | 46      | 106T  | 9.73                      | 10.35 | 9.93  |
|          |      | 5270       | 54      | 106T  | 8.79                      | 9.44  | 9.03  |
| 2A       |      | 5310       | 62      | 106T  | 9.00                      | 9.60  | 9.33  |
|          |      | 5510       | 102     | 106T  | 9.87                      | 10.35 | 9.90  |
|          |      | 5590       | 118     | 106T  | 9.95                      | 10.68 | 10.14 |
|          |      | 5670       | 126     | 106T  | 9.91                      | 10.46 | 10.06 |
| 2C       |      | 5710       | 142     | 106T  | 9.77                      | 10.23 | 9.75  |
|          |      | 5755       | 151     | 106T  | 10.50                     | 10.96 | 10.51 |
|          |      | 5795       | 159     | 106T  | 10.57                     | 11.00 | 10.51 |

| 40MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |     |
|----------|------|------------|---------|-------|---------------------------|-------|-----|
|          |      |            |         |       | RU Index                  |       |     |
|          |      |            |         |       | 61                        | 62    | N/A |
| 1        |      | 5190       | 38      | 242T  | 10.15                     | 10.33 |     |
|          |      | 5230       | 46      | 242T  | 10.32                     | 10.39 |     |
|          |      | 5270       | 54      | 242T  | 9.08                      | 9.25  |     |
| 2A       |      | 5310       | 62      | 242T  | 9.24                      | 9.43  |     |
|          |      | 5510       | 102     | 242T  | 10.05                     | 10.25 |     |
|          |      | 5590       | 118     | 242T  | 10.12                     | 10.15 |     |
|          |      | 5670       | 126     | 242T  | 9.95                      | 10.10 |     |
| 2C       |      | 5710       | 142     | 242T  | 9.83                      | 9.81  |     |
|          |      | 5755       | 151     | 242T  | 10.63                     | 10.59 |     |
|          |      | 5795       | 159     | 242T  | 10.60                     | 10.62 |     |

|                                        |                                                                                                                                      |                       |                                 |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------|
| FCC ID: BCGA2324                       |  <b>PCTEST</b><br>Prove to be part of the element | SAR EVALUATION REPORT | Reviewed by:<br>Quality Manager |
| Test Dates:<br>07/27/2020 – 08/18/2020 | DUT Type:<br>Tablet Device                                                                                                           |                       | APPENDIX H:<br>Page 21 of 24    |

| 40MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |     |     |
|----------|------|------------|---------|-------|---------------------------|-----|-----|
|          |      |            |         |       | RU Index                  |     |     |
|          |      |            |         |       | 65                        | N/A | N/A |
| 1        | 2A   | 5190       | 38      | 484T  | 10.34                     |     |     |
|          |      | 5230       | 46      | 484T  | 10.27                     |     |     |
|          |      | 5270       | 54      | 484T  | 9.08                      |     |     |
| 2C       | 2A   | 5310       | 62      | 484T  | 9.10                      |     |     |
|          |      | 5510       | 102     | 484T  | 9.81                      |     |     |
|          |      | 5550       | 118     | 484T  | 10.00                     |     |     |
|          |      | 5630       | 126     | 484T  | 10.06                     |     |     |
|          |      | 5710       | 142     | 484T  | 9.80                      |     |     |
| 3        | 2A   | 5755       | 151     | 484T  | 10.53                     |     |     |
|          |      | 5795       | 159     | 484T  | 10.32                     |     |     |

| 80MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |       |
|----------|------|------------|---------|-------|---------------------------|-------|-------|
|          |      |            |         |       | RU Index                  |       |       |
|          |      |            |         |       | 0                         | 18    | 36    |
| 1        | 2A   | 5210       | 42      | 26T   | 9.11                      | 9.89  | 9.41  |
|          |      | 5290       | 58      | 26T   | 8.61                      | 9.07  | 8.73  |
|          |      | 5530       | 106     | 26T   | 8.51                      | 9.02  | 8.57  |
| 2C       | 2A   | 5610       | 122     | 26T   | 9.97                      | 10.47 | 9.78  |
|          |      | 5690       | 138     | 26T   | 9.92                      | 10.32 | 9.75  |
| 3        | 2A   | 5775       | 155     | 26T   | 10.48                     | 11.06 | 10.34 |

| 80MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |       |
|----------|------|------------|---------|-------|---------------------------|-------|-------|
|          |      |            |         |       | RU Index                  |       |       |
|          |      |            |         |       | 37                        | 44    | 52    |
| 1        | 2A   | 5210       | 42      | 52T   | 9.61                      | 10.12 | 9.72  |
|          |      | 5290       | 58      | 52T   | 8.75                      | 9.31  | 8.77  |
|          |      | 5530       | 106     | 52T   | 9.65                      | 10.14 | 9.89  |
| 2C       | 2A   | 5610       | 122     | 52T   | 9.89                      | 10.41 | 9.76  |
|          |      | 5690       | 138     | 52T   | 9.90                      | 10.35 | 9.75  |
| 3        | 2A   | 5775       | 155     | 52T   | 10.40                     | 10.86 | 10.48 |

| 80MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |       |
|----------|------|------------|---------|-------|---------------------------|-------|-------|
|          |      |            |         |       | RU Index                  |       |       |
|          |      |            |         |       | 53                        | 56    | 60    |
| 1        | 2A   | 5210       | 42      | 106T  | 9.81                      | 10.19 | 9.85  |
|          |      | 5290       | 58      | 106T  | 9.16                      | 9.63  | 9.10  |
|          |      | 5530       | 106     | 106T  | 10.23                     | 10.45 | 10.06 |
| 2C       | 2A   | 5610       | 122     | 106T  | 9.80                      | 10.16 | 9.81  |
|          |      | 5690       | 138     | 106T  | 10.43                     | 10.57 | 9.87  |
| 3        | 2A   | 5775       | 155     | 106T  | 10.89                     | 10.95 | 10.34 |

| 80MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |     |
|----------|------|------------|---------|-------|---------------------------|-------|-----|
|          |      |            |         |       | RU Index                  |       |     |
|          |      |            |         |       | 65                        | 66    | N/A |
| 1        | 2A   | 5210       | 42      | 484T  | 9.70                      | 9.76  |     |
|          |      | 5290       | 58      | 484T  | 9.25                      | 9.24  |     |
|          |      | 5530       | 106     | 484T  | 10.43                     | 10.64 |     |
| 2C       | 2A   | 5610       | 122     | 484T  | 10.17                     | 10.25 |     |
|          |      | 5690       | 138     | 484T  | 10.24                     | 10.06 |     |
| 3        | 2A   | 5775       | 155     | 484T  | 10.50                     | 10.34 |     |

| 80MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |     |     |
|----------|------|------------|---------|-------|---------------------------|-----|-----|
|          |      |            |         |       | RU Index                  |     |     |
|          |      |            |         |       | 67                        | N/A | N/A |
| 1        | 2A   | 5210       | 42      | 996T  | 10.22                     |     |     |
|          |      | 5290       | 58      | 996T  | 9.50                      |     |     |
|          |      | 5530       | 106     | 996T  | 10.29                     |     |     |
| 2C       | 2A   | 5610       | 122     | 996T  | 10.40                     |     |     |
|          |      | 5690       | 138     | 996T  | 10.42                     |     |     |
| 3        | 2A   | 5775       | 155     | 996T  | 10.75                     |     |     |

|                                        |                                                                                                                                                                                                              |                       |                                 |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------|
| FCC ID: BCGA2324                       |  <b>PCTEST</b><br>Proud to be part of  | SAR EVALUATION REPORT | Reviewed by:<br>Quality Manager |
| Test Dates:<br>07/27/2020 – 08/18/2020 | DUT Type:<br>Tablet Device                                                                                                                                                                                   |                       | APPENDIX H:<br>Page 22 of 24    |

**Table 5**  
**Maximum 5 GHz 802.11ax RU Time-Averaged WLAN Output Power – Ant 1B**

| 20MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |       |
|----------|------|------------|---------|-------|---------------------------|-------|-------|
|          |      |            |         |       | RU Index                  |       |       |
|          |      |            |         |       | 0                         | 4     | 8     |
|          |      |            |         |       |                           |       |       |
| 20MHz BW | 1    | 5180       | 36      | 26T   | 9.80                      | 10.26 | 9.82  |
|          |      | 5200       | 40      | 26T   | 9.80                      | 10.35 | 9.88  |
|          |      | 5220       | 44      | 26T   | 9.77                      | 10.37 | 10.01 |
|          |      | 5240       | 48      | 26T   | 10.00                     | 10.47 | 10.11 |
|          | 2A   | 5260       | 52      | 26T   | 8.80                      | 9.41  | 8.81  |
|          |      | 5280       | 56      | 26T   | 9.01                      | 9.59  | 9.21  |
|          |      | 5300       | 60      | 26T   | 9.07                      | 9.74  | 9.25  |
|          |      | 5320       | 64      | 26T   | 8.95                      | 9.58  | 9.19  |
|          | 2C   | 5500       | 100     | 26T   | 9.85                      | 10.44 | 10.02 |
|          |      | 5520       | 120     | 26T   | 9.82                      | 10.46 | 9.85  |
|          |      | 5620       | 124     | 26T   | 9.80                      | 10.30 | 9.89  |
|          |      | 5720       | 144     | 26T   | 9.96                      | 10.42 | 9.92  |
| 20MHz BW | 3    | 5745       | 149     | 26T   | 10.56                     | 11.02 | 10.41 |
|          |      | 5785       | 157     | 26T   | 10.31                     | 10.79 | 10.26 |
|          |      | 5825       | 165     | 26T   | 10.70                     | 11.23 | 10.57 |
|          |      |            |         |       |                           |       |       |
| 20MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |       |
|          |      |            |         |       | RU Index                  |       |       |
|          |      |            |         |       | 37                        | 39    | 40    |
|          |      |            |         |       |                           |       |       |
| 20MHz BW | 1    | 5180       | 36      | 52T   | 9.88                      | 10.28 | 9.95  |
|          |      | 5200       | 40      | 52T   | 9.98                      | 10.32 | 10.05 |
|          |      | 5220       | 44      | 52T   | 9.92                      | 10.33 | 10.03 |
|          |      | 5240       | 48      | 52T   | 9.90                      | 10.40 | 10.03 |
|          | 2A   | 5260       | 52      | 52T   | 8.77                      | 9.22  | 8.86  |
|          |      | 5280       | 56      | 52T   | 8.85                      | 9.36  | 9.01  |
|          |      | 5300       | 60      | 52T   | 9.11                      | 9.55  | 9.20  |
|          |      | 5320       | 64      | 52T   | 8.97                      | 9.51  | 9.20  |
|          | 2C   | 5500       | 100     | 52T   | 10.01                     | 10.41 | 10.10 |
|          |      | 5600       | 120     | 52T   | 9.94                      | 10.36 | 10.04 |
|          |      | 5580       | 124     | 52T   | 9.94                      | 10.25 | 9.97  |
|          |      | 5720       | 144     | 52T   | 9.84                      | 10.13 | 9.86  |
| 20MHz BW | 3    | 5745       | 149     | 52T   | 10.68                     | 10.93 | 10.50 |
|          |      | 5785       | 157     | 52T   | 10.40                     | 10.69 | 10.36 |
|          |      | 5825       | 165     | 52T   | 10.84                     | 11.06 | 10.81 |
|          |      |            |         |       |                           |       |       |
| 20MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |       |
|          |      |            |         |       | RU Index                  |       |       |
|          |      |            |         |       | 61                        | N/A   | N/A   |
|          |      |            |         |       |                           |       |       |
| 20MHz BW | 1    | 5180       | 36      | 242T  | 10.13                     |       |       |
|          |      | 5200       | 40      | 242T  | 10.29                     |       |       |
|          |      | 5200       | 44      | 242T  | 10.17                     |       |       |
|          |      | 5240       | 48      | 242T  | 10.23                     |       |       |
|          | 2A   | 5260       | 52      | 242T  | 9.34                      |       |       |
|          |      | 5260       | 56      | 242T  | 9.35                      |       |       |
|          |      | 5300       | 60      | 242T  | 9.51                      |       |       |
|          |      | 5320       | 64      | 242T  | 9.41                      |       |       |
|          | 2C   | 5500       | 100     | 242T  | 10.18                     |       |       |
|          |      | 5600       | 120     | 242T  | 10.25                     |       |       |
|          |      | 5620       | 124     | 242T  | 10.09                     |       |       |
|          |      | 5720       | 144     | 242T  | 9.83                      |       |       |
| 20MHz BW | 3    | 5745       | 149     | 242T  | 10.26                     |       |       |
|          |      | 5785       | 157     | 242T  | 10.53                     |       |       |
|          |      | 5825       | 165     | 242T  | 10.93                     |       |       |
|          |      |            |         |       |                           |       |       |
| 40MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |       |
|          |      |            |         |       | RU Index                  |       |       |
|          |      |            |         |       | 0                         | 8     | 17    |
|          |      |            |         |       |                           |       |       |
| 40MHz BW | 1    | 5190       | 38      | 26T   | 9.78                      | 10.40 | 9.81  |
|          |      | 5230       | 46      | 26T   | 9.57                      | 10.48 | 9.88  |
|          |      | 5270       | 54      | 26T   | 8.43                      | 9.36  | 8.80  |
|          |      | 5310       | 62      | 26T   | 8.60                      | 9.58  | 9.06  |
|          | 2A   | 5510       | 102     | 26T   | 9.76                      | 10.54 | 10.00 |
|          |      | 5590       | 118     | 26T   | 9.90                      | 10.74 | 10.03 |
|          |      | 5630       | 126     | 26T   | 9.80                      | 10.57 | 9.90  |
|          |      | 5710       | 142     | 26T   | 9.84                      | 10.57 | 9.83  |
|          | 2C   | 5755       | 151     | 26T   | 10.29                     | 10.90 | 10.25 |
|          |      | 5795       | 159     | 26T   | 10.52                     | 11.23 | 10.69 |
|          |      |            |         |       |                           |       |       |
|          | 3    |            |         |       |                           |       |       |
| 40MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |       |
|          |      |            |         |       | RU Index                  |       |       |
|          |      |            |         |       | 53                        | 54    | 56    |
|          |      |            |         |       |                           |       |       |
| 40MHz BW | 1    | 5190       | 38      | 106T  | 9.61                      | 10.33 | 9.99  |
|          |      | 5230       | 46      | 106T  | 9.73                      | 10.35 | 9.93  |
|          |      | 5270       | 54      | 106T  | 8.79                      | 9.44  | 9.03  |
|          |      | 5310       | 62      | 106T  | 9.00                      | 9.60  | 9.33  |
|          | 2A   | 5510       | 102     | 106T  | 9.87                      | 10.35 | 9.90  |
|          |      | 5590       | 118     | 106T  | 9.95                      | 10.68 | 10.14 |
|          |      | 5670       | 126     | 106T  | 9.91                      | 10.46 | 10.06 |
|          |      | 5710       | 142     | 106T  | 9.77                      | 10.23 | 9.75  |
|          | 2C   | 5755       | 151     | 106T  | 10.50                     | 10.96 | 10.51 |
|          |      | 5795       | 159     | 106T  | 10.57                     | 11.00 | 10.51 |
|          |      |            |         |       |                           |       |       |
|          | 3    |            |         |       |                           |       |       |
| 40MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |       |
|          |      |            |         |       | RU Index                  |       |       |
|          |      |            |         |       | 61                        | 62    | N/A   |
|          |      |            |         |       |                           |       |       |
| 40MHz BW | 1    | 5190       | 38      | 242T  | 10.15                     | 10.33 |       |
|          |      | 5230       | 46      | 242T  | 10.32                     | 10.39 |       |
|          |      | 5270       | 54      | 242T  | 9.08                      | 9.25  |       |
|          |      | 5310       | 62      | 242T  | 9.24                      | 9.43  |       |
|          | 2A   | 5510       | 102     | 242T  | 10.05                     | 10.25 |       |
|          |      | 5590       | 118     | 242T  | 10.12                     | 10.15 |       |
|          |      | 5670       | 126     | 242T  | 9.95                      | 10.10 |       |
|          |      | 5710       | 142     | 242T  | 9.83                      | 9.81  |       |
|          | 2C   | 5755       | 151     | 242T  | 10.63                     | 10.59 |       |
|          |      | 5795       | 159     | 242T  | 10.60                     | 10.62 |       |
|          |      |            |         |       |                           |       |       |
|          | 3    |            |         |       |                           |       |       |

|                                        |                                                                                                                                                     |                       |                                 |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------|
| FCC ID: BCGA2324                       |  <b>PCTEST</b><br><small>Prove to be part of the element</small> | SAR EVALUATION REPORT | Reviewed by:<br>Quality Manager |
| Test Dates:<br>07/27/2020 – 08/18/2020 | DUT Type:<br>Tablet Device                                                                                                                          |                       | APPENDIX H:<br>Page 23 of 24    |

| 40MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |     |     |
|----------|------|------------|---------|-------|---------------------------|-----|-----|
|          |      |            |         |       | RU Index                  |     |     |
|          |      |            |         |       | 65                        | N/A | N/A |
|          |      |            |         |       |                           |     |     |
| 1        | 2A   | 5190       | 38      | 484T  | 10.34                     |     |     |
|          |      | 5230       | 46      | 484T  | 10.27                     |     |     |
|          |      | 5270       | 54      | 484T  | 9.08                      |     |     |
| 2C       | 2C   | 5310       | 62      | 484T  | 9.10                      |     |     |
|          |      | 5510       | 102     | 484T  | 9.81                      |     |     |
|          |      | 5550       | 118     | 484T  | 10.00                     |     |     |
|          |      | 5630       | 126     | 484T  | 10.06                     |     |     |
|          |      | 5710       | 142     | 484T  | 9.80                      |     |     |
| 3        | 3    | 5755       | 151     | 484T  | 10.53                     |     |     |
|          |      | 5795       | 159     | 484T  | 10.32                     |     |     |

| 80MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |       |
|----------|------|------------|---------|-------|---------------------------|-------|-------|
|          |      |            |         |       | RU Index                  |       |       |
|          |      |            |         |       | 0                         | 18    | 36    |
|          |      |            |         |       |                           |       |       |
| 1        | 5210 | 42         | 26T     |       | 9.11                      | 9.89  | 9.41  |
| 2A       | 5290 | 58         | 26T     |       | 8.61                      | 9.07  | 8.73  |
| 2C       | 5530 | 106        | 26T     |       | 8.51                      | 9.02  | 8.57  |
|          | 5610 | 122        | 26T     |       | 9.97                      | 10.47 | 9.78  |
|          | 5690 | 138        | 26T     |       | 9.92                      | 10.32 | 9.75  |
| 3        | 5775 | 155        | 26T     |       | 10.48                     | 11.06 | 10.34 |

| 80MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |       |
|----------|------|------------|---------|-------|---------------------------|-------|-------|
|          |      |            |         |       | RU Index                  |       |       |
|          |      |            |         |       | 37                        | 44    | 52    |
|          |      |            |         |       |                           |       |       |
| 1        | 5210 | 42         | 52T     |       | 9.61                      | 10.12 | 9.72  |
| 2A       | 5290 | 58         | 52T     |       | 8.75                      | 9.31  | 8.77  |
| 2C       | 5530 | 106        | 52T     |       | 9.65                      | 10.14 | 9.89  |
|          | 5610 | 122        | 52T     |       | 9.89                      | 10.41 | 9.76  |
|          | 5690 | 138        | 52T     |       | 9.90                      | 10.35 | 9.75  |
| 3        | 5775 | 155        | 52T     |       | 10.40                     | 10.86 | 10.48 |

| 80MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |       |
|----------|------|------------|---------|-------|---------------------------|-------|-------|
|          |      |            |         |       | RU Index                  |       |       |
|          |      |            |         |       | 53                        | 56    | 60    |
|          |      |            |         |       |                           |       |       |
| 1        | 5210 | 42         | 106T    |       | 9.81                      | 10.19 | 9.85  |
| 2A       | 5290 | 58         | 106T    |       | 9.16                      | 9.63  | 9.10  |
| 2C       | 5530 | 106        | 106T    |       | 10.23                     | 10.45 | 10.06 |
|          | 5610 | 122        | 106T    |       | 9.80                      | 10.16 | 9.81  |
|          | 5690 | 138        | 106T    |       | 10.43                     | 10.57 | 9.87  |
| 3        | 5775 | 155        | 106T    |       | 10.89                     | 10.95 | 10.34 |

| 80MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |       |
|----------|------|------------|---------|-------|---------------------------|-------|-------|
|          |      |            |         |       | RU Index                  |       |       |
|          |      |            |         |       | 61                        | 62    | 64    |
|          |      |            |         |       |                           |       |       |
| 1        | 5210 | 42         | 242T    |       | 10.00                     | 10.42 | 9.73  |
| 2A       | 5290 | 58         | 242T    |       | 9.32                      | 9.73  | 9.22  |
| 2C       | 5530 | 106        | 242T    |       | 10.27                     | 10.44 | 10.17 |
|          | 5610 | 122        | 242T    |       | 10.07                     | 10.49 | 10.10 |
|          | 5690 | 138        | 242T    |       | 10.57                     | 10.61 | 10.00 |
| 3        | 5775 | 155        | 242T    |       | 10.76                     | 10.91 | 10.40 |

| 80MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |       |     |
|----------|------|------------|---------|-------|---------------------------|-------|-----|
|          |      |            |         |       | RU Index                  |       |     |
|          |      |            |         |       | 65                        | 66    | N/A |
|          |      |            |         |       |                           |       |     |
| 1        | 5210 | 42         | 484T    |       | 9.70                      | 9.76  |     |
| 2A       | 5290 | 58         | 484T    |       | 9.25                      | 9.24  |     |
| 2C       | 5530 | 106        | 484T    |       | 10.43                     | 10.64 |     |
|          | 5610 | 122        | 484T    |       | 10.17                     | 10.25 |     |
|          | 5690 | 138        | 484T    |       | 10.24                     | 10.06 |     |
| 3        | 5775 | 155        | 484T    |       | 10.50                     | 10.34 |     |

| 80MHz BW | Band | Freq [MHz] | Channel | Tones | Avg Conducted Power (dBm) |     |     |
|----------|------|------------|---------|-------|---------------------------|-----|-----|
|          |      |            |         |       | RU Index                  |     |     |
|          |      |            |         |       | 67                        | N/A | N/A |
|          |      |            |         |       |                           |     |     |
| 1        | 5210 | 42         | 996T    |       | 10.22                     |     |     |
| 2A       | 5290 | 58         | 996T    |       | 9.50                      |     |     |
| 2C       | 5530 | 106        | 996T    |       | 10.29                     |     |     |
|          | 5610 | 122        | 996T    |       | 10.40                     |     |     |
|          | 5690 | 138        | 996T    |       | 10.42                     |     |     |
| 3        | 5775 | 155        | 996T    |       | 10.75                     |     |     |

|                                        |                                                                                                                                                                                                              |                       |                                 |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------|
| FCC ID: BCGA2324                       |  <b>PCTEST</b><br>Proud to be part of  | SAR EVALUATION REPORT | Reviewed by:<br>Quality Manager |
| Test Dates:<br>07/27/2020 – 08/18/2020 | DUT Type:<br>Tablet Device                                                                                                                                                                                   |                       | APPENDIX H:<br>Page 24 of 24    |

## APPENDIX I: TIME-AVERAGED SAR VERIFICATION

|                                             |                                                                                                                                                 |                              |                                        |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------------------------|
| <b>FCC ID:</b> BCGA2324                     |  <b>PCTEST</b><br><small>Proud to be part of element</small> | <b>SAR EVALUATION REPORT</b> | <b>Approved by:</b><br>Quality Manager |
| <b>Test Dates:</b><br>07/27/20 – 08/18/2020 | <b>DUT Type:</b><br>Tablet Device                                                                                                               |                              | APPENDIX I<br>Page 1 of 6              |

## 1.1 Time-Averaged SAR Verification Summary

This device supports the manufacturer's time-averaged SAR (TAS) mechanism for WLAN operations. The output power is controlled in real-time so that the power averaged over any 60 second window does not exceed the level tested for SAR in this report. The time-averaged SAR algorithm tracks the energy contribution relative to the available energy budget for each transmitter, defined as the "utilization ratio." Once the utilization ratios for each of the individual WLAN transmitters are calculated, they are summed to derive the overall WLAN system power utilization ratio. This metric is used by the WLAN chipset to manage power levels over time and ensure that SAR limits are never exceeded.

Per FCC Guidance, the following test scenarios were defined to validate the TAS mechanism. The specific scenarios are constructed to validate the operation of the algorithm in all operational states, including transitions between states/antennas:

- Change in channel/band
- Change in antenna (includes connection drop scenario)
- Change in device state, e.g Cell on/off WiFi power change

Predefined transmit profiles for each test scenario are provided by the manufacturer's test automation software to control the operation of the DUT while synchronized operational data was recorded from internal firmware and external power monitors. The data was plotted over time relative to the utilization limit to demonstrate that the maximum time-averaged power is never exceeded. "Reported" values were output and captured directly from DUT firmware, while "Measured" results were obtained from external power metering. The uncertainty budget applied to the WLAN power control functions for this device is 1.5 dB. In all test cases, WLAN radios were configured to operate at 100% duty cycle.

**Table 1-1**  
**Test Configurations for Time-Averaged SAR Verification**

| Mode                                | Antenna | Channel | Plim (dBm) | Plim (mW) |
|-------------------------------------|---------|---------|------------|-----------|
| 802.11b, 22 MHz Bandwidth           | 3A      | 6       | 13         | 20        |
| 802.11b, 22 MHz Bandwidth (Reduced) | 3A      | 6       | 6          | 4         |
| 802.11b, 22 MHz Bandwidth           | 1A      | 6       | 13.75      | 24        |
| 802.11a, 20 MHz Bandwidth           | 2B      | 149     | 9.75       | 9         |
| 802.11a, 20 MHz Bandwidth           | 2A      | 149     | 11.25      | 13        |

Plim is the maximum time-averaged output power evaluated for SAR compliance

|                                             |                                                                                                                                                                                                                             |                              |                                        |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------------------------|
| <b>FCC ID:</b> BCGA2324                     |  <b>PCTEST</b><br><small>Proud to be part of</small>  | <b>SAR EVALUATION REPORT</b> | <b>Approved by:</b><br>Quality Manager |
| <b>Test Dates:</b><br>07/27/20 – 08/18/2020 | <b>DUT Type:</b><br>Tablet Device                                                                                                                                                                                           |                              | <b>APPENDIX I</b><br>Page 2 of 6       |

## 1.2 Verification Summary

### Scenario 1: Change in Antenna

For this test, the effect on the time-averaging algorithm from a change in the active transmit antenna was evaluated. Figures I-1 and I-2 show a switch of 2.4 GHz transmissions from antenna 3A to antenna 1A at Time = 120 s, while Figures I-3 and I-4 show a comparable transition for antenna 2B to antenna 2A 5 GHz transmissions. In both cases the test automation is controlling the WLAN radios to operate at 100% duty cycle. In both cases the utilization ratio never exceeds 100% and the average transmit power never exceeds the Plim of each respective antenna.

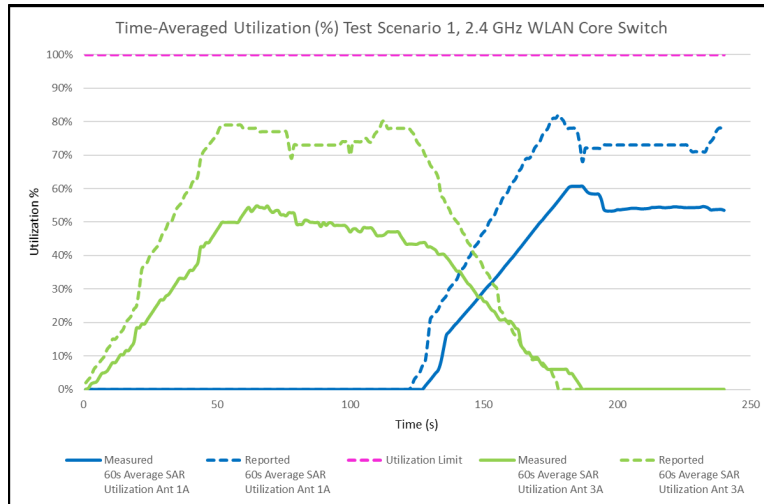


**Figure I-1**  
**60s Average SAR Utilization vs. Time, 2.4 GHz**

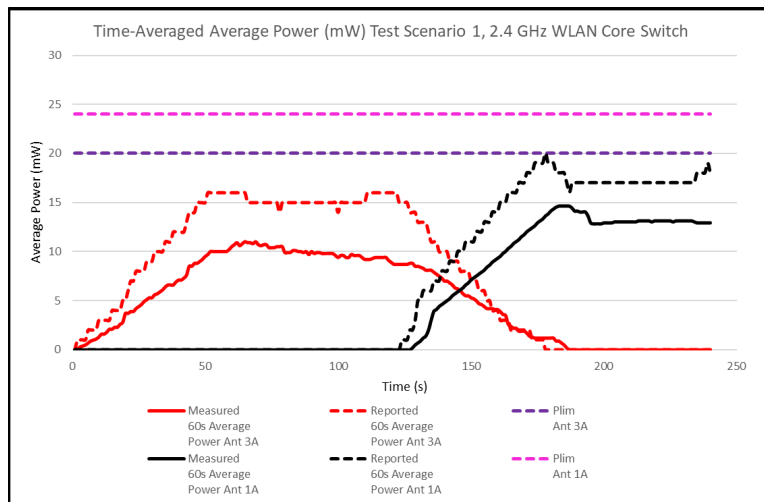


**Figure I-2**  
**60s Average Power vs. Time, 2.4 GHz**

|                                             |                                                                                                                                         |                              |                                        |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------------------------|
| FCC ID: BCGA2324                            |  <b>PCTEST</b><br><small>Proud to be part of</small> | <b>SAR EVALUATION REPORT</b> | <b>Approved by:</b><br>Quality Manager |
| <b>Test Dates:</b><br>07/27/20 – 08/18/2020 | <b>DUT Type:</b><br>Tablet Device                                                                                                       |                              | <b>APPENDIX I</b><br>Page 3 of 6       |

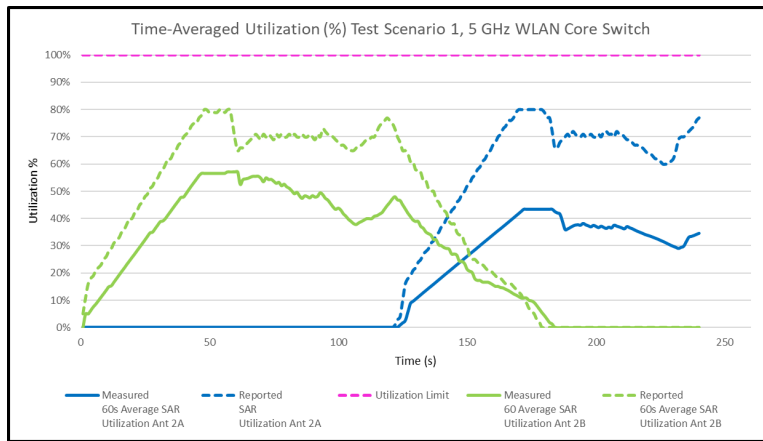


**Figure I-3**  
**60s Average SAR Utilization vs. Time, 5 GHz**

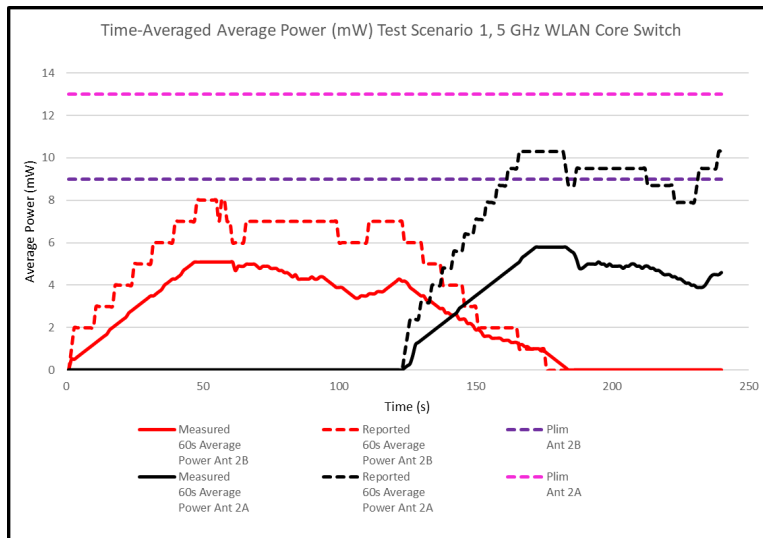


**Figure I-4**  
**60s Average Power vs. Time, 5 GHz**

|                                             |                                                                                                                  |                                        |
|---------------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| FCC ID: BCGA2324                            |  <b>SAR EVALUATION REPORT</b> | <b>Approved by:</b><br>Quality Manager |
| <b>Test Dates:</b><br>07/27/20 – 08/18/2020 | <b>DUT Type:</b><br>Tablet Device                                                                                | <b>APPENDIX I</b><br>Page 4 of 6       |

## Scenario 2: Change in Channel/Band Test Case

This test demonstrates the efficacy of the time-averaged SAR algorithm while switching between 2.4 GHz and 5 GHz WLAN bands. In addition, it shows that the algorithm tracks time-averaged power and system utilization when the active transmitter is disabled and then reconnects.

The 2.4 GHz Ant 3A transmitter is active at 100% duty cycle until Time = 120 s. When 2.4 GHz transmissions cease, the 5 GHz Ant 2B transmitter is activated and begins to negotiate a new connection. The connection is established and the increase in average transmit power and utilization can clearly be seen. In this case the utilization ratio never exceeds 100% and the average transmit power never exceeds the Plim of each respective antenna.

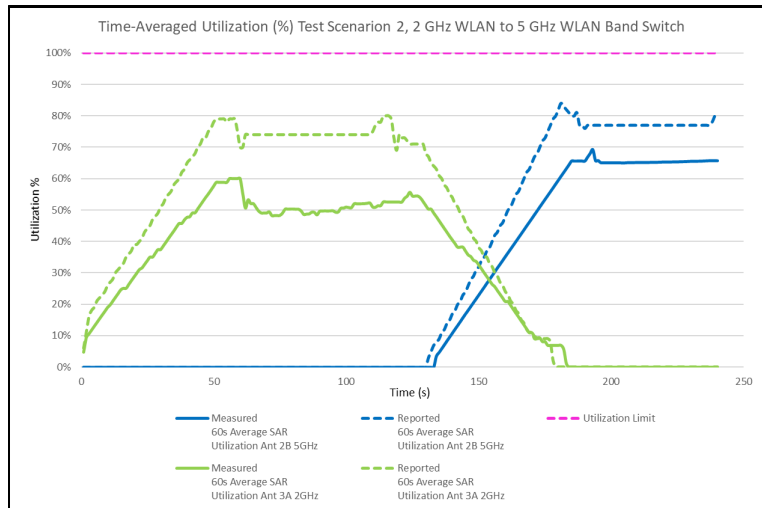


**Figure I-5**  
**60s Average Utilization vs. Time during Band Switch**

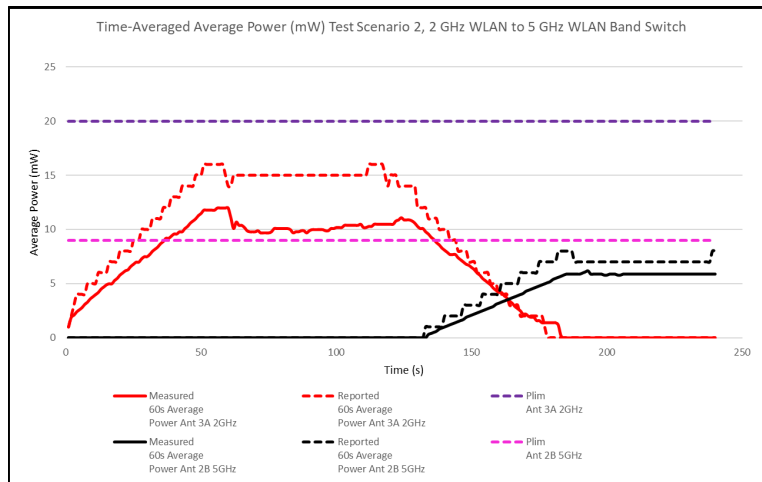


**Figure I-6**  
**60s Average Power vs. Time during Band Switch**

|                                      |                                                                                                                                                                                                                      |                              |                                 |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|---------------------------------|
| FCC ID: BCGA2324                     |  <b>PCTEST</b><br>Proud to be part of  element | <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Test Dates:<br>07/27/20 – 08/18/2020 | DUT Type:<br>Tablet Device                                                                                                                                                                                           |                              | APPENDIX I<br>Page 5 of 6       |

### Scenario 3: Change in Device State

This test demonstrates the efficacy of the time-averaged SAR algorithm when an external power control trigger is activated, transitioning between cell off and cell on at Time = 120 s.

The 2.4 GHz Ant 3A transmitter is active at 100% duty cycle until Time = 120 s. At this point a cellular connection occurs. The connection is established and the decrease in average transmit power and can clearly be seen, while utilization remains consistent. In this case the utilization ratio never exceeds 100% and the average transmit power never exceeds the Plim of the device state.

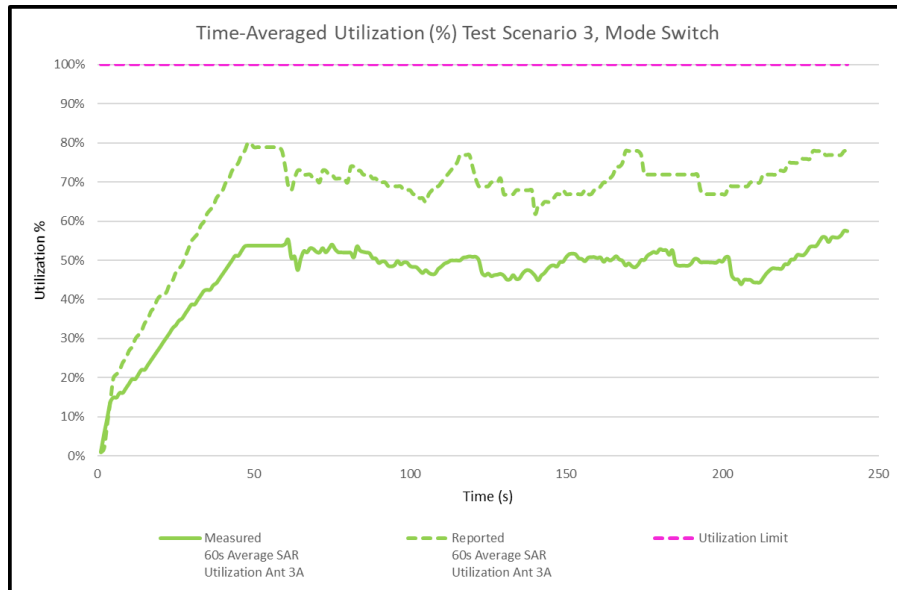


**Figure I-7**  
**60s Average Utilization vs. Time during Mode Switch**

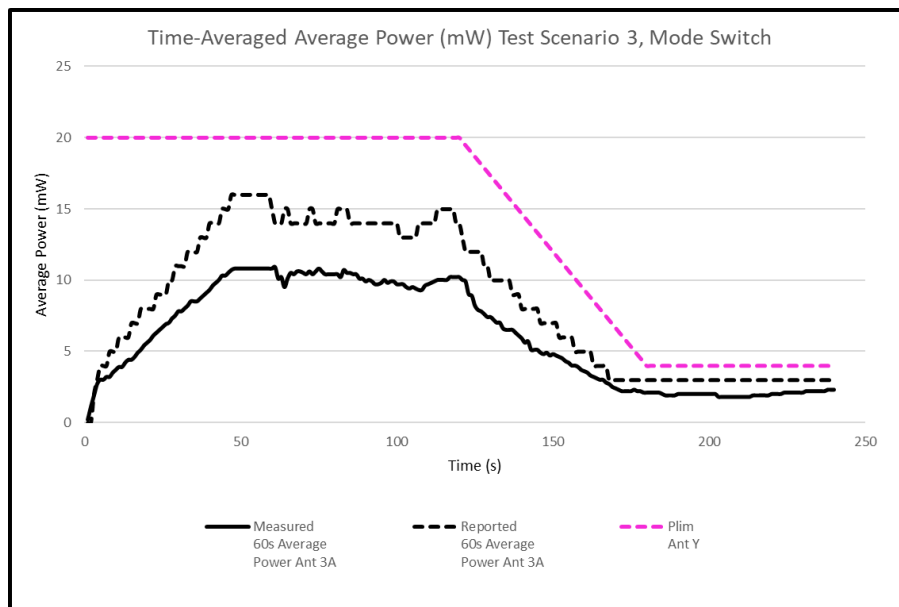


**Figure I-8**  
**60s Average Power vs. Time during Mode Switch**

|                                      |                                                                                                                                                                                                                      |                              |                                 |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|---------------------------------|
| FCC ID: BCGA2324                     |  <b>PCTEST</b><br>Proud to be part of  element | <b>SAR EVALUATION REPORT</b> | Approved by:<br>Quality Manager |
| Test Dates:<br>07/27/20 – 08/18/2020 | DUT Type:<br>Tablet Device                                                                                                                                                                                           |                              | APPENDIX I<br>Page 6 of 6       |

## APPENDIX J: PROBE AND DIPOLE CALIBRATION CERTIFICATES

**Calibration Laboratory of  
Schmid & Partner  
Engineering AG**  
Zeughausstrasse 43, 8004 Zurich, Switzerland



**S** Schweizerischer Kalibrierdienst  
**C** Service suisse d'étalonnage  
**S** Servizio svizzero di taratura  
**S** Swiss Calibration Service

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**

Calibration date: **September 08, 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: US37292763     | 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** (Name) **Laboratory Technician** (Function)

Approved by: **Katja Pokóvic** (Name) **Technical Manager** (Function)

Signature

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:**

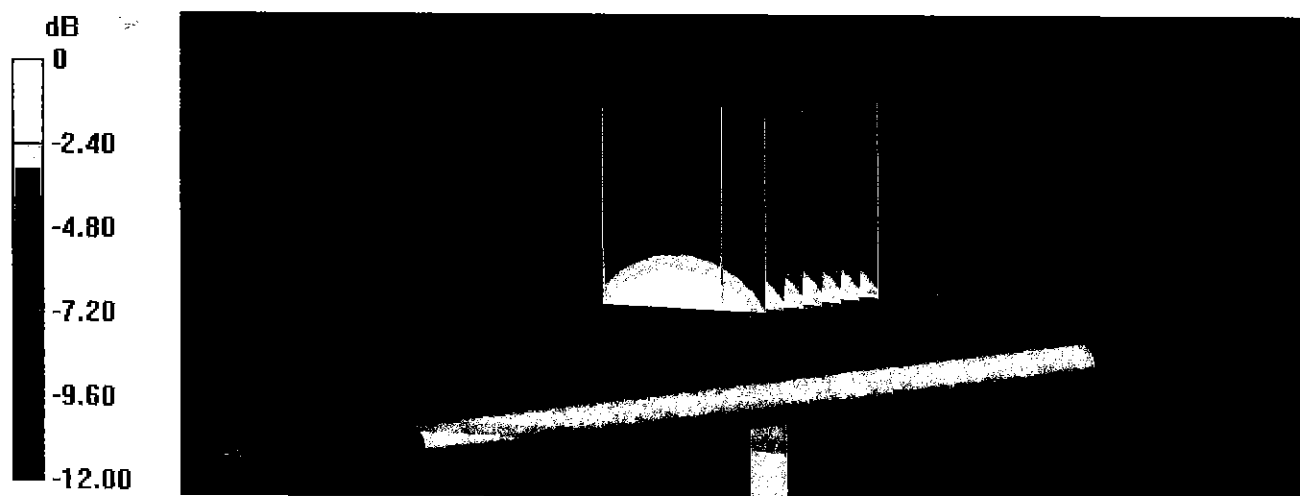
Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

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:

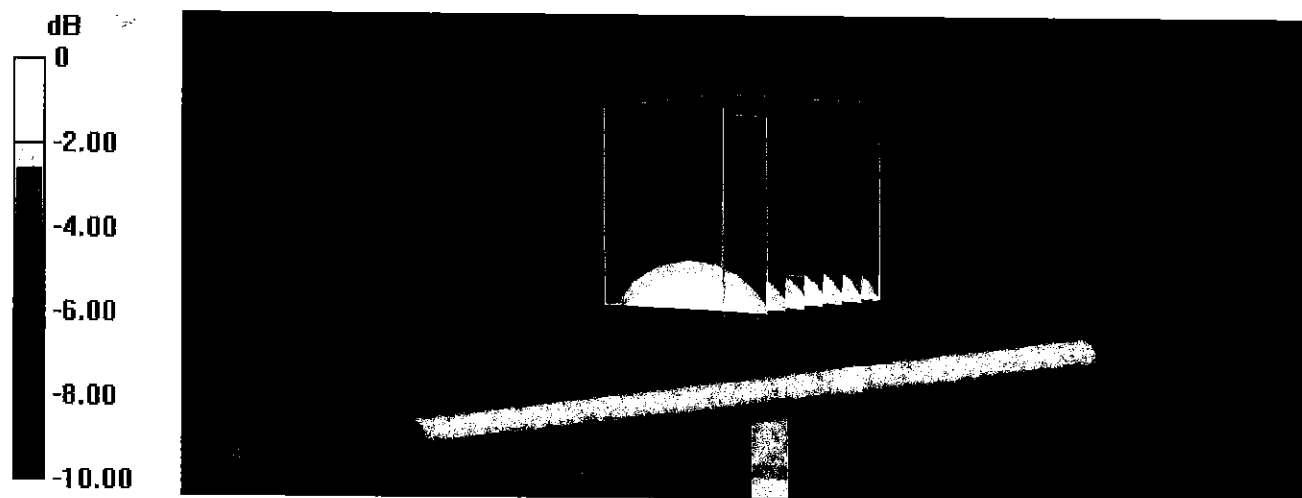
Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

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.

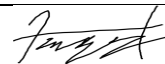
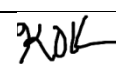
Extended Calibration date: September 08, 2018

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

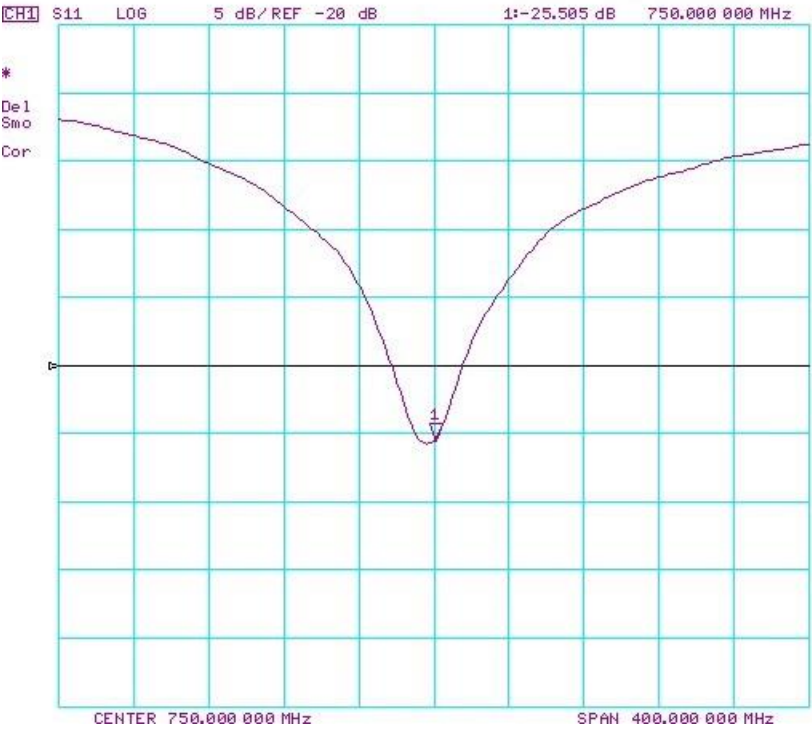
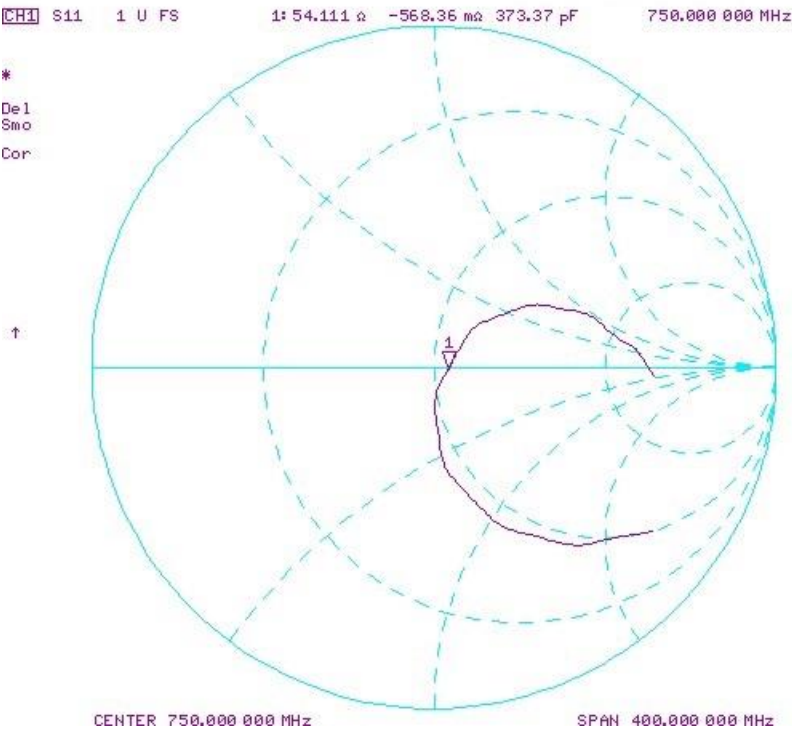
Per KDB 865664 D01, calibration intervals of up to three years may be considered for reference dipoles when it is demonstrated that the SAR target, impedance and return loss of a dipole have remained stable according to the following requirements:

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.

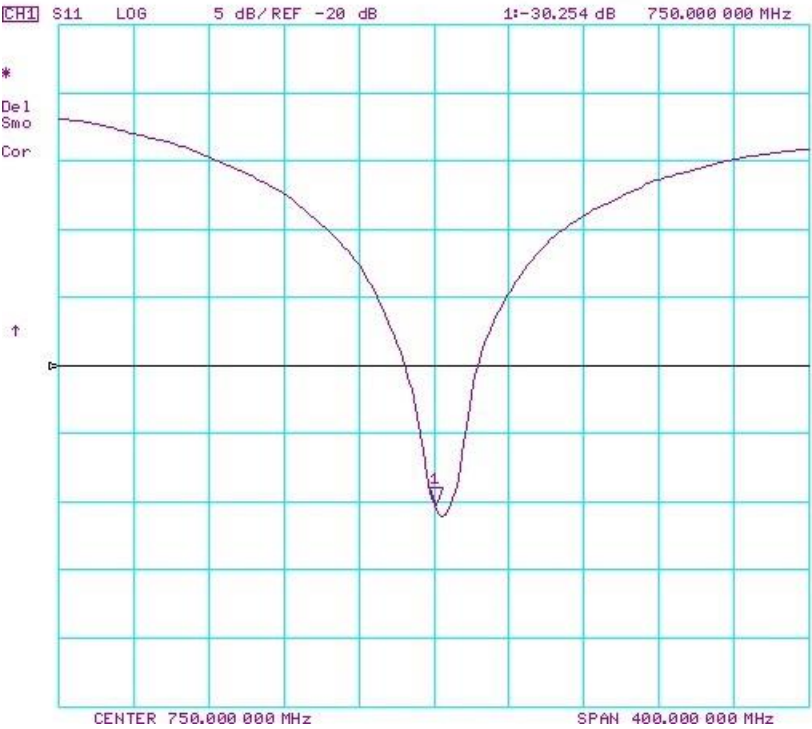
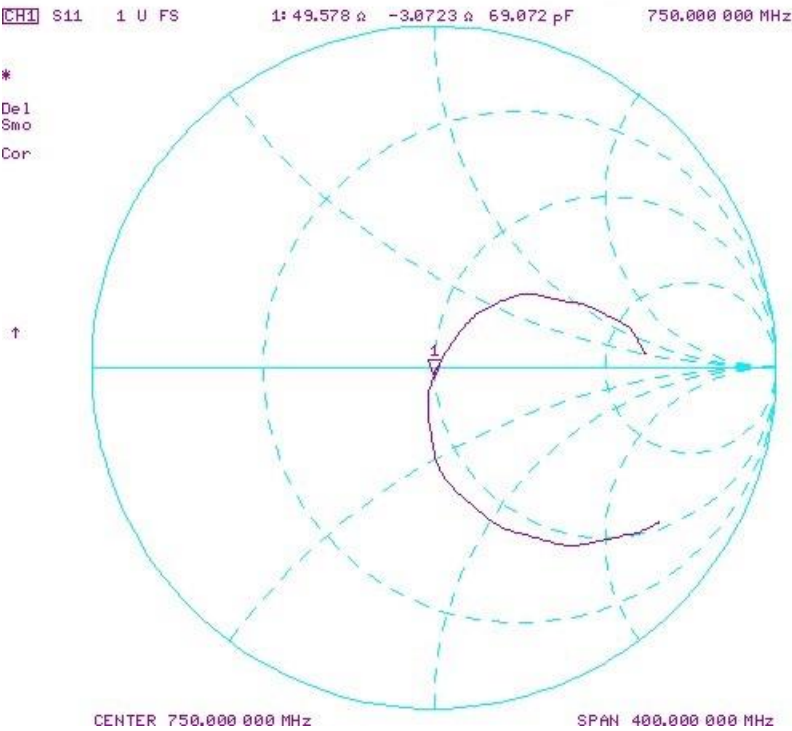
The following dipole was checked to pass the above 3 requirements to have 2-year calibration period from the calibration date:

| 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



# Certification of Calibration

Object D750V3 – SN: 1097

Calibration procedure(s) Procedure for Calibration Extension for SAR Dipoles.

Extended Calibration date: September 8, 2019

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                            | 10/2/2018  | Annual       | 10/2/2019  | US39170118    |
| Agilent               | E4438C    | ESG Vector Signal Generator                             | 6/27/2019  | Annual       | 6/27/2020  | MY45093852    |
| Amplifier Research    | 15S1G6    | Amplifier                                               | CBT        | N/A          | CBT        | 343972        |
| Anritsu               | ML2495A   | Power Meter                                             | 10/21/2018 | Annual       | 10/21/2019 | 941001        |
| 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       |
| Control Company       | 4040      | Temperature / Humidity Monitor                          | 2/28/2018  | Biennial     | 2/28/2020  | 150761911     |
| Control Company       | 4352      | Ultra Long Stem Thermometer                             | 2/28/2018  | Biennial     | 2/28/2020  | 170330160     |
| Keysight Technologies | 85033E    | Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm) | 7/2/2019   | Annual       | 7/2/2020   | MY53401181    |
| Keysight              | 772D      | Dual Directional Coupler                                | CBT        | N/A          | CBT        | MY52180215    |
| 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            | NC-100    | Torque Wrench                                           | 11/1/2017  | Biennial     | 11/1/2019  | N/A           |
| SPEAG                 | DAK-3.5   | Dielectric Assessment Kit                               | 5/7/2019   | Annual       | 5/7/2020   | 1070          |
| SPEAG                 | EX3DV4    | SAR Probe                                               | 1/24/2019  | Annual       | 1/24/2020  | 7490          |
| SPEAG                 | DAE4      | Data Acquisition Electronics                            | 1/15/2019  | Annual       | 1/15/2020  | 1532          |

Measurement Uncertainty =  $\pm 23\%$  (k=2)

|                | Name            | Function                 | Signature           |
|----------------|-----------------|--------------------------|---------------------|
| Calibrated By: | Parker Jones    | Team Lead Engineer       | <i>Parker Jones</i> |
| Approved By:   | Kaitlin O'Keefe | Senior Technical Manager | <i>KOK</i>          |

# 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 3-year calibration period from the calibration date:

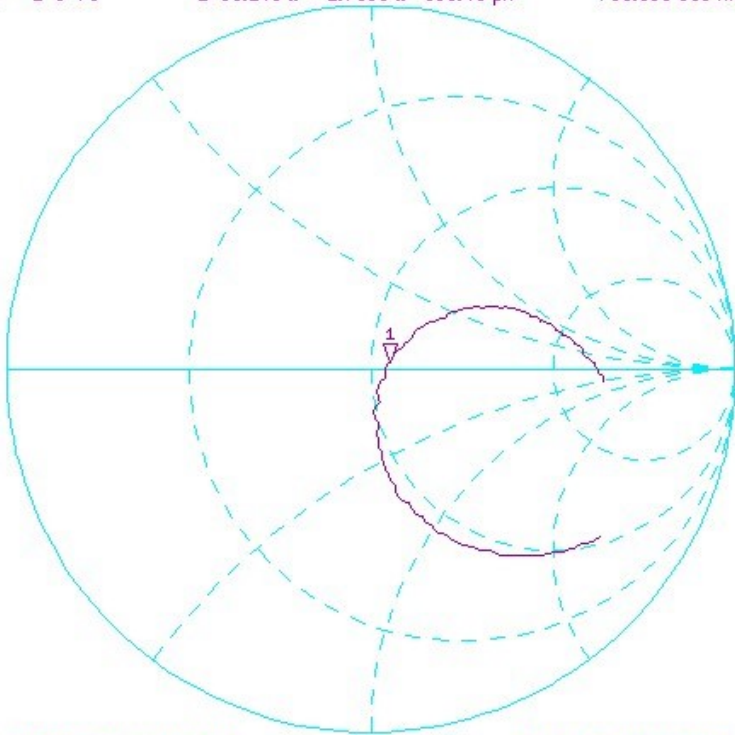
| Calibration Date | Extension Date | Certificate Electrical Delay (ns) | Certificate SAR Target Head (1g) W/kg @ 23.0 dBm | Measured Head SAR (1g) W/kg @ 23.0 dBm | Deviation 1g (%) | Certificate SAR Target Head (10g) W/kg @ 23.0 dBm | Measured Head SAR (10g) W/kg @ 23.0 dBm | Deviation 10g (%) | Certificate 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 |
|------------------|----------------|-----------------------------------|--------------------------------------------------|----------------------------------------|------------------|---------------------------------------------------|-----------------------------------------|-------------------|---------------------------------------|------------------------------------|-----------------------|--------------------------------------------|-----------------------------------------|----------------------------|-----------------------------------|--------------------------------|---------------|-----------|
| 9/8/2017         | 9/8/2019       | 1.034                             | 1.644                                            | 1.55                                   | -5.11%           | 1.078                                             | 1.03                                    | -4.45%            | 54.4                                  | 55.1                               | 0.7                   | -0.6                                       | 1.7                                     | 2.3                        | -27.5                             | -25                            | 5.50%         | 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         | 9/8/2019       | 1.034                             | 1.712                                            | 1.65                                   | -3.62%           | 1.136                                             | 1.1                                     | -3.17%            | 50                                    | 51                                 | 1                     | -3.6                                       | -1.3                                    | 2.3                        | -28.8                             | -31.9                          | -10.80%       | PASS      |

Impedance & Return-Loss Measurement Plot for Head TSL

CH1 S11 1 U FS 1: 55.143  $\Omega$  1.7363  $\Omega$  368.46 pF 750.000 000 MHz

\*  
De1  
Cor

↑



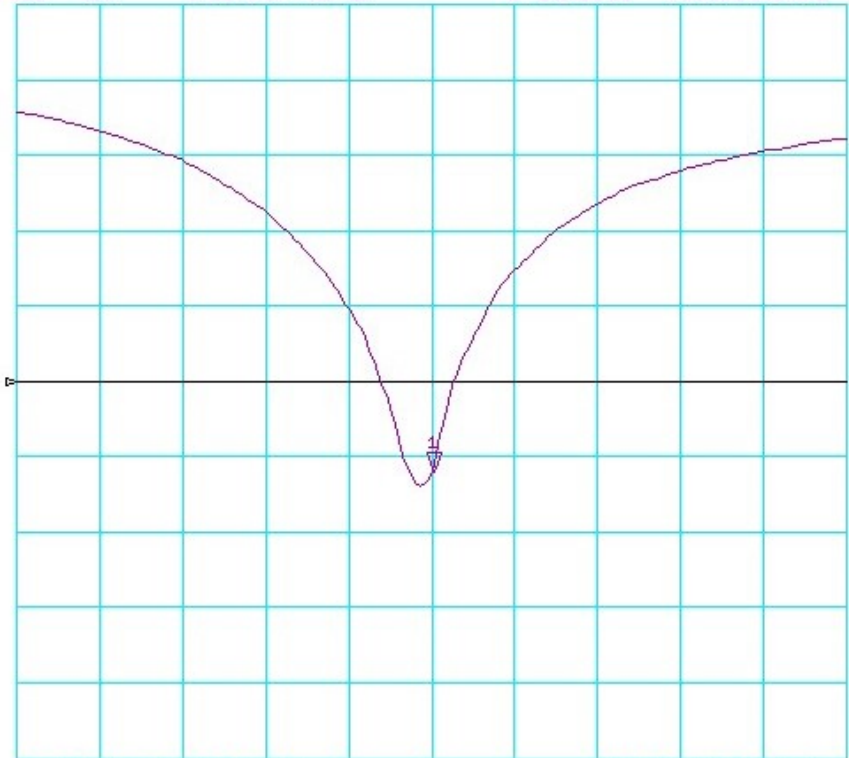
CENTER 750.000 000 MHz

SPAN 400.000 000 MHz

CH1 S11 LOG 5 dB/REF -20 dB 1:-26.011 dB 750.000 000 MHz

\*  
De1  
Smo  
Cor

↑



CENTER 750.000 000 MHz

SPAN 400.000 000 MHz

Object:

D750V3 – SN: 1097

Date Issued:

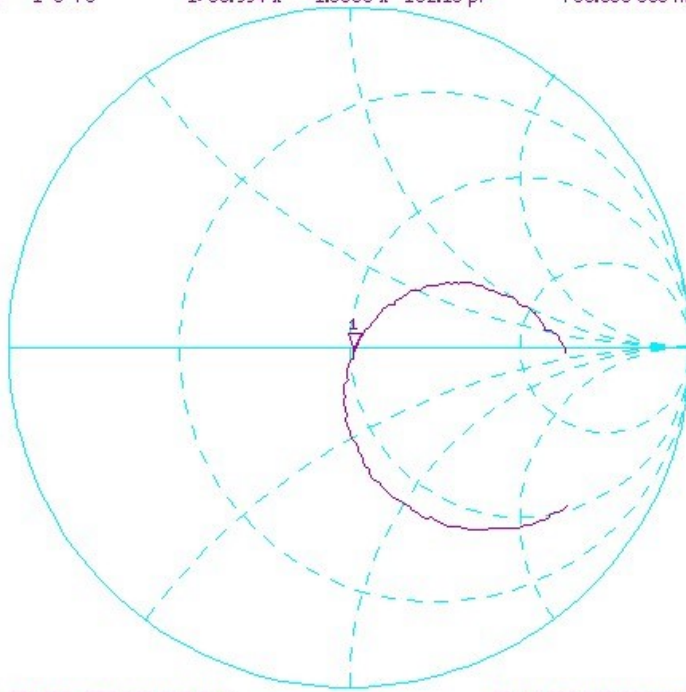
09/08/2019

## Impedance & Return-Loss Measurement Plot for Body TSL

CH1 S11 1 U FS 1: 50.994  $\Omega$  -1.3086  $\Omega$  162.16 pF 750.000 000 MHz

\*  
De1  
Cor

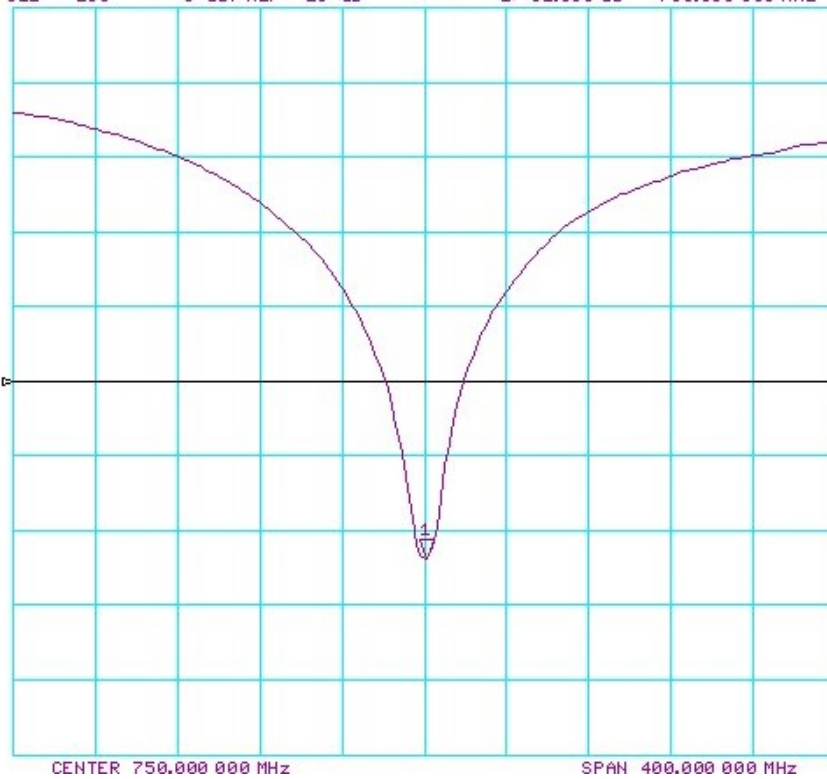
↑



CH1 S11 LOG 5 dB/REF -20 dB 1: -31.866 dB 750.000 000 MHz

\*  
De1  
Smo  
Cor

↑





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.: **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

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  $(22 \pm 3)^\circ\text{C}$  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-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            | 28-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 Seltz** Name: **Manu Seltz** Function: **Laboratory Technician** Signature:

Approved by: **Karla Pokovic** Name: **Karla Pokovic** Function: **Technical Manager** Signature:

Issued: May 22, 2018

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                  | V52.10.1    |
| <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:

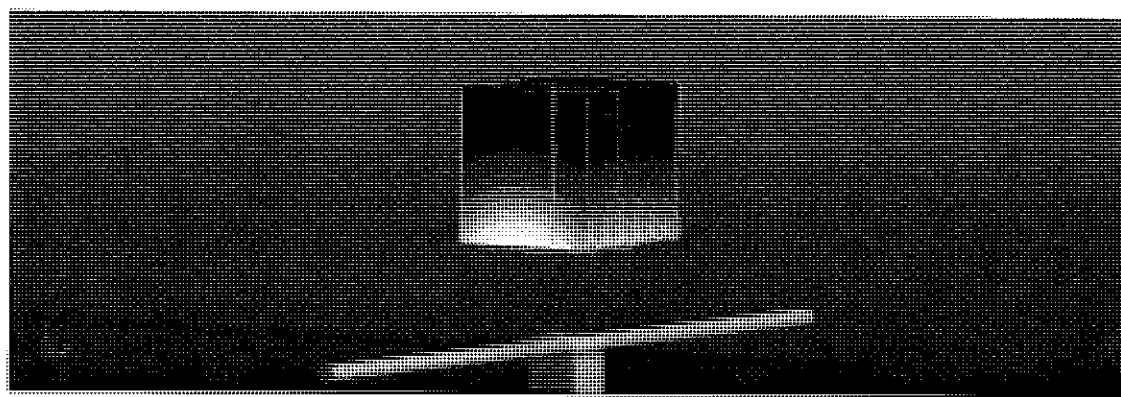
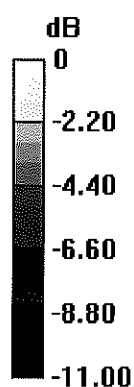
Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 65.39 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 3.78 W/kg

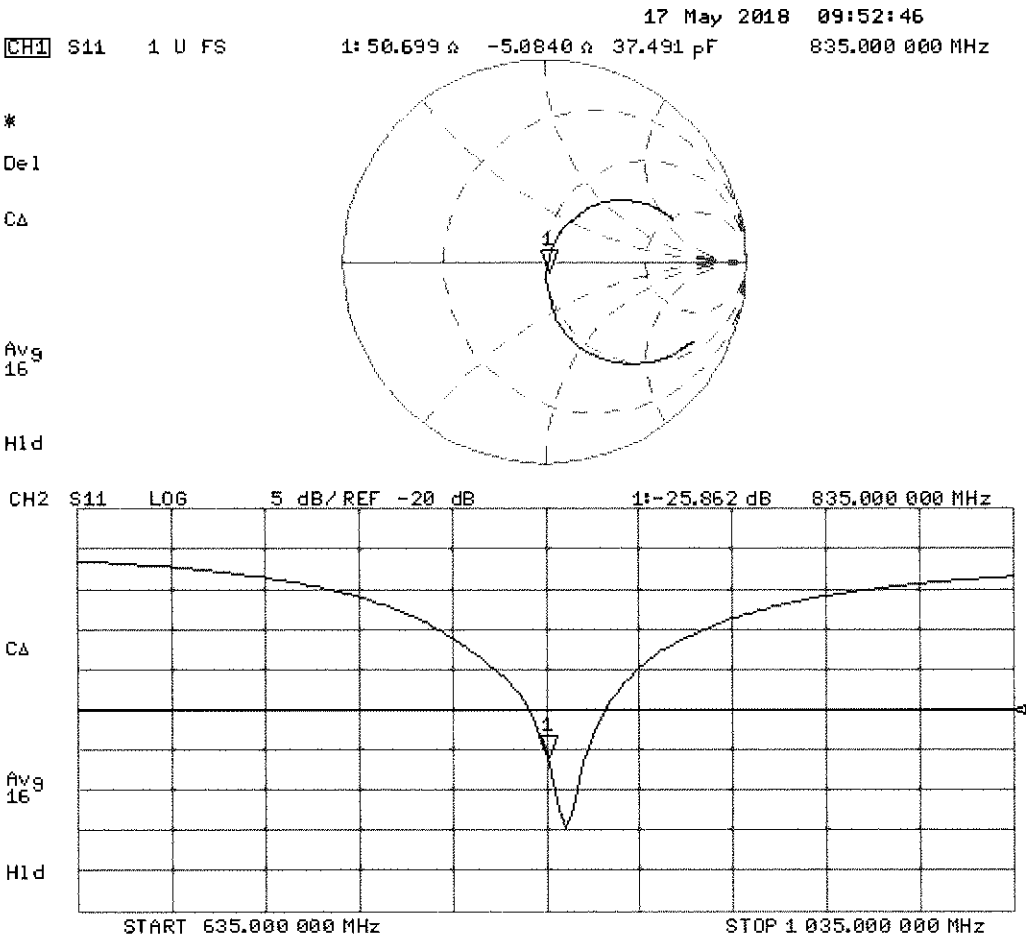
**SAR(1 g) = 2.45 W/kg; SAR(10 g) = 1.58 W/kg**

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:**

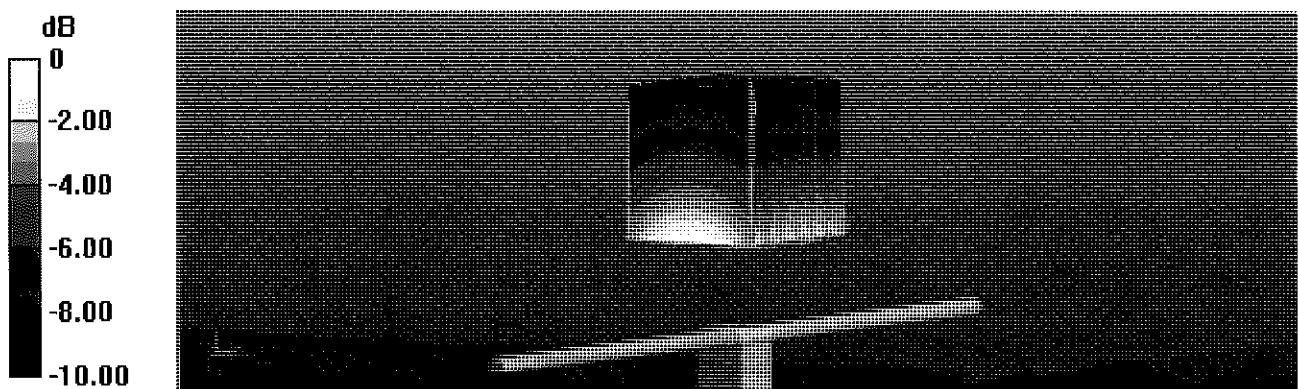
Measurement grid: dx=5mm, dy=5mm, dz=5mm

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

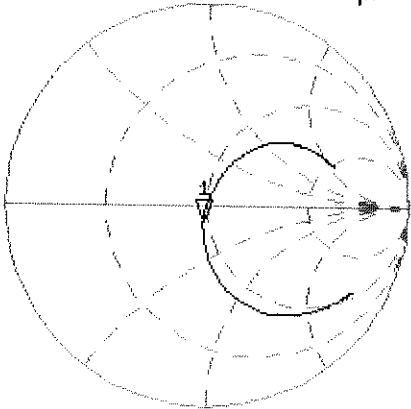


0 dB = 3.23 W/kg = 5.09 dBW/kg

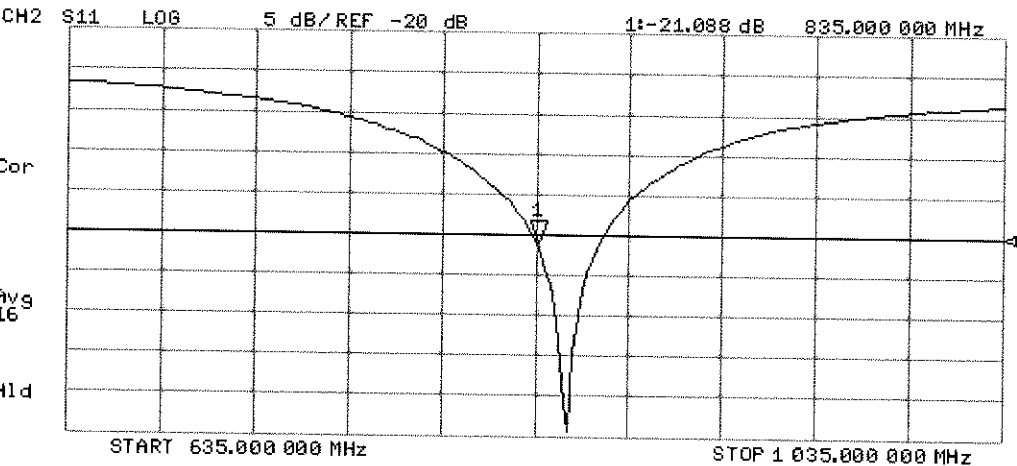
Impedance Measurement Plot for Body TSL

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

\*  
Del  
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16  
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# Certification of Calibration

Object D835V2 – SN: 4d180

Calibration procedure(s) Procedure for Calibration Extension for SAR Dipoles.

Extended Calibration date: May 16, 2019

Description: SAR Validation Dipole at 835 MHz.

## Calibration Equipment used:

| Manufacturer          | Model     | Description                                             | Cal Date   | Cal Interval | Cal Due    | Serial Number |
|-----------------------|-----------|---------------------------------------------------------|------------|--------------|------------|---------------|
| Agilent               | 8753ES    | S-Parameter Network Analyzer                            | 10/2/2018  | Annual       | 10/2/2019  | US39170118    |
| Agilent               | N5182A    | MXG Vector Signal Generator                             | 6/15/2018  | Annual       | 6/15/2019  | MY47420837    |
| Amplifier Research    | 15S1G6    | Amplifier                                               | CBT        | N/A          | CBT        | 343972        |
| Anritsu               | ML2495A   | Power Meter                                             | 10/21/2018 | Annual       | 10/21/2019 | 941001        |
| 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       |
| Control Company       | 4040      | Temperature / Humidity Monitor                          | 2/28/2018  | Biennial     | 2/28/2020  | 150761911     |
| Control Company       | 4352      | Ultra Long Stem Thermometer                             | 2/28/2018  | Biennial     | 2/28/2020  | 170330160     |
| 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            | 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                                            | 9/11/2018  | Annual       | 9/11/2019  | 1045          |
| SPEAG                 | EX3DV4    | SAR Probe                                               | 7/20/2018  | Annual       | 7/20/2019  | 7416          |
| SPEAG                 | DAE4      | Dasy Data Acquisition Electronics                       | 7/10/2018  | Annual       | 7/10/2019  | 1402          |

Measurement Uncertainty =  $\pm 23\%$  (k=2)

|                | Name            | Function                 | Signature           |
|----------------|-----------------|--------------------------|---------------------|
| Calibrated By: | Parker Jones    | Team Lead Engineer       | <i>Parker Jones</i> |
| Approved By:   | Kaitlin O'Keefe | Senior Technical Manager | <i>KOK</i>          |

# DIPOLE CALIBRATION EXTENSION

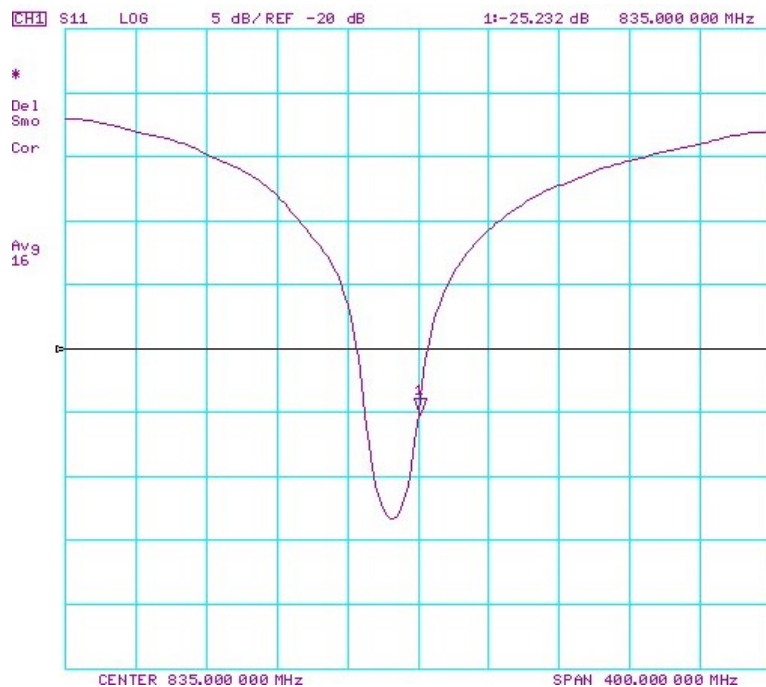
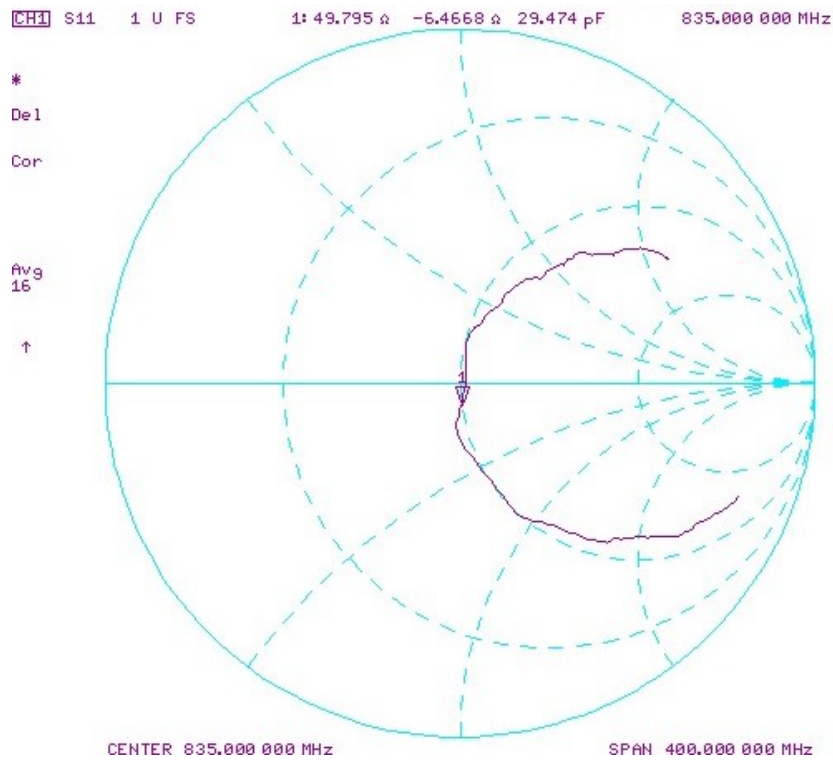
Per KDB 865664 D01, calibration intervals of up to three years may be considered for reference dipoles when it is demonstrated that the SAR target, impedance and return loss of a dipole have remained stable according to the following requirements:

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.

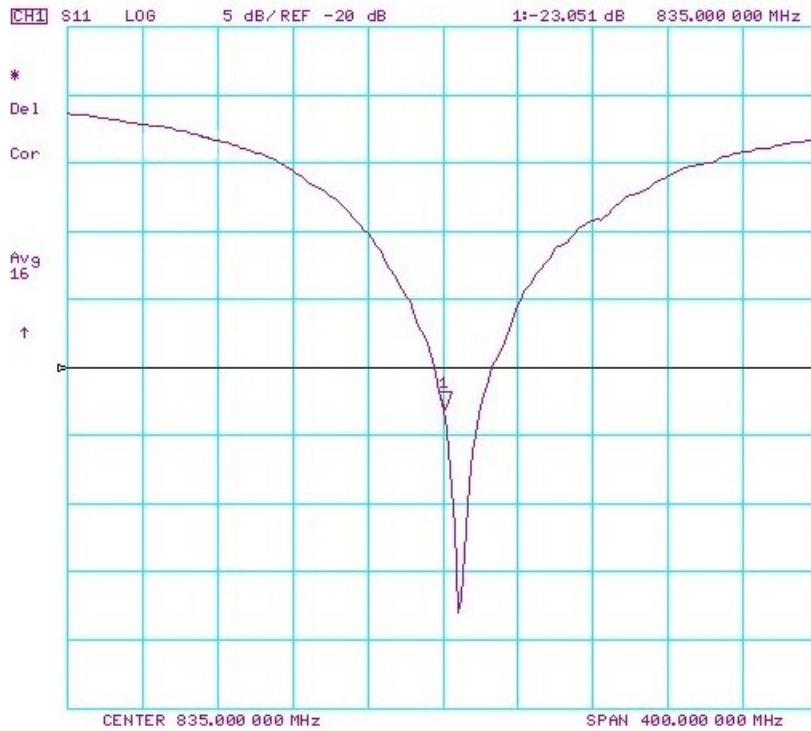
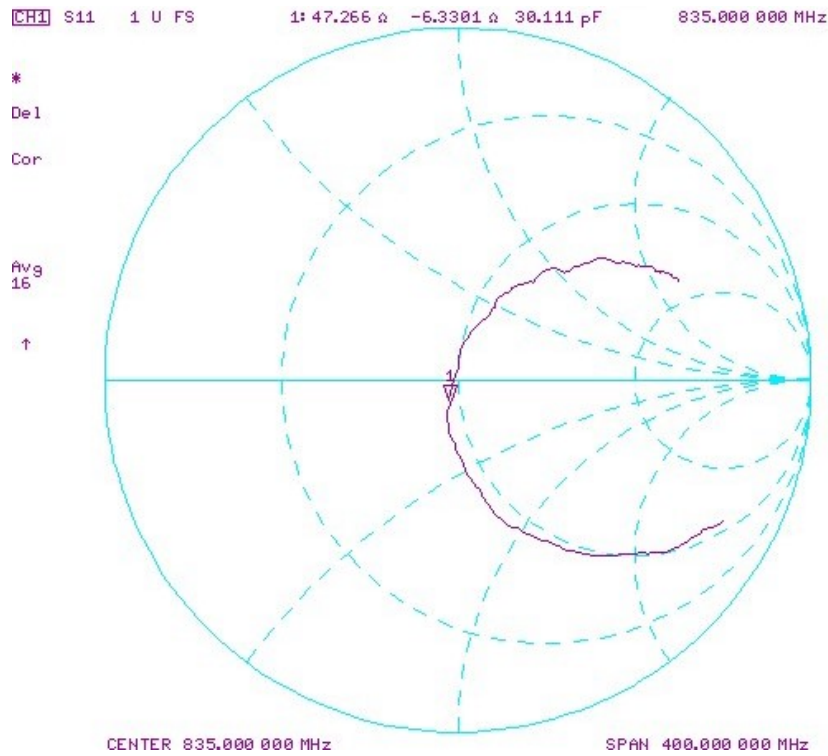
The following dipole was checked to pass the above 3 requirements to have 2-year calibration period from the calibration date:

| 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 |
|------------------|----------------|-----------------------------------|--------------------------------------------------|----------------------------------------|------------------|---------------------------------------------------|-----------------------------------------|-------------------|---------------------------------------|------------------------------------|-----------------------|--------------------------------------------|-----------------------------------------|----------------------------|-----------------------------------|--------------------------------|---------------|-----------|
| 5/18/2018        | 5/16/2019      | 1.396                             | 1.92                                             | 1.89                                   | 3.65%            | 1.244                                             | 1.3                                     | 4.50%             | 50.7                                  | 49.8                               | 0.9                   | -5.1                                       | -6.5                                    | 1.4                        | -25.9                             | -25.2                          | 2.60%         | 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 |
| 5/18/2018        | 5/16/2019      | 1.396                             | 1.918                                            | 2.05                                   | 6.88%            | 1.262                                             | 1.34                                    | 6.18%             | 47.2                                  | 47.3                               | 0.1                   | -8.2                                       | -6.3                                    | 1.9                        | -21.1                             | -23.1                          | -9.20%        | PASS      |

# Impedance & Return-Loss Measurement Plot for Head TSL



## Impedance & Return-Loss Measurement Plot for Body TSL



## Certification of Calibration

Object D835V2 – SN: 4d180

Calibration procedure(s) Procedure for Calibration Extension for SAR Dipoles.

Extended Calibration date: May 18, 2020

Description: SAR Validation Dipole at 835 MHz.

Calibration Equipment used:

| Manufacturer          | Model     | Description                                             | Cal Date  | Cal Interval | Cal Due   | Serial Number |
|-----------------------|-----------|---------------------------------------------------------|-----------|--------------|-----------|---------------|
| Agilent               | 8753ES    | S-Parameter Network Analyzer                            | 1/16/2020 | Annual       | 1/16/2021 | US39170118    |
| Agilent               | N5182A    | MXG Vector Signal Generator                             | 8/19/2019 | Annual       | 8/19/2020 | MY47420837    |
| Amplifier Research    | 15S1G6    | Amplifier                                               | CBT       | N/A          | CBT       | 343972        |
| Anritsu               | MA2411B   | Pulse Power Sensor                                      | 1/21/2020 | Annual       | 1/21/2021 | 1207470       |
| Anritsu               | MA2411B   | Pulse Power Sensor                                      | 1/21/2020 | Annual       | 1/21/2021 | 1339007       |
| Anritsu               | ML2495A   | Power Meter                                             | 1/15/2020 | Annual       | 1/15/2021 | 1328004       |
| Control Company       | 62344-734 | Therm./ Clock/ Humidity Monitor                         | 3/18/2019 | Biennial     | 3/18/2021 | 192038436     |
| Control Company       | 4352      | Ultra Long Stem Thermometer                             | 8/2/2018  | Biennial     | 8/2/2020  | 181292000     |
| Keysight Technologies | 85033E    | Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm) | 7/2/2019  | Annual       | 7/2/2020  | MY53401181    |
| MiniCircuits          | VLF-6000+ | Low Pass Filter                                         | CBT       | N/A          | CBT       | N/A           |
| Mini-Circuits         | BW-N20W5+ | DC to 18 GHz Precision Fixed 20 dB Attenuator           | 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            | NC-100    | Torque Wrench                                           | 5/23/2018 | Biennial     | 5/23/2020 | N/A           |
| SPEAG                 | DAE4      | Dasy Data Acquisition Electronics                       | 8/12/2019 | Annual       | 8/12/2020 | 1408          |
| SPEAG                 | DAE4      | Dasy Data Acquisition Electronics                       | 3/19/2020 | Annual       | 3/19/2021 | 604           |
| SPEAG                 | DAK-3.5   | Dielectric Assessment Kit                               | 5/12/2020 | Annual       | 5/12/2021 | 1070          |
| SPEAG                 | EX3DV4    | SAR Probe                                               | 8/29/2019 | Annual       | 8/29/2020 | 3949          |
| SPEAG                 | EX3DV4    | SAR Probe                                               | 3/20/2020 | Annual       | 3/20/2021 | 7421          |

Measurement Uncertainty =  $\pm 23\%$  (k=2)

|                | Name            | Function           | Signature           |
|----------------|-----------------|--------------------|---------------------|
| Calibrated By: | Parker Jones    | Team Lead Engineer | <i>Parker Jones</i> |
| Approved By:   | Kaitlin O'Keefe | Managing Director  | <i>KOK</i>          |

# DIPOLE CALIBRATION EXTENSION

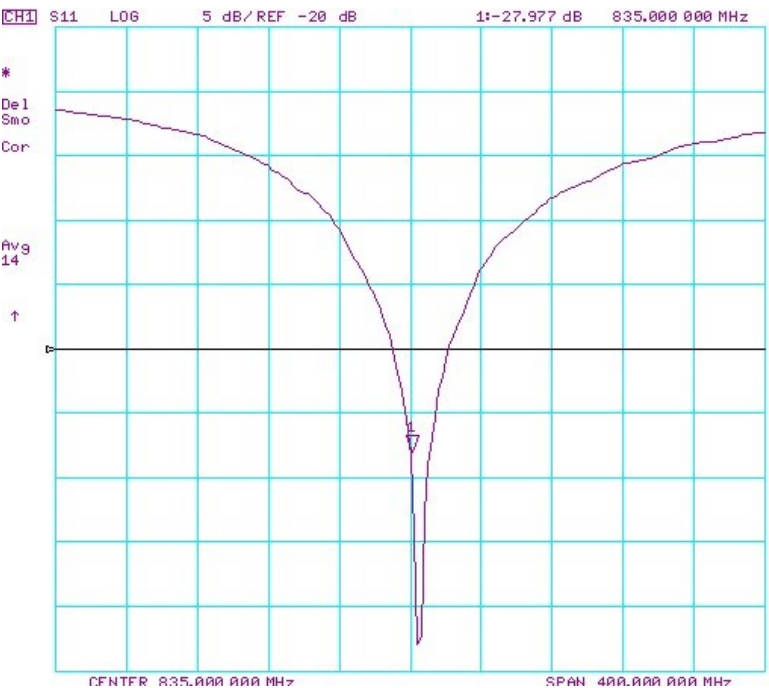
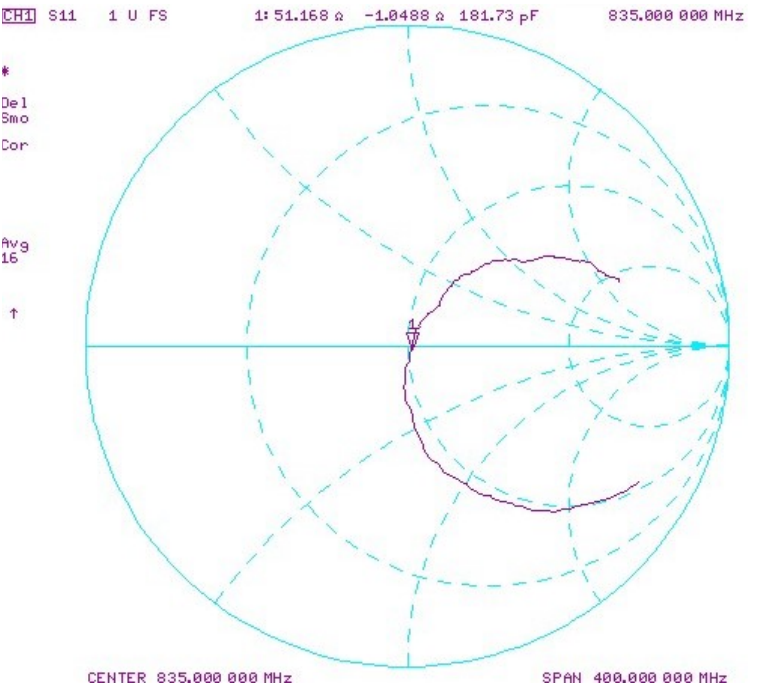
Per KDB 865664 D01, calibration intervals of up to three years may be considered for reference dipoles when it is demonstrated that the SAR target, impedance and return loss of a dipole have remained stable according to the following requirements:

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.

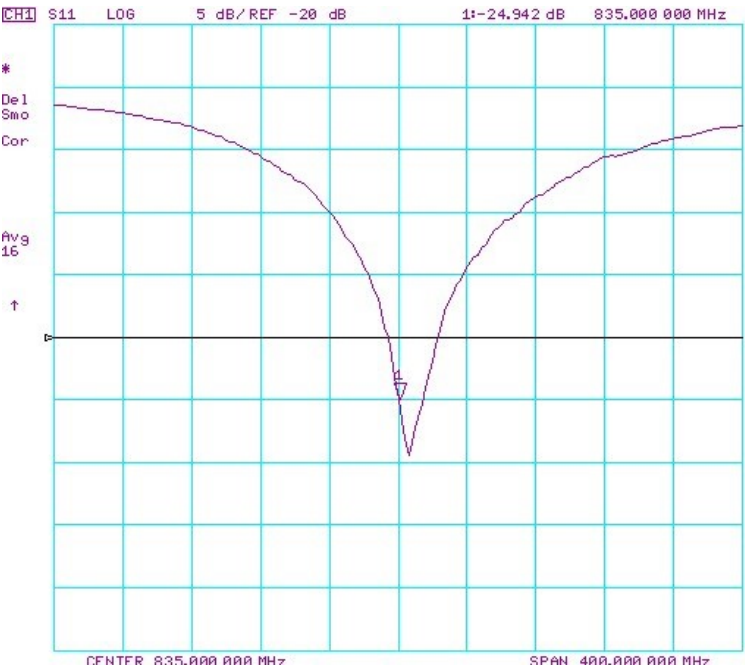
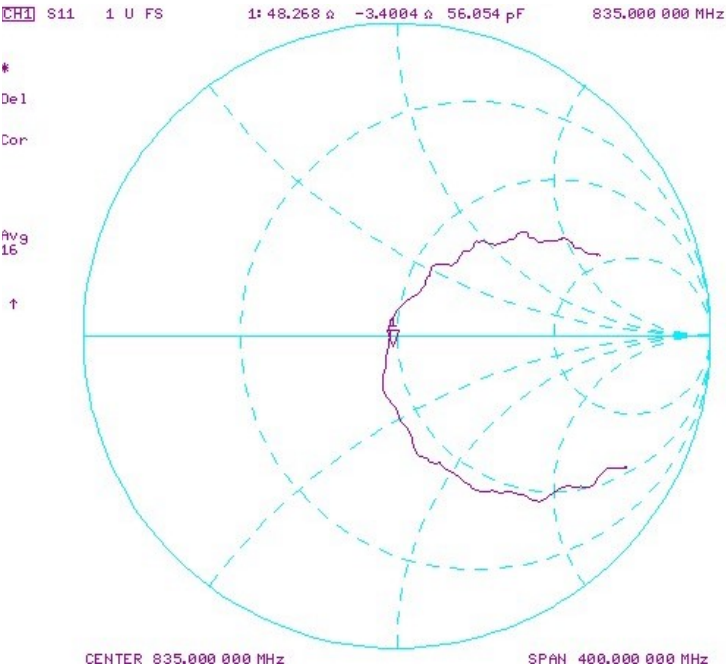
The following dipole was checked to pass the above 3 requirements to have 3-year calibration period from the calibration date:

| 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 |
|------------------|----------------|-----------------------------------|--------------------------------------------------|----------------------------------------|------------------|---------------------------------------------------|-----------------------------------------|-------------------|---------------------------------------|------------------------------------|-----------------------|--------------------------------------------|-----------------------------------------|----------------------------|-----------------------------------|--------------------------------|---------------|-----------|
| 5/18/2018        | 5/18/2020      | 1.396                             | 1.92                                             | 2                                      | 4.17%            | 1.244                                             | 1.32                                    | 6.11%             | 50.7                                  | 51.2                               | 0.5                   | -5.1                                       | -1                                      | 4.1                        | -25.9                             | -28                            | -8.10%        | 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 |
| 5/18/2018        | 5/18/2020      | 1.396                             | 1.918                                            | 2                                      | 4.28%            | 1.262                                             | 1.31                                    | 3.80%             | 47.2                                  | 46.3                               | 1.1                   | -8.2                                       | -3.4                                    | 4.8                        | -21.1                             | -24.9                          | -18.00%       | PASS      |

Impedance & Return-Loss Measurement Plot for Head TSL



Impedance & Return-Loss Measurement Plot for Body TSL



**Calibration Laboratory of  
Schmid & Partner  
Engineering AG**  
Zeughausstrasse 43, 8004 Zurich, Switzerland



**S** Schweizerischer Kalibrierdienst  
**C** Service suisse d'étalonnage  
**S** Servizio svizzero di taratura  
**S** Swiss Calibration Service

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: **D850V2-1010\_Sep17**

## CALIBRATION CERTIFICATE

Object **D850V2 - SN:1010**

Calibration procedure(s) **QACAL-05.v9**  
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: **September 08, 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_Mer17)  | 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** **Laboratory Technician**

Approved by: **Katja Pokovic** **Technical Manager**

Signature

Signature

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:**

- a) 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
- b) 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
- c) 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
- d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

**Additional Documentation:**

- e) 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                    | 850 MHz $\pm$ 1 MHz    |             |

## Head TSL parameters

The following parameters and calculations were applied.

|                                         | Temperature         | Permittivity   | Conductivity         |
|-----------------------------------------|---------------------|----------------|----------------------|
| Nominal Head TSL parameters             | 22.0 °C             | 41.5           | 0.92 mho/m           |
| Measured Head TSL parameters            | (22.0 $\pm$ 0.2) °C | 40.9 $\pm$ 6 % | 0.94 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 | 2.53 W/kg                    |
| SAR for nominal Head TSL parameters                   | normalized to 1W   | 9.93 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 | 1.63 W/kg                    |
| SAR for nominal Head TSL parameters                     | normalized to 1W   | 6.42 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             | 55.2           | 0.99 mho/m           |
| Measured Body TSL parameters            | (22.0 $\pm$ 0.2) °C | 55.3 $\pm$ 6 % | 0.99 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 | 2.55 W/kg                    |
| SAR for nominal Body TSL parameters                   | normalized to 1W   | 10.2 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 | 1.67 W/kg                    |
| SAR for nominal Body TSL parameters                     | normalized to 1W   | 6.68 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 | 50.2 $\Omega$ - 3.1 j $\Omega$ |
| Return Loss                          | - 30.2 dB                      |

### Antenna Parameters with Body TSL

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 46.6 $\Omega$ - 5.8 j $\Omega$ |
| Return Loss                          | - 23.2 dB                      |

### General Antenna Parameters and Design

|                                  |          |
|----------------------------------|----------|
| Electrical Delay (one direction) | 1.432 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 04, 2012 |

## DASY5 Validation Report for Head TSL

Date: 08.09.2017

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 850 MHz; Type: D850V2; Serial: D850V2 - SN:1010**

Communication System: UID 0 - CW; Frequency: 850 MHz

Medium parameters used:  $f = 850$  MHz;  $\sigma = 0.94$  S/m;  $\epsilon_r = 40.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(9.93, 9.93, 9.93); 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:**

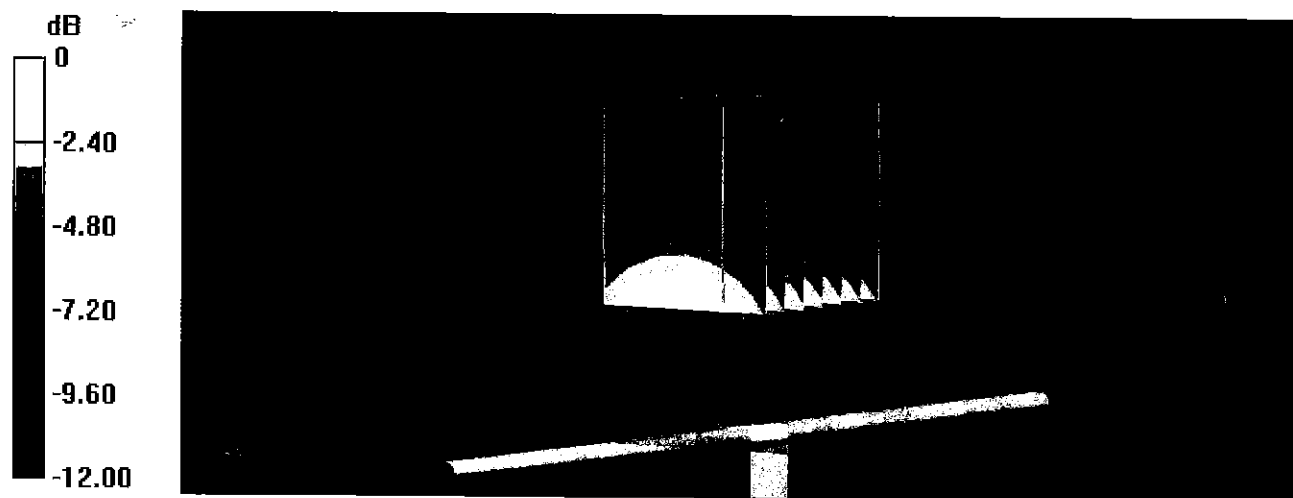
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 63.32 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 3.85 W/kg

**SAR(1 g) = 2.53 W/kg; SAR(10 g) = 1.63 W/kg**

Maximum value of SAR (measured) = 3.41 W/kg



0 dB = 3.41 W/kg = 5.33 dBW/kg

# Impedance Measurement Plot for Head TSL

8 Sep 2017 13:24:25  
 CH1 S11 1 U FS 1: 50.227  $\Omega$  -3.0996  $\Omega$  60.408 pF 850.000 000 MHz

\*

De1

CA

Avg  
16

H1d

CH2 S11 LOG 5 dB/REF -20 dB 1: -30.173 dB 850.000 000 MHz

CA

Avg  
16

H1d

START 650.000 000 MHz

STOP 1 850.000 000 MHz

## DASY5 Validation Report for Body TSL

Date: 08.09.2017

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 850 MHz; Type: D850V2; Serial: D850V2 - SN:1010**

Communication System: UID 0 - CW; Frequency: 850 MHz

Medium parameters used:  $f = 850 \text{ MHz}$ ;  $\sigma = 0.99 \text{ S/m}$ ;  $\epsilon_r = 55.3$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(10.11, 10.11, 10.11); 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:

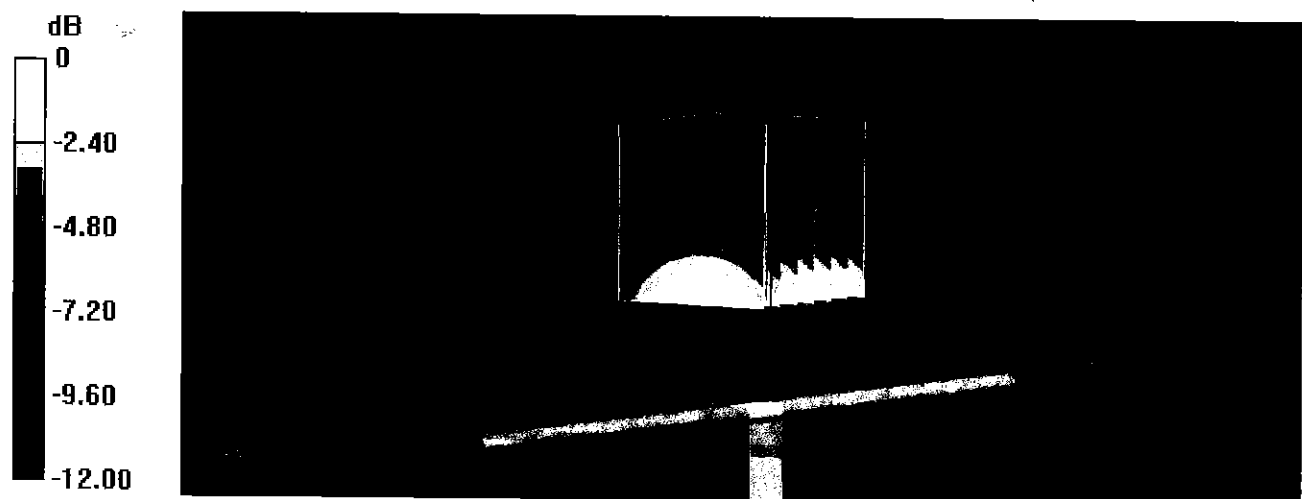
Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 61.09 V/m; Power Drift = -0.02 dB

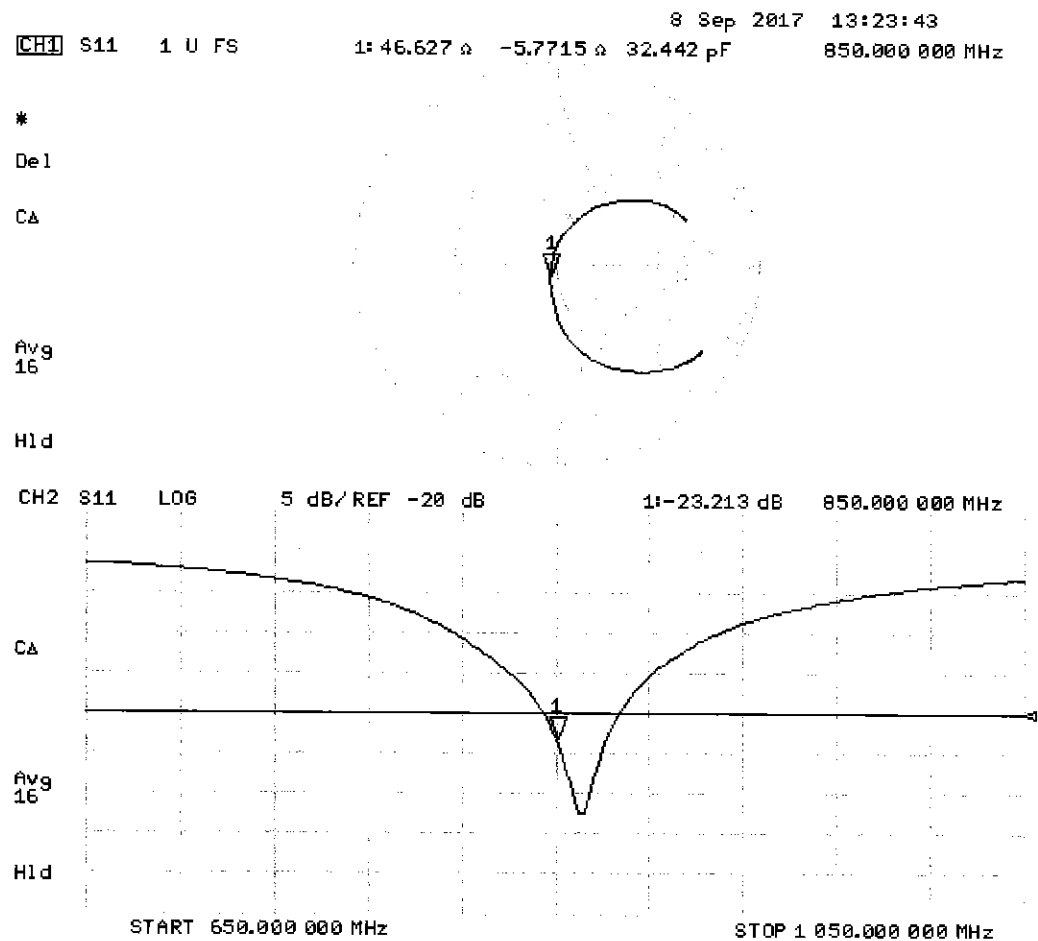
Peak SAR (extrapolated) = 3.79 W/kg

**SAR(1 g) = 2.55 W/kg; SAR(10 g) = 1.67 W/kg**

Maximum value of SAR (measured) = 3.36 W/kg



Impedance Measurement Plot for Body TSL



# Certification of Calibration

Object D850V2 – SN: 1010

Calibration procedure(s) Procedure for Calibration Extension for SAR Dipoles.

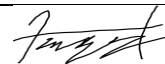
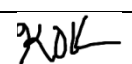
Extended Calibration date: September 08, 2018

Description: SAR Validation Dipole at 850 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                                               | 1/26/2018  | Annual       | 1/26/2019  | 7490          |
| SPEAG                 | DAE4      | Data Acquisition Electronics                            | 1/26/2018  | Annual       | 1/26/2019  | 1532          |

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

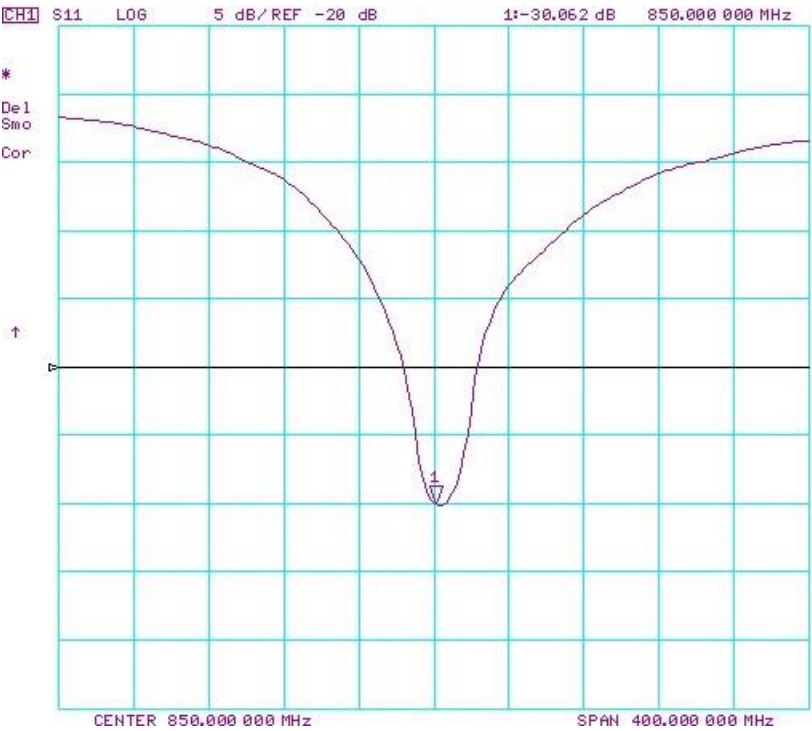
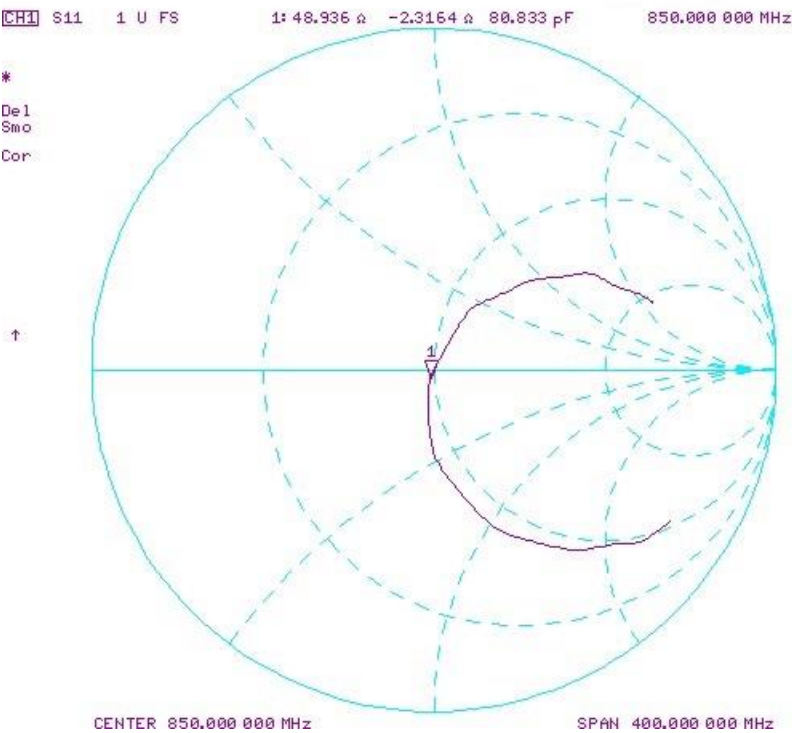
Per KDB 865664 D01, calibration intervals of up to three years may be considered for reference dipoles when it is demonstrated that the SAR target, impedance and return loss of a dipole have remained stable according to the following requirements:

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.

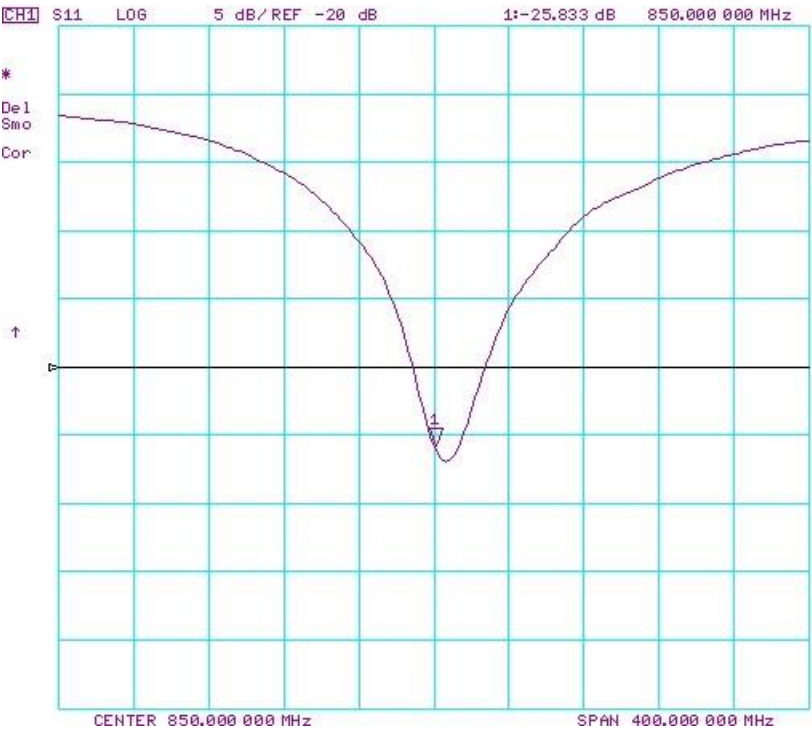
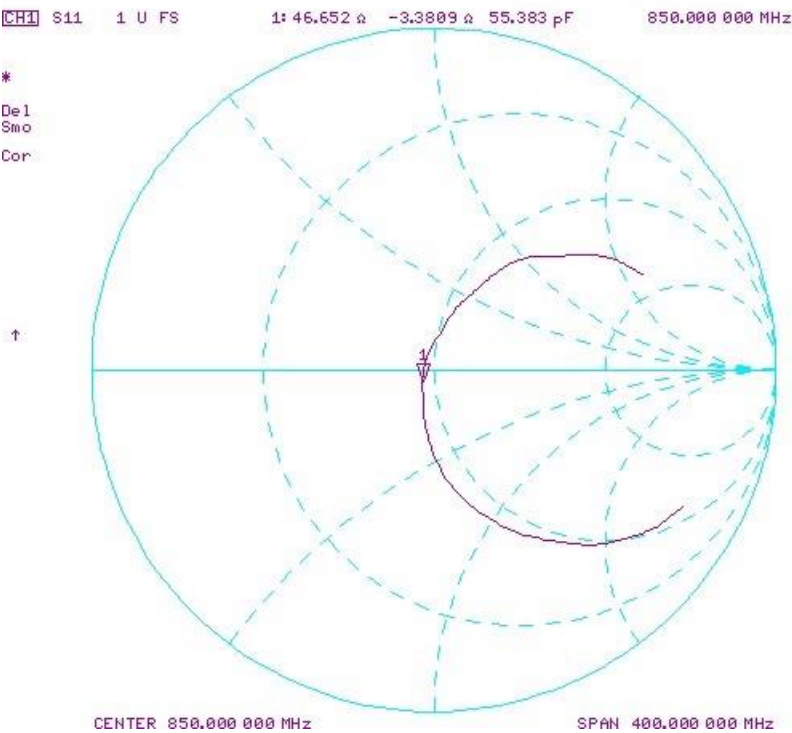
The following dipole was checked to pass the above 3 requirements to have 2-year calibration period from the calibration date:

| 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       | 1.432                             | 1.986                                            | 2.01                                   | 1.21%            | 1.284                                             | 1.31                                    | 2.02%             | 50.2                                  | 48.9                               | 1.3                   | -3.1                                       | -2.3                                    | 0.8                        | -30.2                             | -30.1                          | 0.30%         | 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         | 9/8/2017       | 1.432                             | 2.04                                             | 2.01                                   | -1.47%           | 1.336                                             | 1.32                                    | -1.20%            | 46.6                                  | 46.7                               | 0.1                   | -5.8                                       | -3.4                                    | 2.4                        | -23.2                             | -25.8                          | -11.20%       | PASS      |

Impedance & Return-Loss Measurement Plot for Head TSL



Impedance & Return-Loss Measurement Plot for Body TSL



# Certification of Calibration

Object D850V2 – SN: 1010

Calibration procedure(s) Procedure for Calibration Extension for SAR Dipoles.

Extended Calibration date: September 8, 2019

Description: SAR Validation Dipole at 850 MHz.

## Calibration Equipment used:

| Manufacturer          | Model     | Description                                             | Cal Date   | Cal Interval | Cal Due    | Serial Number |
|-----------------------|-----------|---------------------------------------------------------|------------|--------------|------------|---------------|
| Agilent               | 8753ES    | S-Parameter Network Analyzer                            | 10/2/2018  | Annual       | 10/2/2019  | US39170118    |
| Agilent               | E4438C    | ESG Vector Signal Generator                             | 6/27/2019  | Annual       | 6/27/2020  | MY45093852    |
| Amplifier Research    | 15S1G6    | Amplifier                                               | CBT        | N/A          | CBT        | 343972        |
| Anritsu               | ML2495A   | Power Meter                                             | 10/21/2018 | Annual       | 10/21/2019 | 941001        |
| 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       |
| Control Company       | 4040      | Temperature / Humidity Monitor                          | 2/28/2018  | Biennial     | 2/28/2020  | 150761911     |
| Control Company       | 4352      | Ultra Long Stem Thermometer                             | 2/28/2018  | Biennial     | 2/28/2020  | 170330160     |
| Keysight Technologies | 85033E    | Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm) | 7/2/2019   | Annual       | 7/2/2020   | MY53401181    |
| Keysight              | 772D      | Dual Directional Coupler                                | CBT        | N/A          | CBT        | MY52180215    |
| 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            | NC-100    | Torque Wrench                                           | 11/1/2017  | Biennial     | 11/1/2019  | N/A           |
| SPEAG                 | DAK-3.5   | Dielectric Assessment Kit                               | 5/7/2019   | Annual       | 5/7/2020   | 1070          |
| SPEAG                 | EX3DV4    | SAR Probe                                               | 1/24/2019  | Annual       | 1/24/2020  | 7490          |
| SPEAG                 | DAE4      | Data Acquisition Electronics                            | 1/15/2019  | Annual       | 1/15/2020  | 1532          |

Measurement Uncertainty =  $\pm 23\%$  (k=2)

|                | Name            | Function                 | Signature           |
|----------------|-----------------|--------------------------|---------------------|
| Calibrated By: | Parker Jones    | Team Lead Engineer       | <i>Parker Jones</i> |
| Approved By:   | Kaitlin O'Keefe | Senior Technical Manager | <i>KOK</i>          |

# DIPOLE CALIBRATION EXTENSION

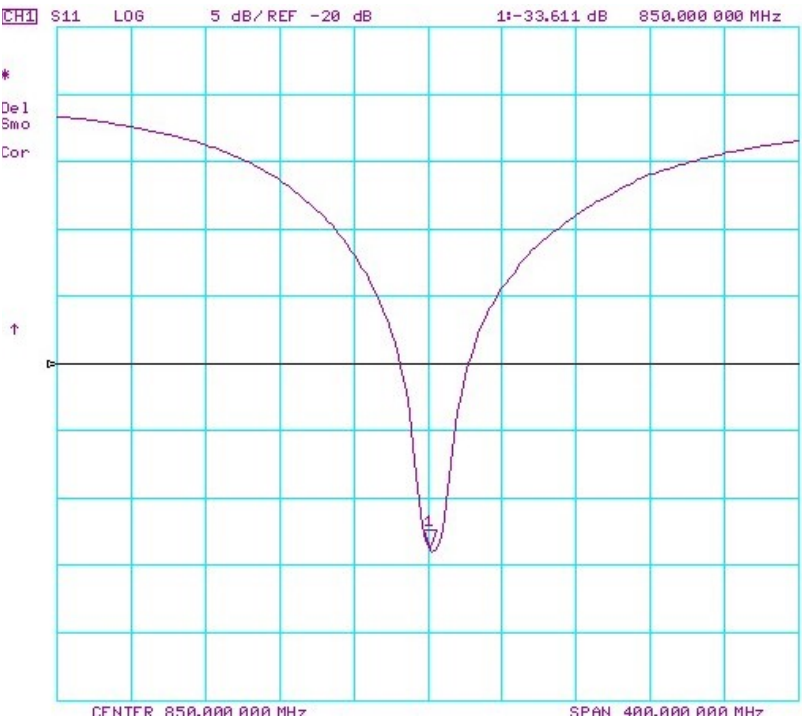
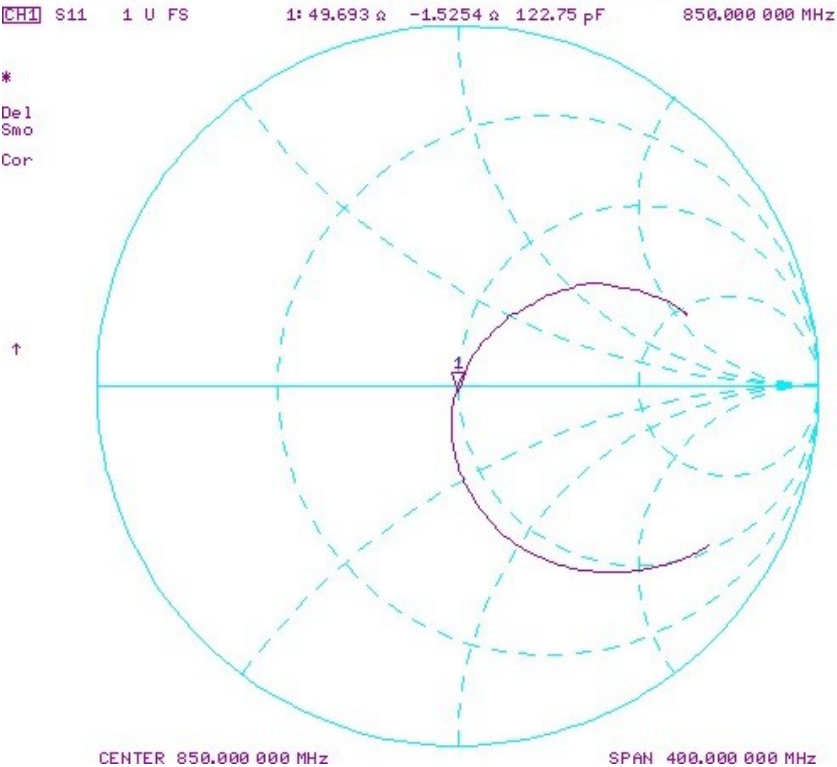
Per KDB 865664 D01, calibration intervals of up to three years may be considered for reference dipoles when it is demonstrated that the SAR target, impedance and return loss of a dipole have remained stable according to the following requirements:

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.

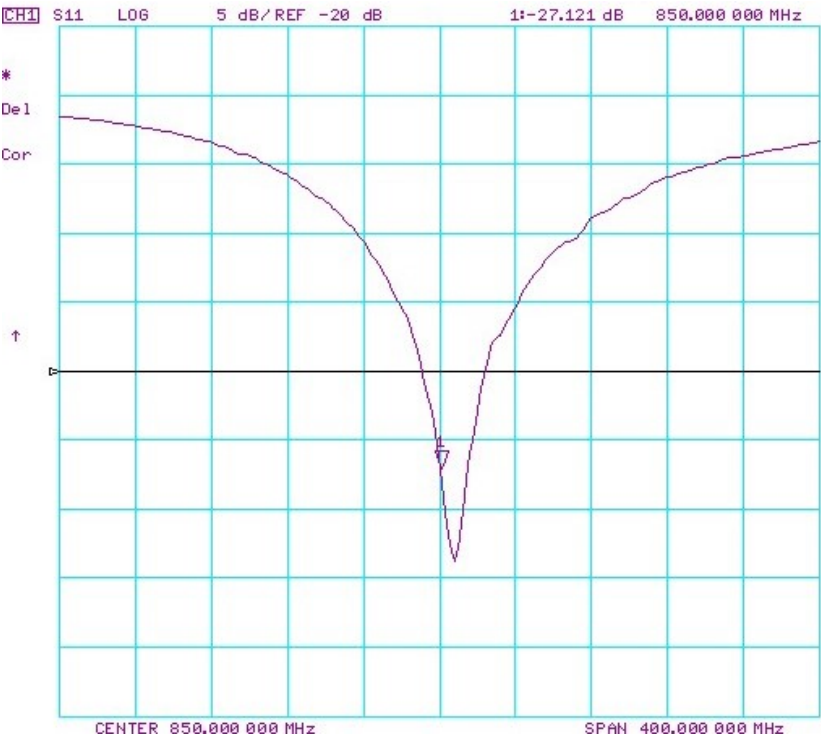
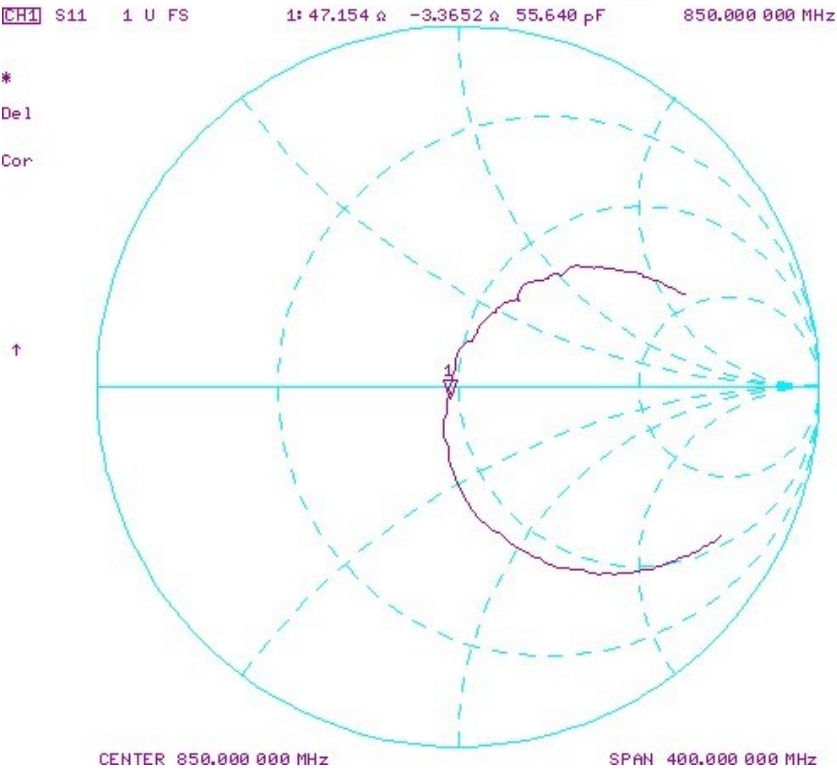
The following dipole was checked to pass the above 3 requirements to have 3-year calibration period from the calibration date:

| 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 |
|------------------|----------------|-----------------------------------|--------------------------------------------------|----------------------------------------|------------------|---------------------------------------------------|-----------------------------------------|-------------------|---------------------------------------|------------------------------------|-----------------------|--------------------------------------------|-----------------------------------------|----------------------------|-----------------------------------|--------------------------------|---------------|-----------|
| 9/8/2017         | 9/8/2019       | 1.432                             | 1.986                                            | 2.03                                   | 2.22%            | 1.284                                             | 1.33                                    | 3.55%             | 50.2                                  | 49.7                               | 0.5                   | -3.1                                       | -1.5                                    | 1.6                        | -30.2                             | -33.6                          | -11.30%       | 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         | 9/8/2019       | 1.432                             | 2.04                                             | 2.05                                   | 0.49%            | 1.336                                             | 1.36                                    | 1.80%             | 46.6                                  | 47.2                               | 0.6                   | -5.8                                       | -3.4                                    | 2.4                        | -23.2                             | -27.1                          | -16.80%       | 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.: **D1750V2-1092\_May18**

## CALIBRATION CERTIFICATE

Object: **D1750V2- SN:1092**

Calibration procedure(s):

**GA-GAL-05-V10**  
 Calibration procedure for dipole validation kits above 700 MHz

SC ✓  
 5/31/2018

Calibration date:

**May 15, 2018**

BSN ✓  
 06/01/2019

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%.

ATM ✓  
 06/11/2020

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-05     | 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 |

|                |               |                       |                  |
|----------------|---------------|-----------------------|------------------|
|                | <b>Name</b>   | <b>Function</b>       | <b>Signature</b> |
| Calibrated by: | Manu Säliz    | Laboratory Technician |                  |
| Approved by:   | Katja Pokovic | Technical Manager     |                  |

Issued: May 17, 2018

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 0108**

The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

**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:**

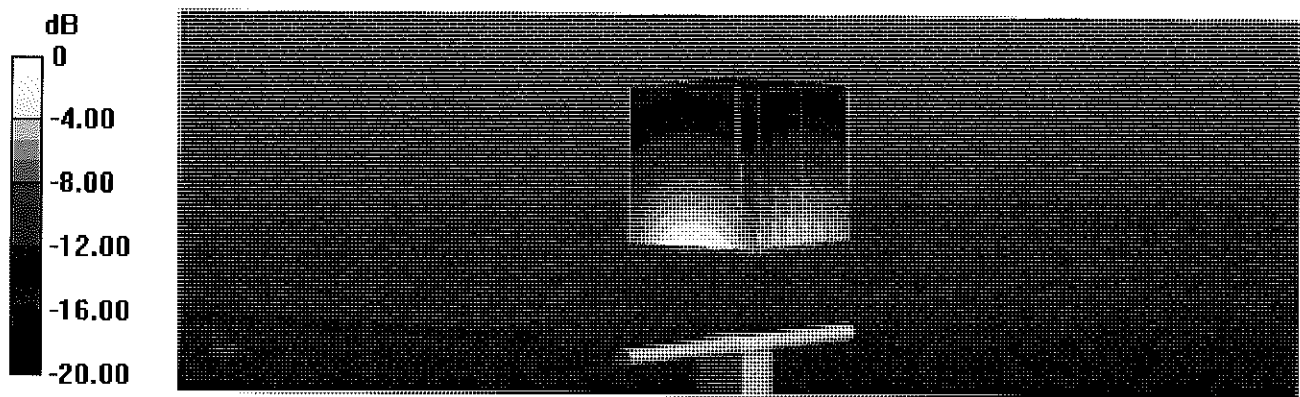
Measurement grid: dx=5mm, dy=5mm, dz=5mm

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

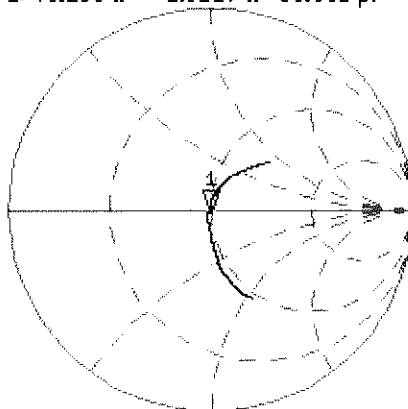


0 dB = 13.8 W/kg = 11.40 dBW/kg

# 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

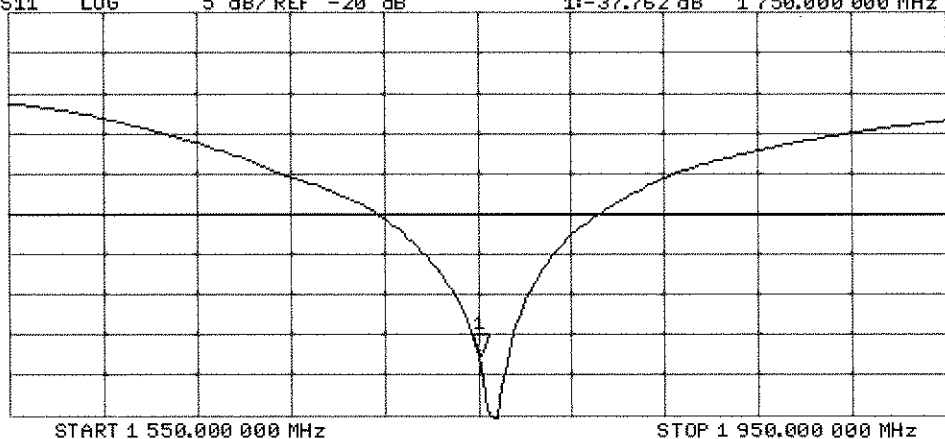
H1d

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:

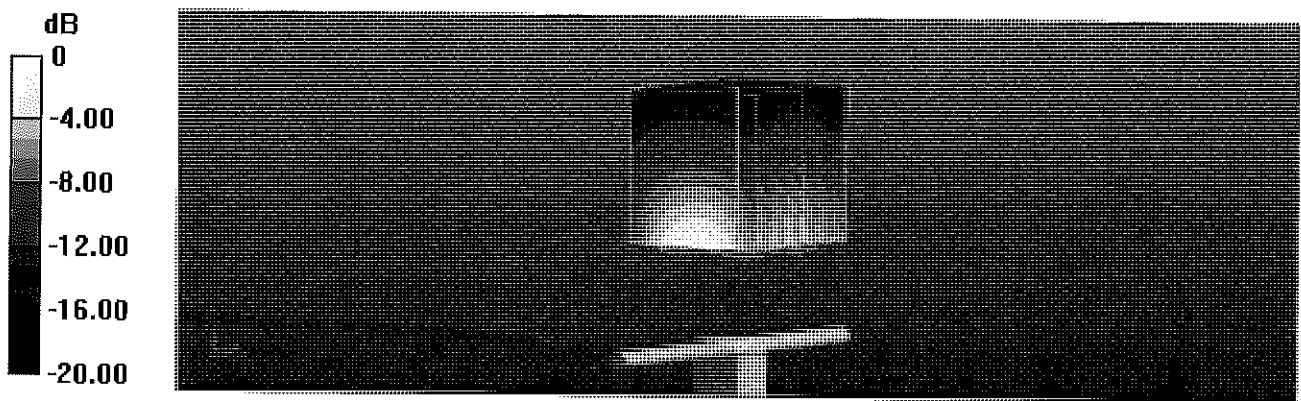
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 101.4 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 15.8 W/kg

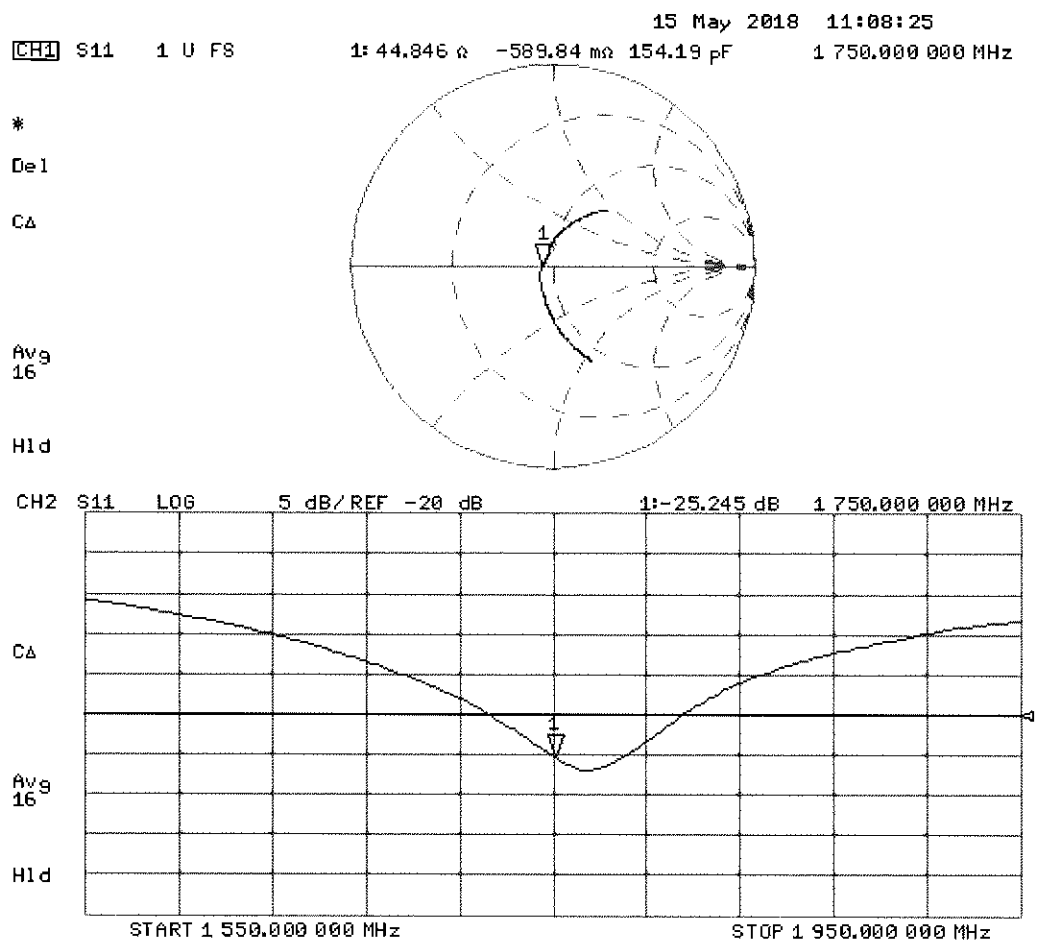
**SAR(1 g) = 8.99 W/kg; SAR(10 g) = 4.81 W/kg**

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



# Certification of Calibration

Object D1750V2 – SN: 1092

Calibration procedure(s) Procedure for Calibration Extension for SAR Dipoles.

Extended Calibration date: May 15, 2019

Description: SAR Validation Dipole at 1750 MHz.

## Calibration Equipment used:

| Manufacturer          | Model     | Description                                             | Cal Date   | Cal Interval | Cal Due    | Serial Number |
|-----------------------|-----------|---------------------------------------------------------|------------|--------------|------------|---------------|
| Agilent               | 8753ES    | S-Parameter Network Analyzer                            | 10/2/2018  | Annual       | 10/2/2019  | US39170118    |
| Agilent               | N5182A    | MXG Vector Signal Generator                             | 6/15/2018  | Annual       | 6/15/2019  | MY47420837    |
| Amplifier Research    | 15S1G6    | Amplifier                                               | CBT        | N/A          | CBT        | 343972        |
| Anritsu               | ML2495A   | Power Meter                                             | 10/21/2018 | Annual       | 10/21/2019 | 941001        |
| 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       |
| Control Company       | 4040      | Temperature / Humidity Monitor                          | 2/28/2018  | Biennial     | 2/28/2020  | 150761911     |
| Control Company       | 4352      | Ultra Long Stem Thermometer                             | 2/28/2018  | Biennial     | 2/28/2020  | 170330160     |
| 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                                            | 9/11/2018  | Annual       | 9/11/2019  | 1045          |
| SPEAG                 | EX3DV4    | SAR Probe                                               | 7/20/2018  | Annual       | 7/20/2019  | 7416          |
| SPEAG                 | DAE4      | Dasy Data Acquisition Electronics                       | 7/10/2018  | Annual       | 7/10/2019  | 1402          |

Measurement Uncertainty =  $\pm 23\%$  (k=2)

|                | Name            | Function                 | Signature           |
|----------------|-----------------|--------------------------|---------------------|
| Calibrated By: | Parker Jones    | Team Lead Engineer       | <i>Parker Jones</i> |
| Approved By:   | Kaitlin O'Keefe | Senior Technical Manager | <i>KOK</i>          |

# DIPOLE CALIBRATION EXTENSION

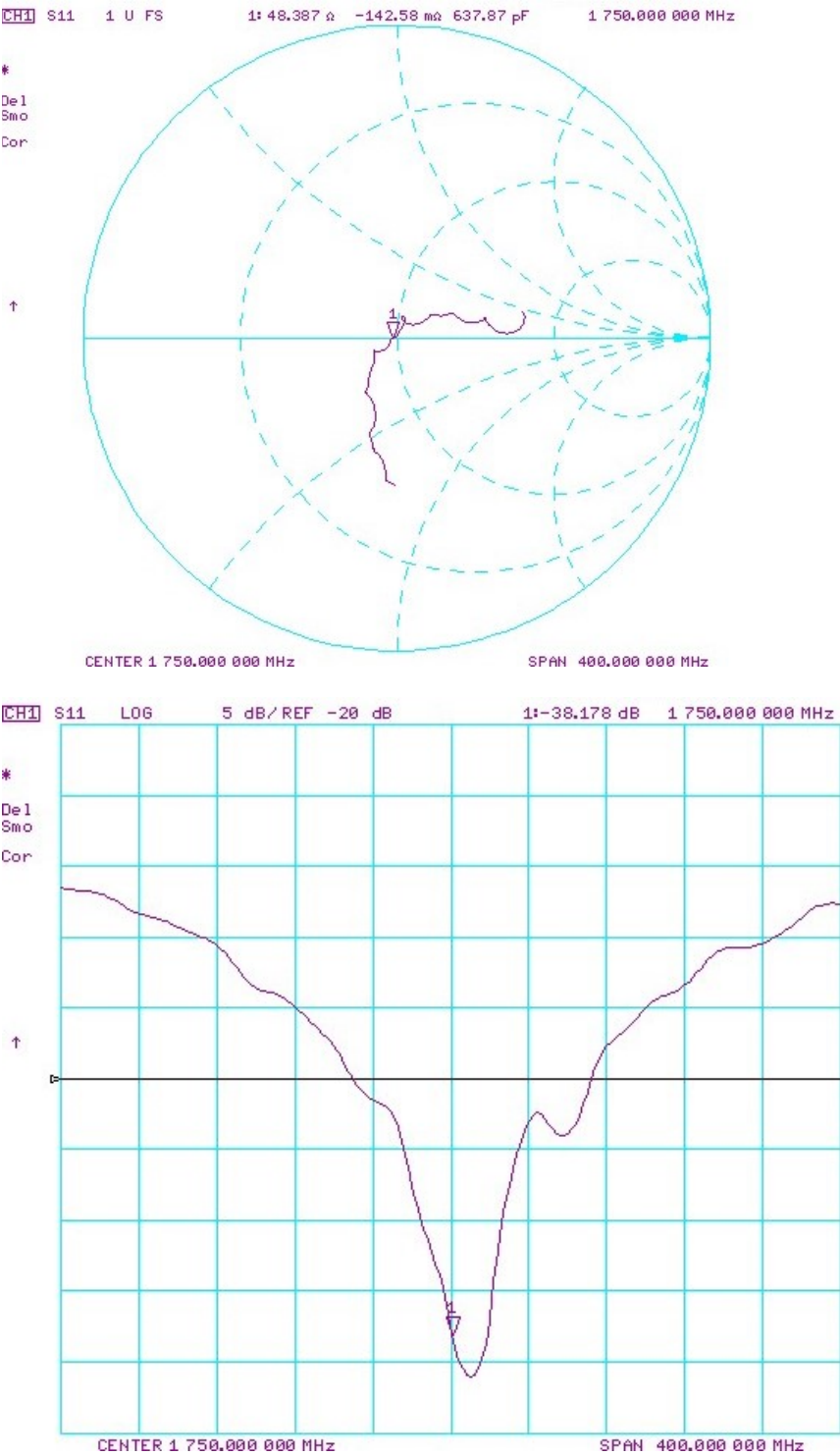
Per KDB 865664 D01, calibration intervals of up to three years may be considered for reference dipoles when it is demonstrated that the SAR target, impedance and return loss of a dipole have remained stable according to the following requirements:

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.

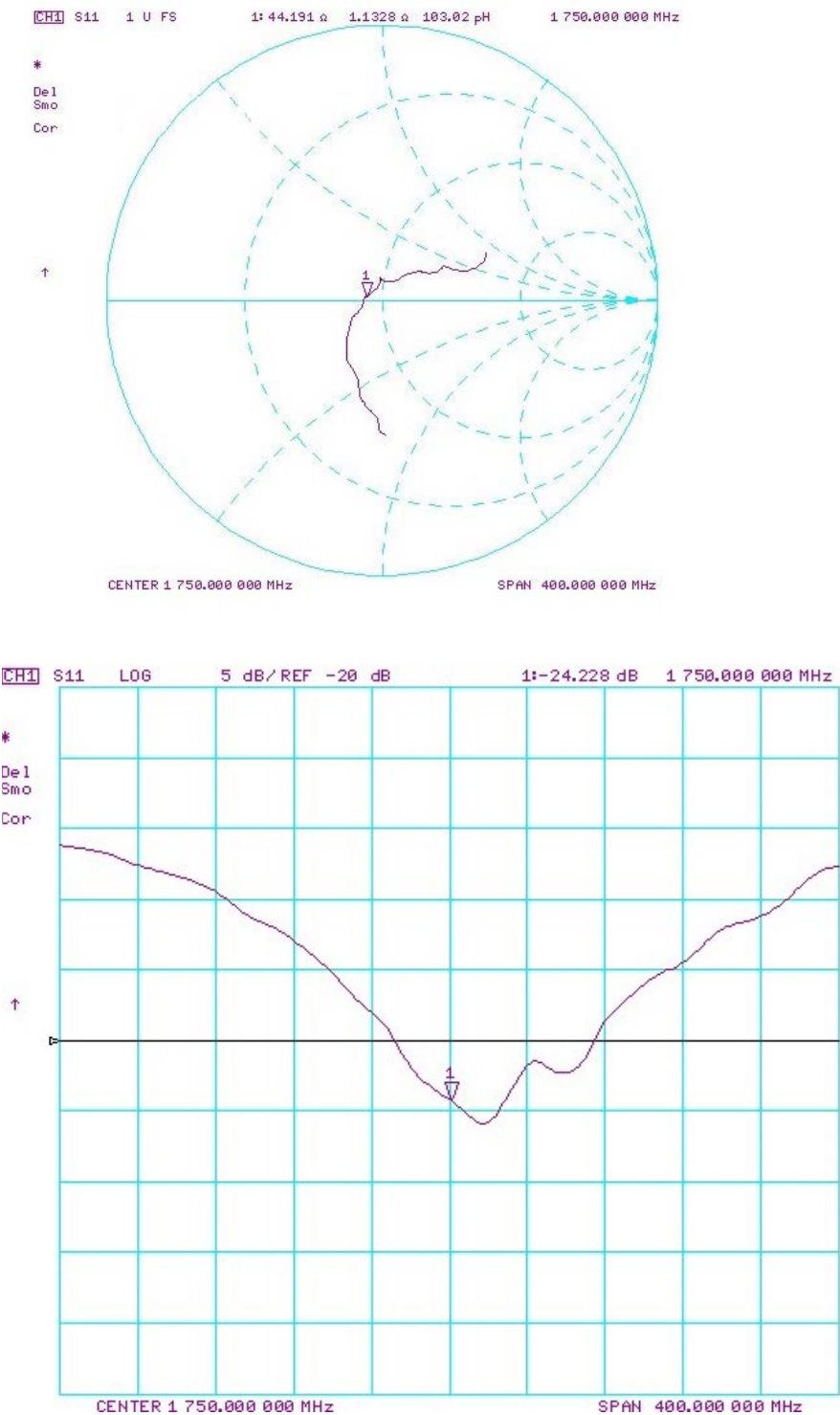
The following dipole was checked to pass the above 3 requirements to have 2-year calibration period from the calibration date:

| 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 Body (10g) W/kg @ 20.0 dBm | Measured Body 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 |
|------------------|----------------|-----------------------------------|--------------------------------------------------|----------------------------------------|------------------|---------------------------------------------------|-----------------------------------------|-------------------|---------------------------------------|------------------------------------|-----------------------|--------------------------------------------|-----------------------------------------|----------------------------|-----------------------------------|--------------------------------|---------------|-----------|
| 5/15/2018        | 5/15/2019      | 1.217                             | 3.61                                             | 3.59                                   | -0.55%           | 1.9                                               | 1.89                                    | -0.53%            | 49.2                                  | 48.4                               | 0.8                   | -1                                         | -0.1                                    | 0.9                        | -37.8                             | -38.2                          | -1.00%        | 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 |
| 5/15/2018        | 5/15/2019      | 1.217                             | 3.64                                             | 3.62                                   | -0.55%           | 1.94                                              | 1.91                                    | -1.59%            | 44.8                                  | 44.2                               | 0.6                   | -0.6                                       | 1.1                                     | 1.7                        | -25.2                             | -24.2                          | 3.90%         | PASS      |

Impedance & Return-Loss Measurement Plot for Head TSL



Impedance & Return-Loss Measurement Plot for Body TSL



## Certification of Calibration

Object: D1750V2 – SN: 1092

Calibration procedure(s): Procedure for Calibration Extension for SAR Dipoles.

Extended Calibration date: May 15, 2020

Description: SAR Validation Dipole at 1750 MHz.

Calibration Equipment used:

| Manufacturer          | Model     | Description                                             | Cal Date  | Cal Interval | Cal Due   | Serial Number |
|-----------------------|-----------|---------------------------------------------------------|-----------|--------------|-----------|---------------|
| Agilent               | 8753ES    | S-Parameter Network Analyzer                            | 1/16/2020 | Annual       | 1/16/2021 | US39170118    |
| Agilent               | N5182A    | MXG Vector Signal Generator                             | 8/19/2019 | Annual       | 8/19/2020 | MY47420837    |
| Amplifier Research    | 15S1G6    | Amplifier                                               | CBT       | N/A          | CBT       | 343972        |
| Anritsu               | MA2411B   | Pulse Power Sensor                                      | 1/21/2020 | Annual       | 1/21/2021 | 1207470       |
| Anritsu               | MA2411B   | Pulse Power Sensor                                      | 1/21/2020 | Annual       | 1/21/2021 | 1339007       |
| Anritsu               | ML2495A   | Power Meter                                             | 1/15/2020 | Annual       | 1/15/2021 | 1328004       |
| Control Company       | 62344-734 | Therm./ Clock/ Humidity Monitor                         | 3/18/2019 | Biennial     | 3/18/2021 | 192038436     |
| Control Company       | 4352      | Ultra Long Stem Thermometer                             | 8/2/2018  | Biennial     | 8/2/2020  | 181292000     |
| Keysight Technologies | 85033E    | Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm) | 7/2/2019  | Annual       | 7/2/2020  | MY53401181    |
| MiniCircuits          | VLF-6000+ | Low Pass Filter                                         | CBT       | N/A          | CBT       | N/A           |
| Mini-Circuits         | BW-N20W5+ | DC to 18 GHz Precision Fixed 20 dB Attenuator           | 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            | NC-100    | Torque Wrench                                           | 5/23/2018 | Biennial     | 5/23/2020 | N/A           |
| SPEAG                 | DAE4      | Dasy Data Acquisition Electronics                       | 2/13/2020 | Annual       | 2/13/2021 | 1403          |
| SPEAG                 | DAE4      | Dasy Data Acquisition Electronics                       | 3/19/2020 | Annual       | 3/19/2021 | 604           |
| SPEAG                 | DAK-3.5   | Dielectric Assessment Kit                               | 5/12/2020 | Annual       | 5/12/2021 | 1070          |
| SPEAG                 | EX3DV4    | SAR Probe                                               | 2/19/2020 | Annual       | 2/19/2021 | 7427          |
| SPEAG                 | EX3DV4    | SAR Probe                                               | 3/20/2020 | Annual       | 3/20/2021 | 7421          |

Measurement Uncertainty =  $\pm 23\%$  (k=2)

|                | Name            | Function           | Signature           |
|----------------|-----------------|--------------------|---------------------|
| Calibrated By: | Parker Jones    | Team Lead Engineer | <i>Parker Jones</i> |
| Approved By:   | Kaitlin O'Keefe | Managing Director  | <i>KOK</i>          |

# DIPOLE CALIBRATION EXTENSION

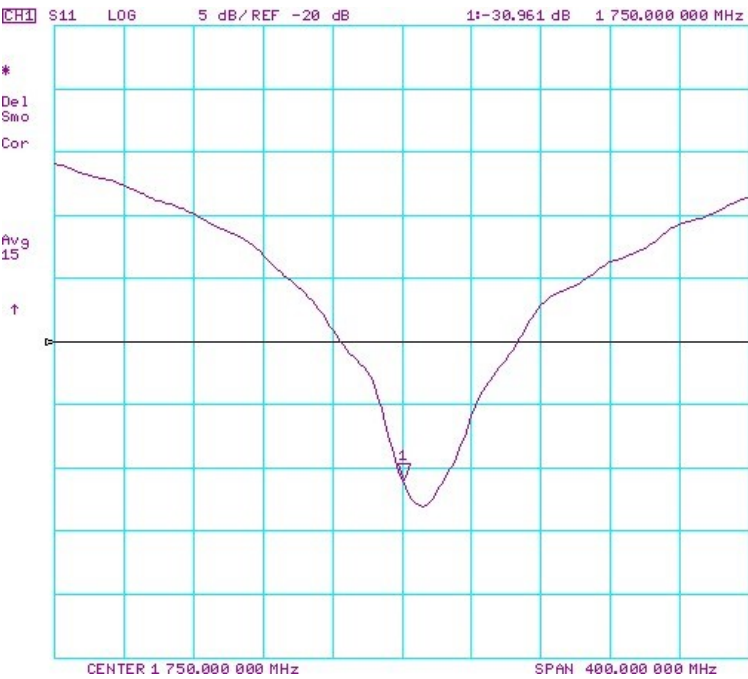
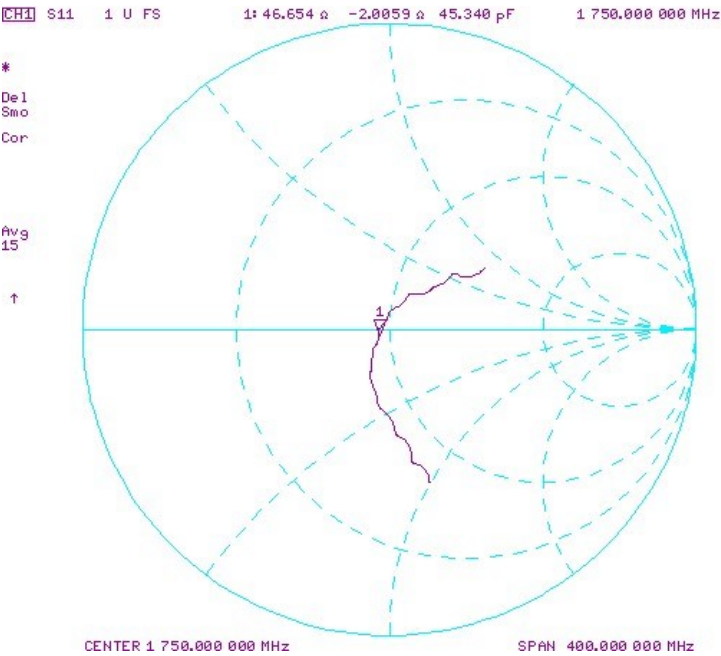
Per KDB 865664 D01, calibration intervals of up to three years may be considered for reference dipoles when it is demonstrated that the SAR target, impedance and return loss of a dipole have remained stable according to the following requirements:

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.

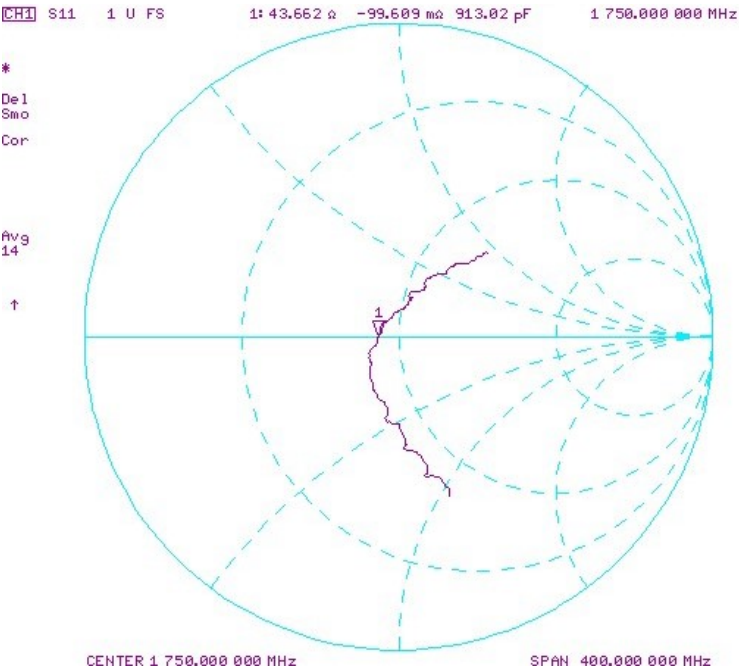
The following dipole was checked to pass the above 3 requirements to have 3-year calibration period from the calibration date:

| 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 Body (10g) W/kg @ 20.0 dBm | Measured Body 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 |
|------------------|----------------|-----------------------------------|--------------------------------------------------|----------------------------------------|------------------|---------------------------------------------------|-----------------------------------------|-------------------|---------------------------------------|------------------------------------|-----------------------|--------------------------------------------|-----------------------------------------|----------------------------|-----------------------------------|--------------------------------|---------------|-----------|
| 5/15/2018        | 5/15/2020      | 1.217                             | 3.61                                             | 3.7                                    | 2.49%            | 1.9                                               | 1.97                                    | 3.68%             | 49.2                                  | 46.7                               | 2.5                   | -1                                         | -2                                      | 1                          | -37.8                             | -31                            | 18.00%        | 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 |
| 5/15/2018        | 5/15/2020      | 1.217                             | 3.64                                             | 3.77                                   | 3.57%            | 1.94                                              | 2                                       | 3.09%             | 44.8                                  | 43.7                               | 1.1                   | -0.6                                       | -0.1                                    | 0.5                        | -25.2                             | -23.6                          | 6.30%         | PASS      |

Impedance & Return-Loss Measurement Plot for Head TSL



Impedance & Return-Loss Measurement Plot for Body TSL



**Calibration Laboratory of**  
**Schmid & Partner**  
**Engineering AG**  
 Zeughausstrasse 43, 8004 Zurich, Switzerland



**S** Schweizerischer Kalibrierdienst  
**C** Service suisse d'étalonnage  
**S** Servizio svizzero di taratura  
**S** Swiss Calibration Service

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: **D1750V2-1104\_Sep17**

## CALIBRATION CERTIFICATE

Object **D1750V2 - SN:1104**

Calibration procedure(s) **QA CAL-05.v9**  
 Calibration procedure for dipole validation kits above 700 MHz

Calibration date: **September 07, 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     | 16-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: **Michael Weber**      Name: **Michael Weber**      Function: **Laboratory Technician**

Approved by: **Katja Pokovic**      Name: **Katja Pokovic**      Technical Manager

Signature

*[Signature]*

*[Signature]*

Issued: September 7, 2017

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 0108**

The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

**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> | 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 | 39.1 $\pm$ 6 % | 1.36 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 | 9.11 W/kg                                      |
| SAR for nominal Head 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 Head TSL</b> | condition          |                                                |
| SAR measured                                                  | 250 mW input power | 4.81 W/kg                                      |
| SAR for nominal Head TSL parameters                           | normalized to 1W   | <b>19.2 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 | 53.8 $\pm$ 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 | 9.03 W/kg                                      |
| SAR for nominal Body TSL parameters                         | normalized to 1W   | <b>36.6 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 | 4.85 W/kg                                      |
| SAR for nominal Body TSL parameters                           | normalized to 1W   | <b>19.6 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 | 50.8 $\Omega$ - 0.2 j $\Omega$ |
| Return Loss                          | - 41.5 dB                      |

### Antenna Parameters with Body TSL

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 46.5 $\Omega$ - 0.7 j $\Omega$ |
| Return Loss                          | - 28.7 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 | May 16, 2013 |

## DASY5 Validation Report for Head TSL

Date: 07.09.2017

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN:1104**

Communication System: UID 0 - CW; Frequency: 1750 MHz

Medium parameters used:  $f = 1750 \text{ MHz}$ ;  $\sigma = 1.36 \text{ S/m}$ ;  $\epsilon_r = 39.1$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.73, 8.73, 8.73); 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:

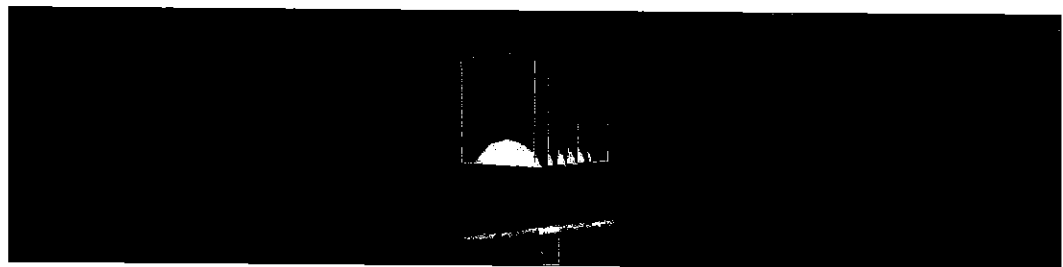
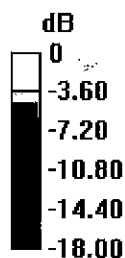
Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 104.9 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 17.0 W/kg

**SAR(1 g) = 9.11 W/kg; SAR(10 g) = 4.81 W/kg**

Maximum value of SAR (measured) = 13.9 W/kg

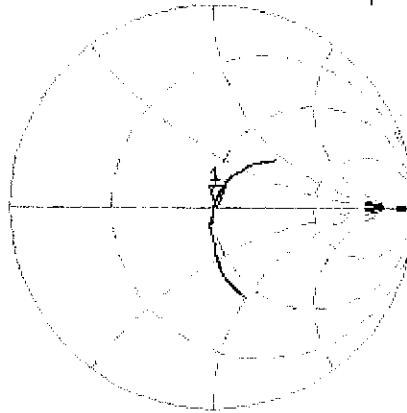


0 dB = 13.9 W/kg = 11.43 dBW/kg

# Impedance Measurement Plot for Head TSL

7 Sep 2017 12:19:31  
 CH1 S11 1 U FS 1: 50.834  $\Omega$  -150.39 m $\Omega$  604.73 pF 1 750.000 000 MHz

\*  
 Del  
 CA



Avg  
 16

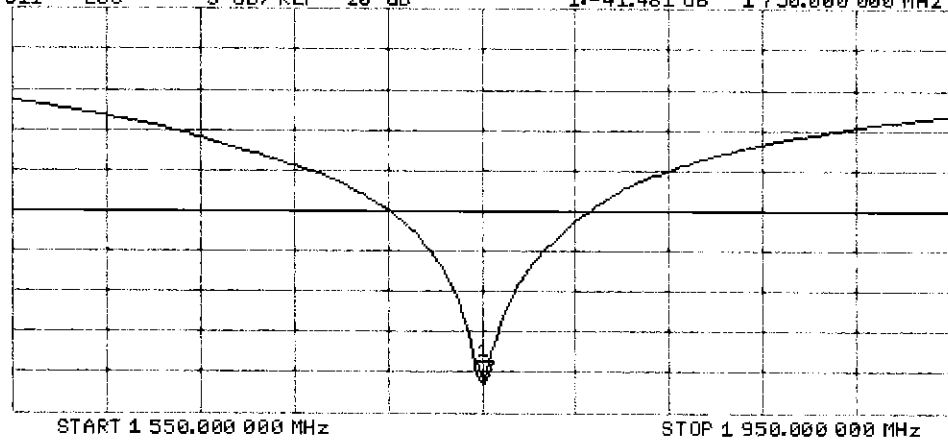
H1d

CH2 S11 LOG 5 dB/REF -20 dB 1:-41.481 dB 1 750.000 000 MHz

CA

Avg  
 16

H1d



## DASY5 Validation Report for Body TSL

Date: 07.09.2017

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN:1104**

Communication System: UID 0 - CW; Frequency: 1750 MHz

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.46$  S/m;  $\epsilon_r = 53.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.46, 8.46, 8.46); 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:

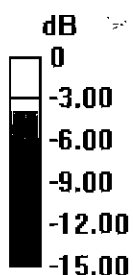
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 99.30 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 15.6 W/kg

**SAR(1 g) = 9.03 W/kg; SAR(10 g) = 4.85 W/kg**

Maximum value of SAR (measured) = 12.9 W/kg

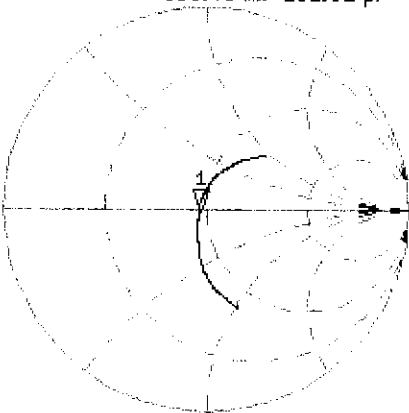


0 dB = 12.9 W/kg = 11.11 dBW/kg

Impedance Measurement Plot for Body TSL

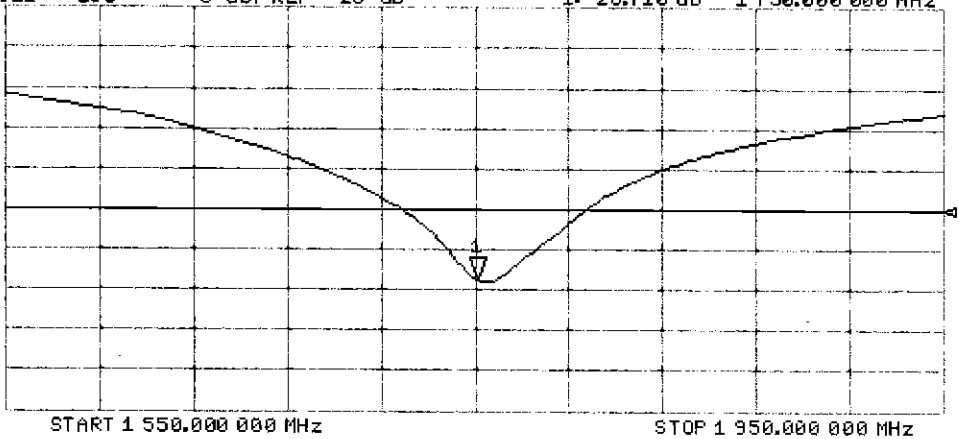
7 Sep 2017 12:18:38  
CH1 S11 1 U FS 1: 46.527  $\Omega$  -689.45 m $\Omega$  131.91 pF 1 750.000 000 MHz

\*  
Del  
CA  
Avg  
16  
H1d



CH2 S11 LOG 5 dB/REF -20 dB 1: -28.710 dB 1 750.000 000 MHz

CA  
Avg  
16  
H1d



# Certification of Calibration

Object D1750V2 – SN: 1104

Calibration procedure(s) Procedure for Calibration Extension for SAR Dipoles.

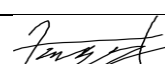
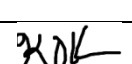
Extended Calibration date: September 07, 2018

Description: SAR Validation Dipole at 1750 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          |

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

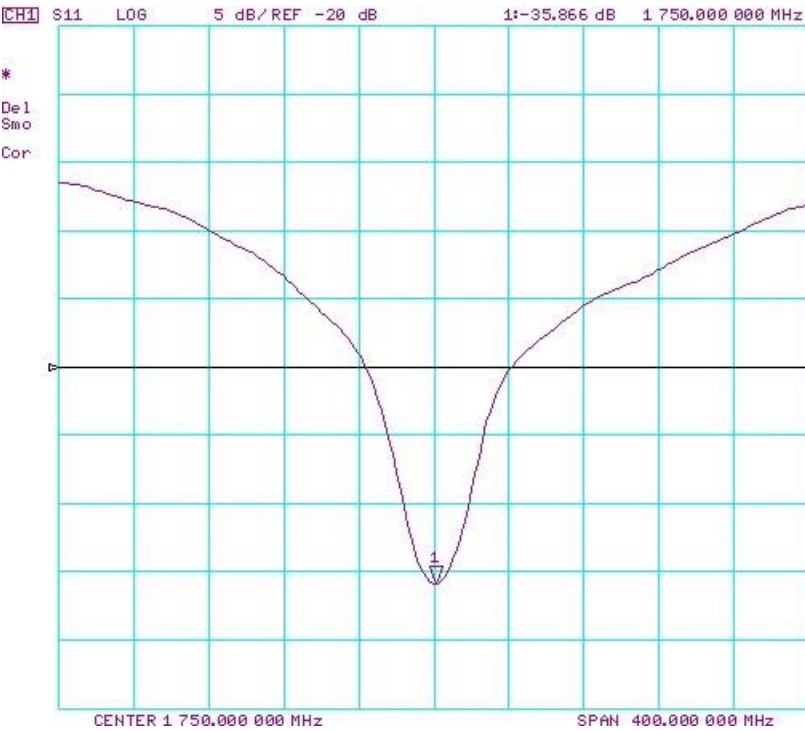
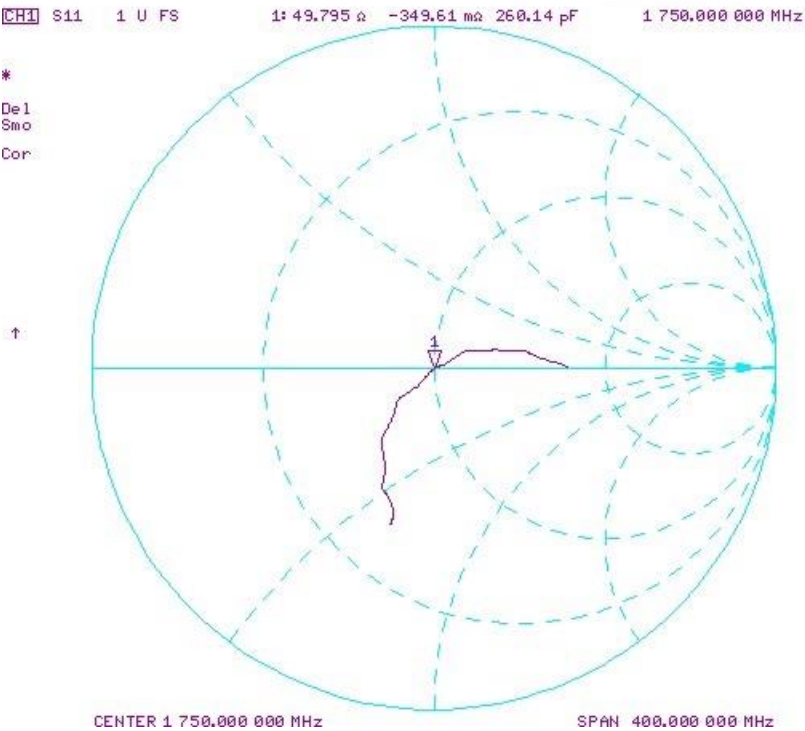
Per KDB 865664 D01, calibration intervals of up to three years may be considered for reference dipoles when it is demonstrated that the SAR target, impedance and return loss of a dipole have remained stable according to the following requirements:

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.

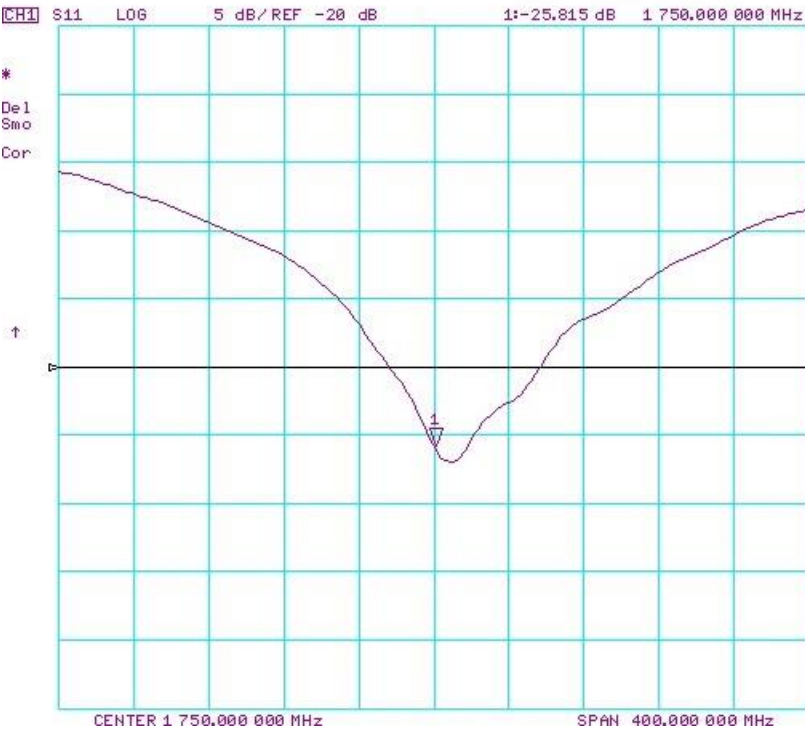
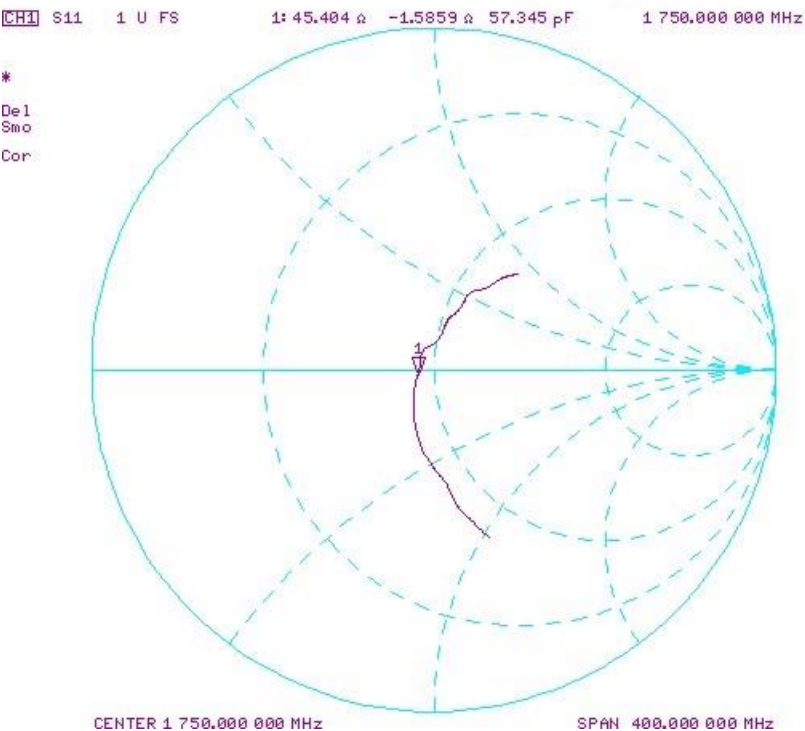
The following dipole was checked to pass the above 3 requirements to have 2-year calibration period from the calibration date:

| Calibration Date | Extension Date | Certificate Electrical Delay (ns) | Certificate SAR Target Head (1g) W/kg @ 20.0 dBm | Measured Head 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 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 |
|------------------|----------------|-----------------------------------|--------------------------------------------------|----------------------------------------|------------------|---------------------------------------------------|-----------------------------------------|-------------------|---------------------------------------|------------------------------------|-----------------------|--------------------------------------------|-----------------------------------------|----------------------------|-----------------------------------|--------------------------------|---------------|-----------|
| 9/7/2017         | 9/7/2018       | 1.217                             | 3.64                                             | 3.62                                   | -0.55%           | 1.92                                              | 1.94                                    | 1.04%             | 50.8                                  | 49.8                               | 1                     | -0.2                                       | -0.3                                    | 0.1                        | -41.5                             | -35.9                          | 13.50%        | 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 |
| 9/7/2017         | 9/7/2018       | 1.217                             | 3.66                                             | 3.84                                   | 4.92%            | 1.96                                              | 2.07                                    | 5.61%             | 46.527                                | 45.4                               | 1.1                   | -0.69                                      | -1.6                                    | 0.9                        | -28.7                             | -25.8                          | 10.10%        | PASS      |

Impedance & Return-Loss Measurement Plot for Head TSL



Impedance & Return-Loss Measurement Plot for Body TSL



# Certification of Calibration

Object D1750V2 – SN: 1104

Calibration procedure(s) Procedure for Calibration Extension for SAR Dipoles.

Extended Calibration date: September 7, 2019

Description: SAR Validation Dipole at 1750 MHz.

## Calibration Equipment used:

| Manufacturer          | Model     | Description                                             | Cal Date   | Cal Interval | Cal Due    | Serial Number |
|-----------------------|-----------|---------------------------------------------------------|------------|--------------|------------|---------------|
| Agilent               | 8753ES    | S-Parameter Network Analyzer                            | 10/2/2018  | Annual       | 10/2/2019  | US39170118    |
| Agilent               | E4438C    | ESG Vector Signal Generator                             | 6/27/2019  | Annual       | 6/27/2020  | MY45093852    |
| Amplifier Research    | 15S1G6    | Amplifier                                               | CBT        | N/A          | CBT        | 343972        |
| Anritsu               | ML2495A   | Power Meter                                             | 10/21/2018 | Annual       | 10/21/2019 | 941001        |
| 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       |
| Control Company       | 4040      | Temperature / Humidity Monitor                          | 2/28/2018  | Biennial     | 2/28/2020  | 150761911     |
| Control Company       | 4352      | Ultra Long Stem Thermometer                             | 2/28/2018  | Biennial     | 2/28/2020  | 170330160     |
| Keysight Technologies | 85033E    | Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm) | 7/2/2019   | Annual       | 7/2/2020   | MY53401181    |
| Keysight              | 772D      | Dual Directional Coupler                                | CBT        | N/A          | CBT        | MY52180215    |
| 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            | NC-100    | Torque Wrench                                           | 11/1/2017  | Biennial     | 11/1/2019  | N/A           |
| SPEAG                 | DAK-3.5   | Dielectric Assessment Kit                               | 5/7/2019   | Annual       | 5/7/2020   | 1070          |
| SPEAG                 | EX3DV4    | SAR Probe                                               | 1/24/2019  | Annual       | 1/24/2020  | 7490          |
| SPEAG                 | DAE4      | Data Acquisition Electronics                            | 1/15/2019  | Annual       | 1/15/2020  | 1532          |

Measurement Uncertainty =  $\pm 23\%$  (k=2)

|                | Name            | Function                 | Signature           |
|----------------|-----------------|--------------------------|---------------------|
| Calibrated By: | Parker Jones    | Team Lead Engineer       | <i>Parker Jones</i> |
| Approved By:   | Kaitlin O'Keefe | Senior Technical Manager | <i>KOK</i>          |

# 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:

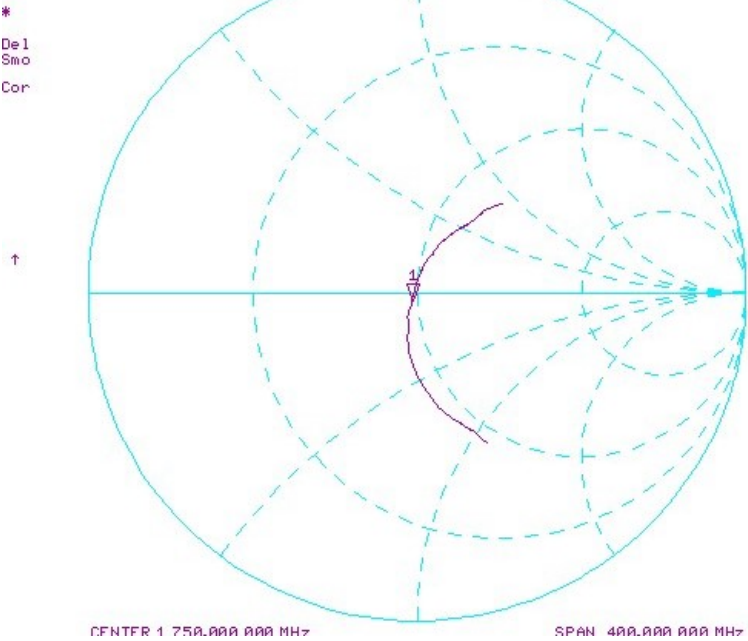
1. The measured SAR does not deviate more than 10% from the target on the calibration certificate.
2. The return-loss does not deviate more than 20% from the previous measurement and meets the required 20dB minimum return-loss requirement.
3. The measurement of real or imaginary parts of impedance does not deviate more than 5Ω from the previous measurement.

The following dipole was checked to pass the above 3 requirements to have 3-year calibration period from the calibration date:

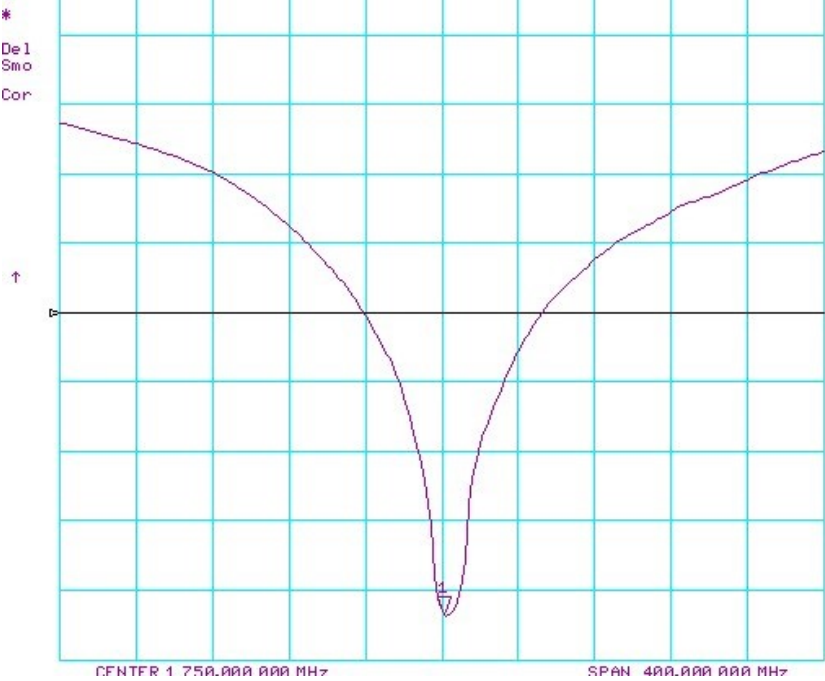
| Calibration Date | Extension Date | Certificate Electrical Delay (ns) | Certificate SAR Target Head (1g) W/kg @ 20.0 dBm | Measured Head SAR (1g) W/kg @ 20.0 dBm | Deviation 1g (%) | Certificate SAR Target Body (10g) W/kg @ 20.0 dBm | Measured Body SAR (10g) W/kg @ 20.0 dBm | Deviation 10g (%) | Certificate 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 |
|------------------|----------------|-----------------------------------|--------------------------------------------------|----------------------------------------|------------------|---------------------------------------------------|-----------------------------------------|-------------------|---------------------------------------|------------------------------------|-----------------------|--------------------------------------------|-----------------------------------------|----------------------------|-----------------------------------|--------------------------------|---------------|-----------|
| 9/7/2017         | 9/7/2019       | 1.217                             | 3.64                                             | 3.54                                   | -2.75%           | 1.92                                              | 1.88                                    | -2.08%            | 50.8                                  | 48.5                               | -2.3                  | -0.2                                       | -2.5                                    | 2.3                        | -41.5                             | -41.7                          | -0.50%        | 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 |
| 9/7/2017         | 9/7/2019       | 1.217                             | 3.66                                             | 3.67                                   | 0.27%            | 1.96                                              | 1.96                                    | 0.00%             | 46.5                                  | 45.5                               | -1                    | -0.7                                       | -2.3                                    | 1.6                        | -28.7                             | -25.5                          | 11.10%        | PASS      |

Impedance & Return-Loss Measurement Plot for Head TSL

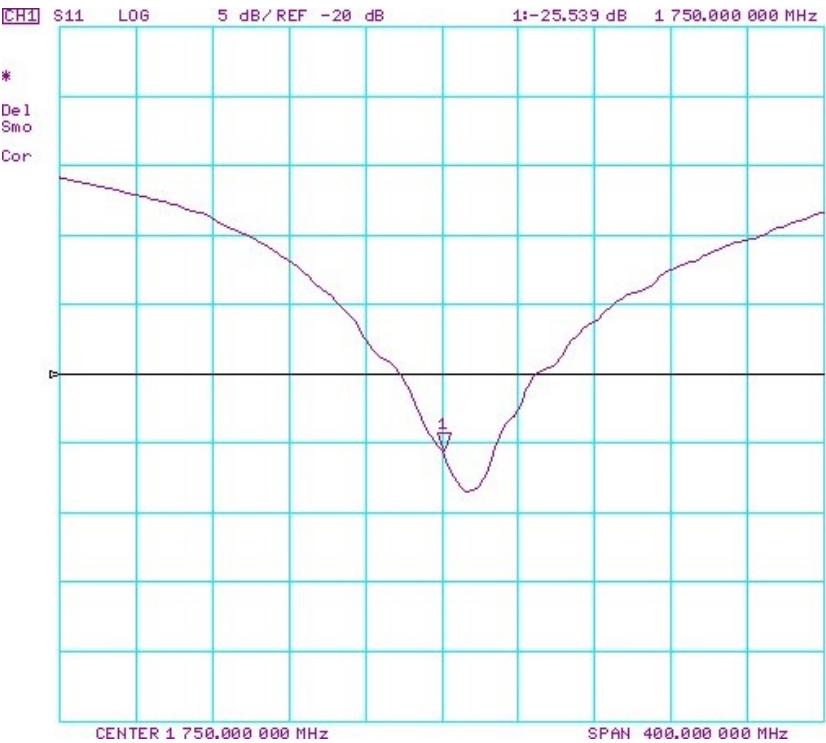
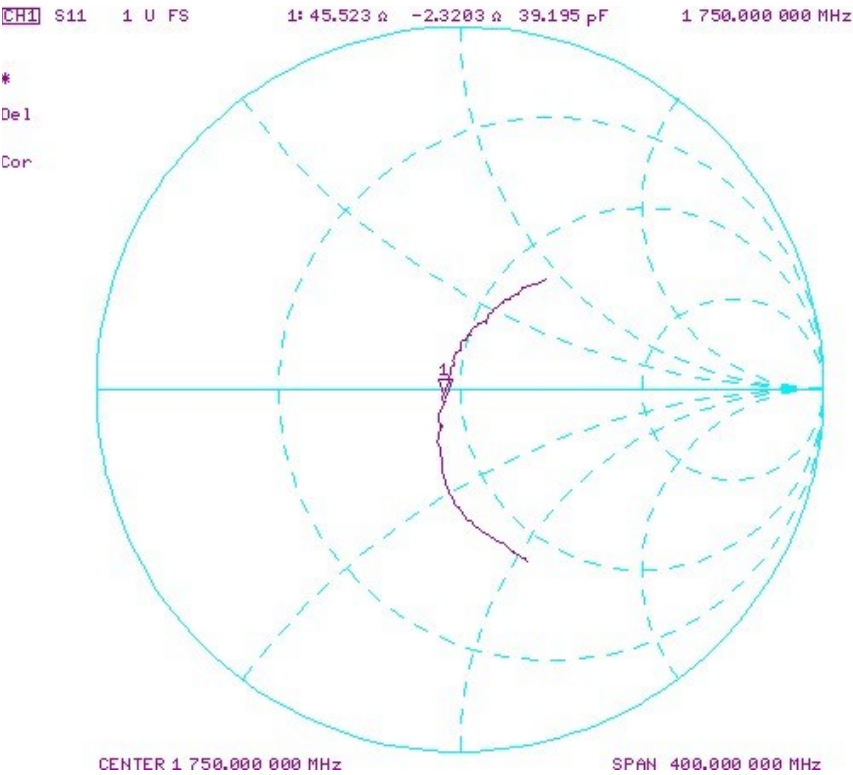
CH1 S11 1 U FS 1: 48.525  $\Omega$  -2.4688  $\Omega$  36.839 pF 1 750.000 000 MHz



CH1 S11 LOG 5 dB/REF -20 dB 1:-41.741 dB 1 750.000 000 MHz



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: **D1900V2-5d030\_Jun19**

## CALIBRATION CERTIFICATE

Object **D1900V2 - SN:5d030**

Calibration procedure(s) **QA CAL-05.v11**  
**Calibration Procedure for SAR Validation Sources between 0.7-3 GHz**

Calibration date: **June 19, 2019**

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         | 03-Apr-19 (No. 217-02892/02893) | Apr-20                |
| Power sensor NRP-Z91        | SN: 103244         | 03-Apr-19 (No. 217-02892)       | Apr-20                |
| Power sensor NRP-Z91        | SN: 103245         | 03-Apr-19 (No. 217-02893)       | Apr-20                |
| Reference 20 dB Attenuator  | SN: 5058 (20k)     | 04-Apr-19 (No. 217-02894)       | Apr-20                |
| Type-N mismatch combination | SN: 5047.2 / 06327 | 04-Apr-19 (No. 217-02895)       | Apr-20                |
| Reference Probe EX3DV4      | SN: 7349           | 29-May-19 (No. EX3-7349_May19)  | May-20                |
| DAE4                        | SN: 601            | 30-Apr-19 (No. DAE4-601_Apr19)  | Apr-20                |

| Secondary Standards             | ID #           | Check Date (In house)             | Scheduled Check        |
|---------------------------------|----------------|-----------------------------------|------------------------|
| Power meter E4419B              | SN: GB39512476 | 30-Oct-14 (In house check Feb-19) | 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: **Gaudio Leubler** **Laboratory Technician**

Approved by: **Katja Pokovic** **Technical Manager**

Signature

Issued: June 20, 2019

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 0108**

The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

### 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                  | V52.10.2    |
| <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>                    | 1900 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             | 40.0           | 1.40 mho/m           |
| <b>Measured Head TSL parameters</b>            | (22.0 $\pm$ 0.2) °C | 41.4 $\pm$ 6 % | 1.39 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 | 9.85 W/kg                                      |
| SAR for nominal Head TSL parameters                         | normalized to 1W   | <b>39.9 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 | 5.19 W/kg                                      |
| SAR for nominal Head TSL parameters                           | normalized to 1W   | <b>20.9 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             | 53.3           | 1.52 mho/m           |
| <b>Measured Body TSL parameters</b>            | (22.0 $\pm$ 0.2) °C | 54.2 $\pm$ 6 % | 1.50 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 | 9.86 W/kg                                      |
| SAR for nominal Body TSL parameters                         | normalized to 1W   | <b>39.9 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 | 5.24 W/kg                                      |
| SAR for nominal Body TSL parameters                           | normalized to 1W   | <b>21.1 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 | $50.0\ \Omega + 4.2\ j\Omega$ |
| Return Loss                          | - 27.6 dB                     |

### Antenna Parameters with Body TSL

|                                      |                               |
|--------------------------------------|-------------------------------|
| Impedance, transformed to feed point | $47.0\ \Omega + 5.4\ j\Omega$ |
| Return Loss                          | - 24.0 dB                     |

### General Antenna Parameters and Design

|                                  |          |
|----------------------------------|----------|
| Electrical Delay (one direction) | 1.191 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 |
|-----------------|-------|

## DASY5 Validation Report for Head TSL

Date: 19.06.2019

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d030**

Communication System: UID 0 - CW; Frequency: 1900 MHz

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.39$  S/m;  $\epsilon_r = 41.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.44, 8.44, 8.44) @ 1900 MHz; Calibrated: 29.05.2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.04.2019
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.2(1504); SEMCAD X 14.6.12(7470)

### Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

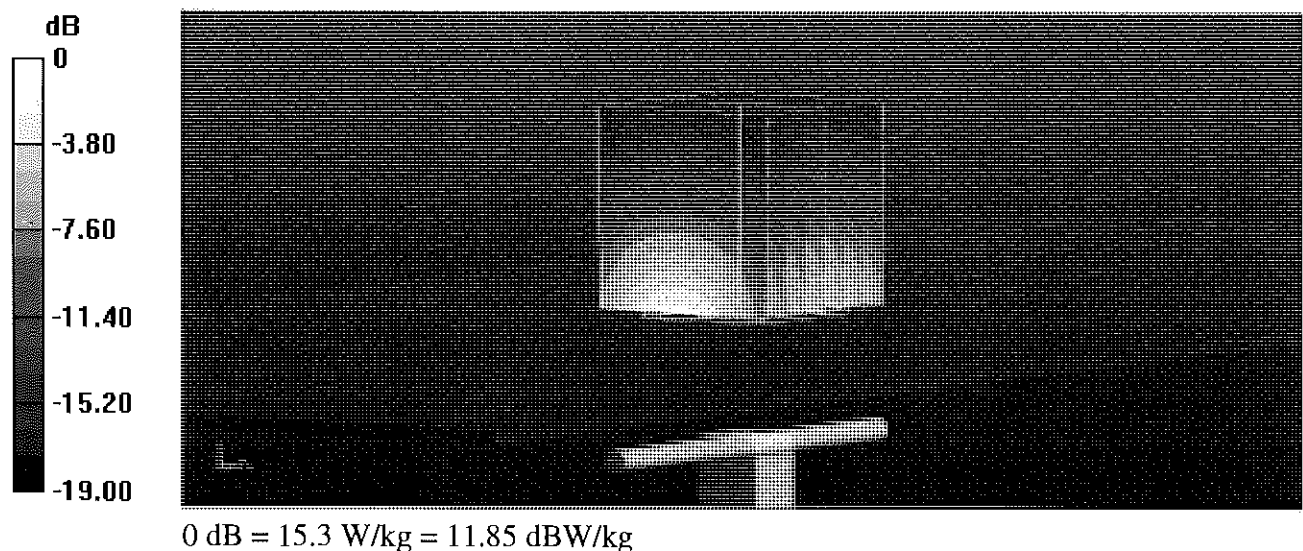
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 109.2 V/m; Power Drift = 0.03 dB

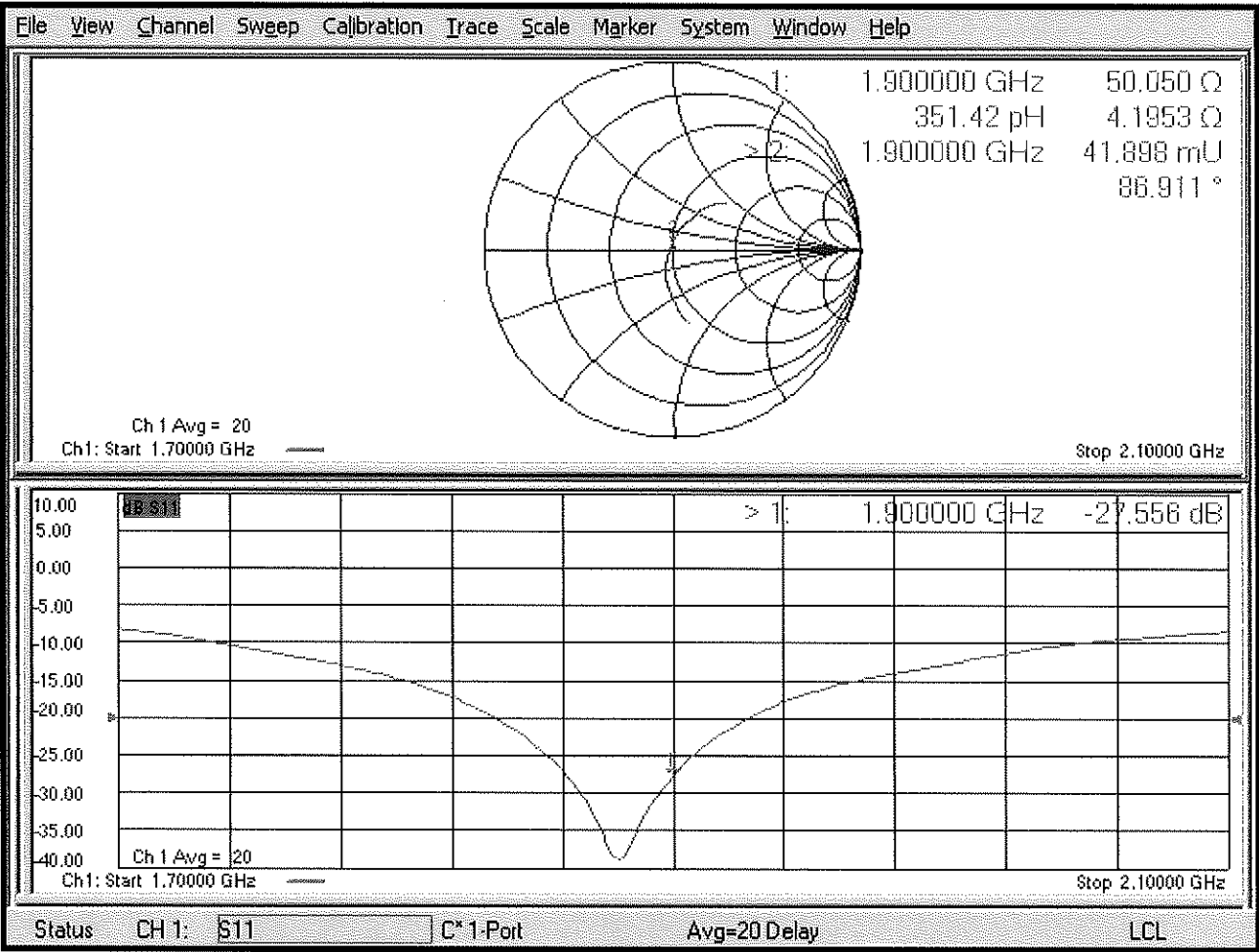
Peak SAR (extrapolated) = 18.2 W/kg

**SAR(1 g) = 9.85 W/kg; SAR(10 g) = 5.19 W/kg**

Maximum value of SAR (measured) = 15.3 W/kg



Impedance Measurement Plot for Head TSL



## DASY5 Validation Report for Body TSL

Date: 19.06.2019

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d030**

Communication System: UID 0 - CW; Frequency: 1900 MHz

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.5$  S/m;  $\epsilon_r = 54.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.42, 8.42, 8.42) @ 1900 MHz; Calibrated: 29.05.2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.04.2019
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.2(1504); SEMCAD X 14.6.12(7470)

### **Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:**

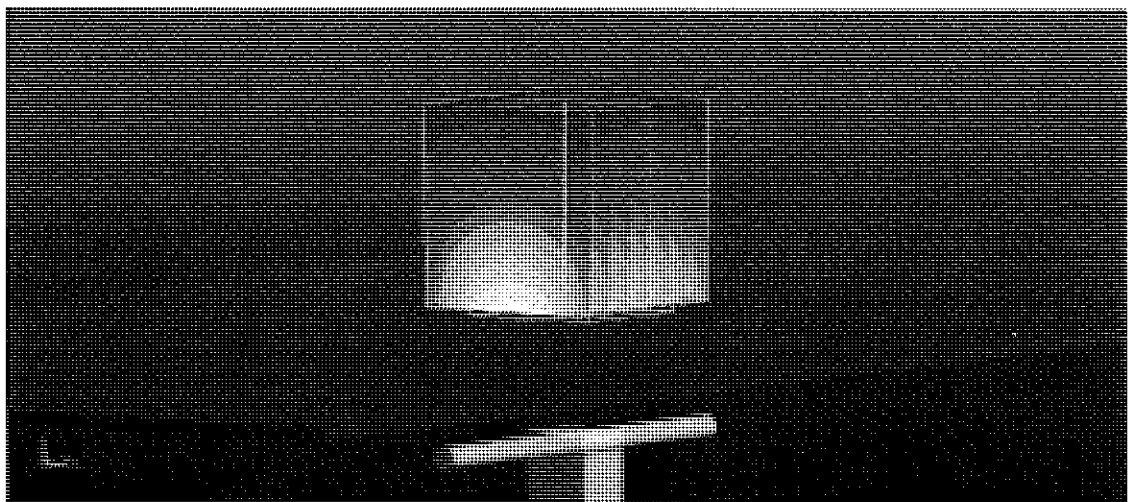
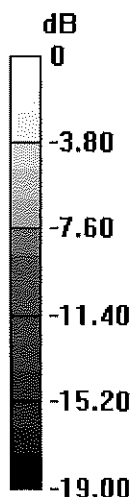
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 104.1 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 17.6 W/kg

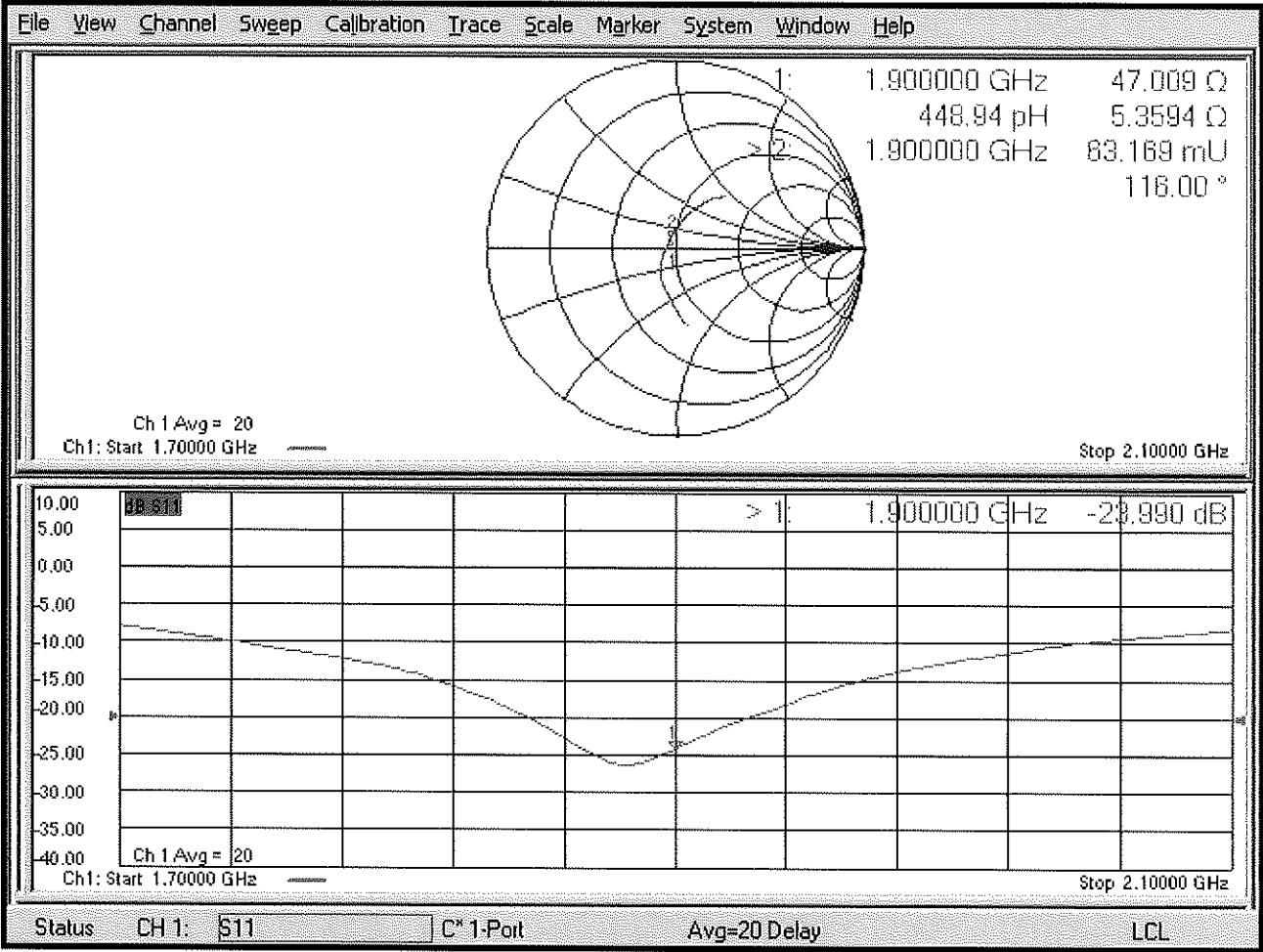
**SAR(1 g) = 9.86 W/kg; SAR(10 g) = 5.24 W/kg**

Maximum value of SAR (measured) = 15.0 W/kg



0 dB = 15.0 W/kg = 11.76 dBW/kg

Impedance Measurement Plot for Body TSL



## Certification of Calibration

Object D1900V2 – SN: 5d030

Calibration procedure(s) Procedure for Calibration Extension for SAR Dipoles.

Extended Calibration date: June 19, 2020

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                            | 1/16/2020 | Annual       | 1/16/2021 | US39170118    |
| Agilent               | N5182A    | MXG Vector Signal Generator                             | 8/19/2019 | Annual       | 8/19/2020 | MY47420837    |
| Amplifier Research    | 15S1G6    | Amplifier                                               | CBT       | N/A          | CBT       | 343972        |
| Anritsu               | MA2411B   | Pulse Power Sensor                                      | 1/21/2020 | Annual       | 1/21/2021 | 1207470       |
| Anritsu               | MA2411B   | Pulse Power Sensor                                      | 1/21/2020 | Annual       | 1/21/2021 | 1339007       |
| Anritsu               | ML2495A   | Power Meter                                             | 1/15/2020 | Annual       | 1/15/2021 | 1328004       |
| Control Company       | 62344-734 | Therm./ Clock/ Humidity Monitor                         | 3/18/2019 | Biennial     | 3/18/2021 | 192038436     |
| Control Company       | 4352      | Ultra Long Stem Thermometer                             | 8/2/2018  | Biennial     | 8/2/2020  | 181292000     |
| Keysight Technologies | 85033E    | Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm) | 7/2/2019  | Annual       | 7/2/2020  | MY53401181    |
| MiniCircuits          | VLF-6000+ | Low Pass Filter                                         | CBT       | N/A          | CBT       | N/A           |
| Mini-Circuits         | BW-N20W5+ | DC to 18 GHz Precision Fixed 20 dB Attenuator           | 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           |
| Seekonk               | NC-100    | Torque Wrench                                           | 7/18/2019 | Annual       | 7/18/2020 | N/A           |
| SPEAG                 | DAE4      | Dasy Data Acquisition Electronics                       | 1/14/2020 | Annual       | 1/14/2021 | 793           |
| SPEAG                 | DAK-3.5   | Dielectric Assessment Kit                               | 5/12/2020 | Annual       | 5/12/2021 | 1070          |
| SPEAG                 | EX3DV4    | SAR Probe                                               | 1/20/2020 | Annual       | 1/20/2021 | 3837          |

Measurement Uncertainty =  $\pm 23\%$  (k=2)

|                | Name            | Function           | Signature           |
|----------------|-----------------|--------------------|---------------------|
| Calibrated By: | Parker Jones    | Team Lead Engineer | <i>Parker Jones</i> |
| Approved By:   | Kaitlin O'Keefe | Managing Director  | <i>KOK</i>          |

# DIPOLE CALIBRATION EXTENSION

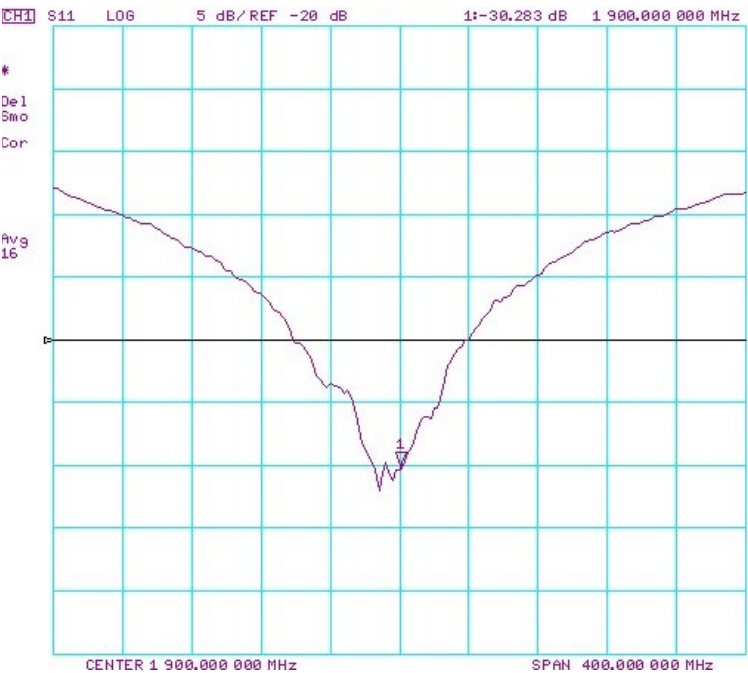
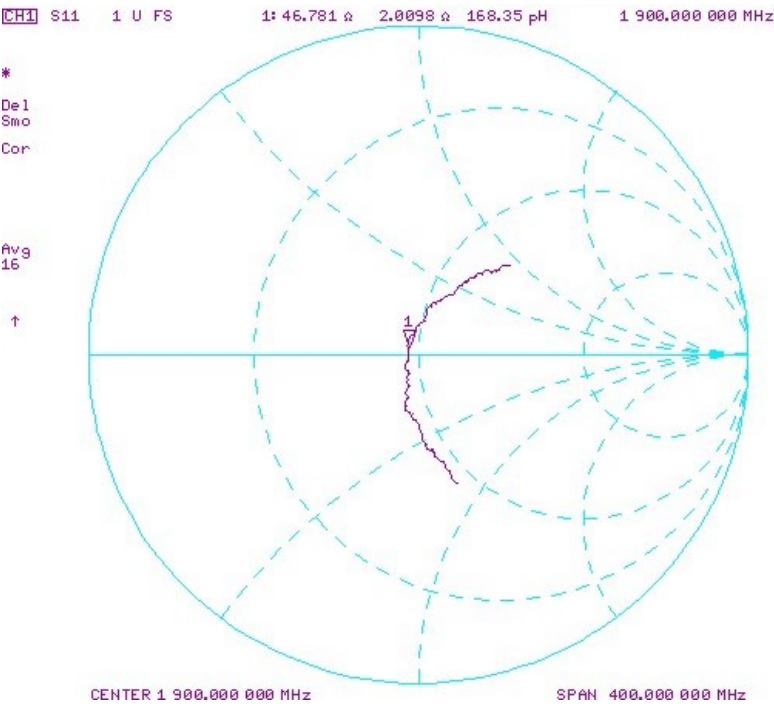
Per KDB 865664 D01, calibration intervals of up to three years may be considered for reference dipoles when it is demonstrated that the SAR target, impedance and return loss of a dipole have remained stable according to the following requirements:

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.

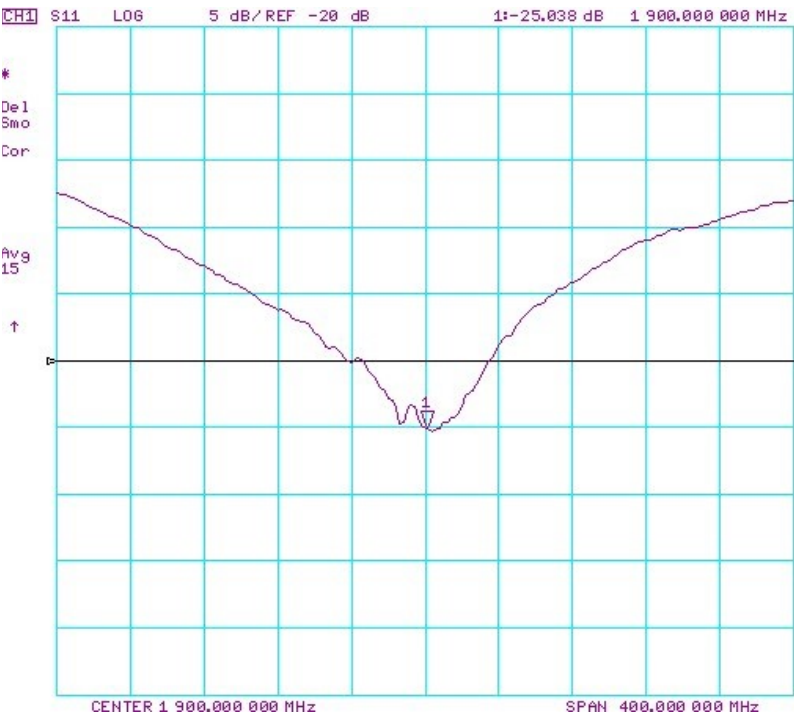
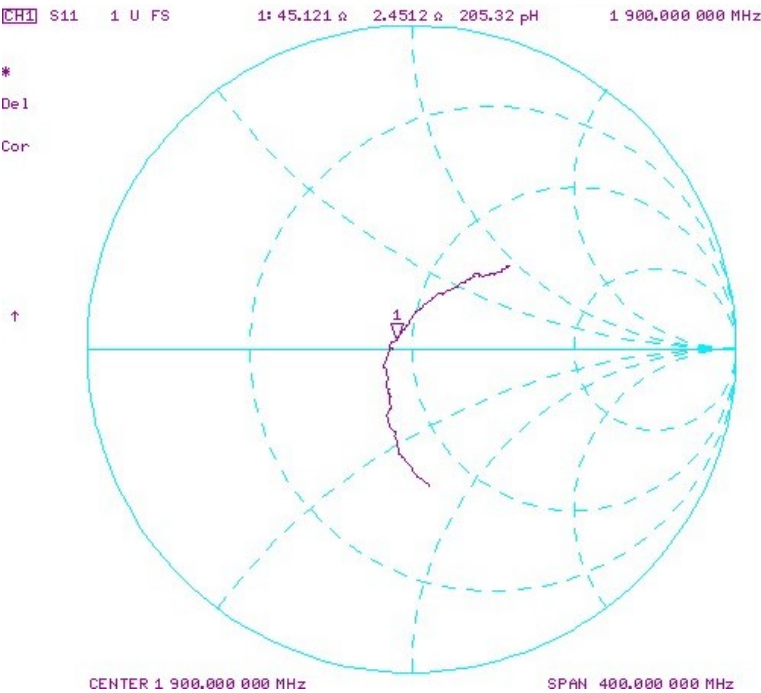
The following dipole was checked to pass the above 3 requirements to have 2-year calibration period from the calibration date:

| 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 Body (10g) W/kg @ 20.0 dBm | Measured Body 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 |
|------------------|----------------|-----------------------------------|--------------------------------------------------|----------------------------------------|------------------|---------------------------------------------------|-----------------------------------------|-------------------|---------------------------------------|------------------------------------|-----------------------|--------------------------------------------|-----------------------------------------|----------------------------|-----------------------------------|--------------------------------|---------------|-----------|
| 6/19/2019        | 6/19/2020      | 1.191                             | 3.99                                             | 4.3                                    | 7.77%            | 2.09                                              | 2.2                                     | 5.25%             | 50                                    | 46.8                               | 3.2                   | 4.2                                        | 2                                       | 2.2                        | -27.6                             | -30.3                          | -9.80%        | 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 |
| 6/19/2019        | 6/19/2020      | 1.191                             | 3.99                                             | 4.29                                   | 7.52%            | 2.11                                              | 2.2                                     | 4.27%             | 47                                    | 45.1                               | 1.9                   | 5.4                                        | 2.5                                     | 2.9                        | -24                               | -25                            | -4.20%        | PASS      |

Impedance & Return-Loss Measurement Plot for Head TSL



Impedance & Return-Loss Measurement Plot for Body TSL



**Calibration Laboratory of  
Schmid & Partner  
Engineering AG**  
Zeughausstrasse 43, 8004 Zurich, Switzerland



**S** Schweizerischer Kalibrierdienst  
**C** Service suisse d'étalonnage  
**S** Servizio svizzero di taratura  
**S** Swiss Calibration Service

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: **D1900V2-5d181\_Sep17**

## CALIBRATION CERTIFICATE

Object **D1900V2 - SN:5d181**

Calibration procedure(s) **QA CAL-05.v9**  
**Calibration procedure for dipole validation kits above 700 MHz**

Calibration date: **September 07, 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. 217-02526)         | 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: **Jeton Kastrali** Function: **Laboratory Technician**

Approved by: **Katja Pokovic** Technical Manager

Signature

Issued: September 7, 2017

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 0108**

The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

**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:**

- a) 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
- b) 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
- c) 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
- d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

**Additional Documentation:**

- e) 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> | 10 mm                  | with Spacer |
| <b>Zoom Scan Resolution</b>         | dx, dy, dz = 5 mm      |             |
| <b>Frequency</b>                    | 1900 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             | 40.0           | 1.40 mho/m           |
| <b>Measured Head TSL parameters</b>            | (22.0 $\pm$ 0.2) °C | 39.0 $\pm$ 6 % | 1.38 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 | 9.85 W/kg                                      |
| SAR for nominal Head TSL parameters                         | normalized to 1W   | <b>39.5 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 | 5.15 W/kg                                      |
| SAR for nominal Head TSL parameters                           | normalized to 1W   | <b>20.6 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             | 53.3           | 1.52 mho/m           |
| <b>Measured Body TSL parameters</b>            | (22.0 $\pm$ 0.2) °C | 54.3 $\pm$ 6 % | 1.47 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 | 9.65 W/kg                                      |
| SAR for nominal Body TSL parameters                         | normalized to 1W   | <b>39.5 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 | 5.14 W/kg                                      |
| SAR for nominal Body TSL parameters                           | normalized to 1W   | <b>20.9 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 | $53.7 \Omega + 4.6 j\Omega$ |
| Return Loss                          | - 24.9 dB                   |

### Antenna Parameters with Body TSL

|                                      |                             |
|--------------------------------------|-----------------------------|
| Impedance, transformed to feed point | $49.2 \Omega + 5.6 j\Omega$ |
| Return Loss                          | - 24.8 dB                   |

### General Antenna Parameters and Design

|                                  |          |
|----------------------------------|----------|
| Electrical Delay (one direction) | 1.200 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: 07.09.2017

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d181**

Communication System: UID 0 - CW; Frequency: 1900 MHz

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.38$  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(8.43, 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 = 106.8 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 18.5 W/kg

**SAR(1 g) = 9.85 W/kg; SAR(10 g) = 5.15 W/kg**

Maximum value of SAR (measured) = 14.8 W/kg

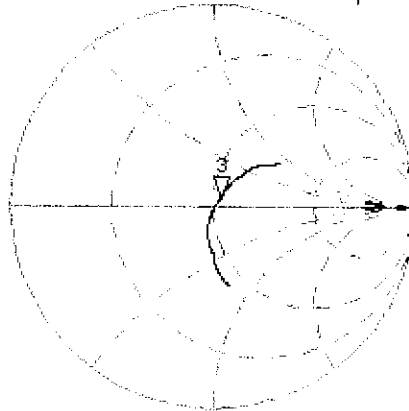


0 dB = 14.8 W/kg = 11.70 dBW/kg

# Impedance Measurement Plot for Head TSL

7 Sep 2017 09:10:32  
 CH1 S11 1 U FS 3: 53.668  $\Omega$  4.5957  $\Omega$  384.96  $\mu\text{H}$  1 900.000 000 MHz

\*  
 Del  
 CA



Avg  
 16

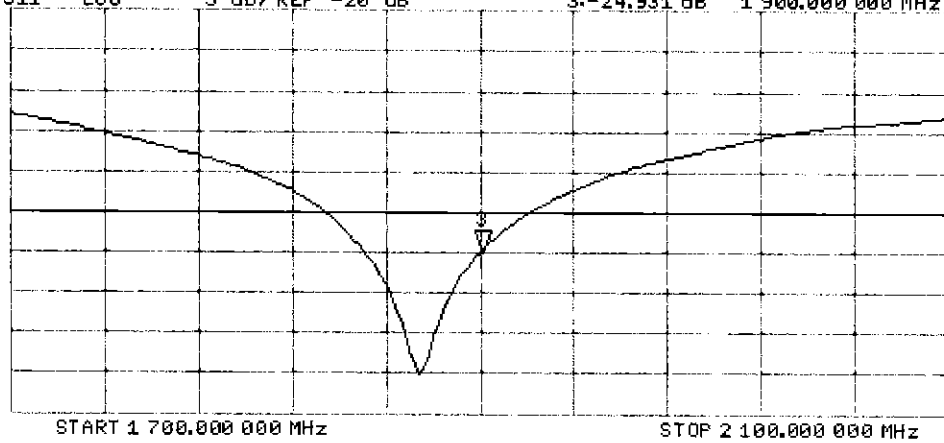
H1d

CH2 S11 LOG 5 dB/REF -20 dB 3:-24.931 dB 1 900.000 000 MHz

CA

Avg  
 16

H1d



## DASY5 Validation Report for Body TSL

Date: 07.09.2017

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d181**

Communication System: UID 0 - CW; Frequency: 1900 MHz

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.47$  S/m;  $\epsilon_r = 54.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.2, 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:

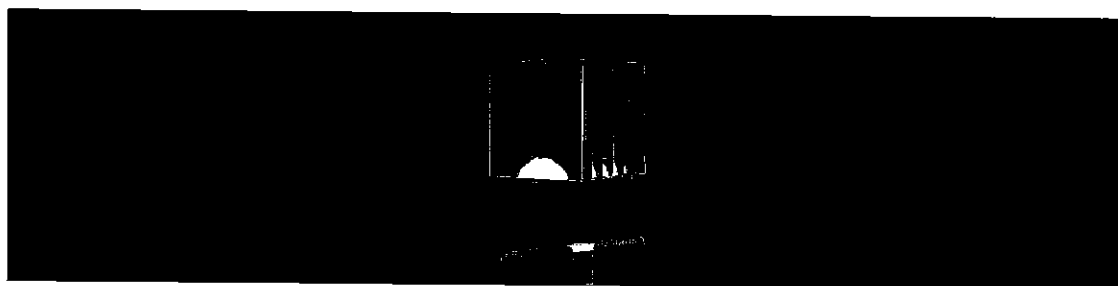
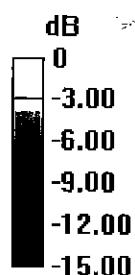
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 101.4 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 17.0 W/kg

**SAR(1 g) = 9.65 W/kg; SAR(10 g) = 5.14 W/kg**

Maximum value of SAR (measured) = 13.8 W/kg

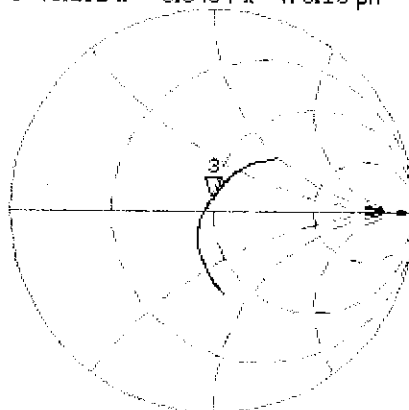


0 dB = 13.8 W/kg = 11.40 dBW/kg

# Impedance Measurement Plot for Body TSL

7 Sep 2017 09:09:41  
 CH1 S11 1 U FS 3: 49.201  $\Omega$  5.6484  $\Omega$  473.15 pF 1 900.000 000 MHz

\*  
 Del  
 CA



Avg  
 15

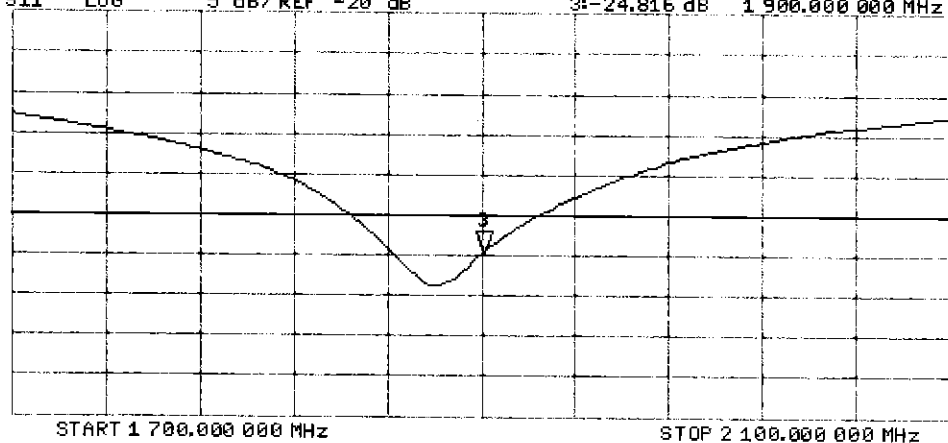
H1d

CH2 S11 LOG 5 dB/REF -20 dB 3: -24.816 dB 1 900.000 000 MHz

CA

Avg  
 15

H1d



# Certification of Calibration

Object D1900V2 – SN: 5d181

Calibration procedure(s) Procedure for Calibration Extension for SAR Dipoles.

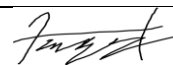
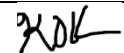
Extended Calibration date: September 07, 2018

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                 | 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                 | ES3DV3    | SAR Probe                                               | 3/13/2018  | Annual       | 3/13/2019  | 3131          |
| SPEAG                 | DAE4      | Dasy Data Acquisition Electronics                       | 3/7/2018   | Annual       | 3/7/2019   | 604           |

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.

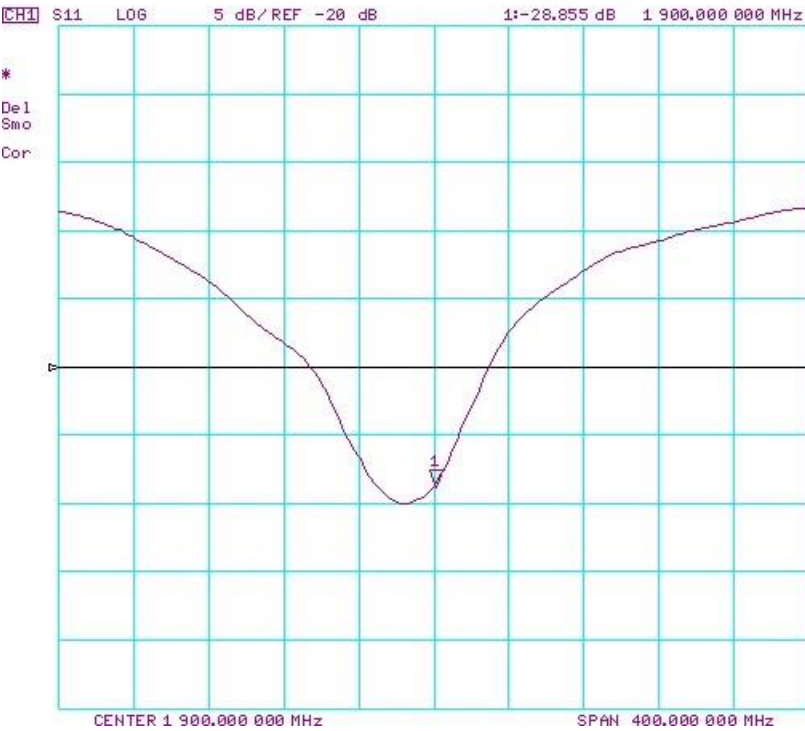
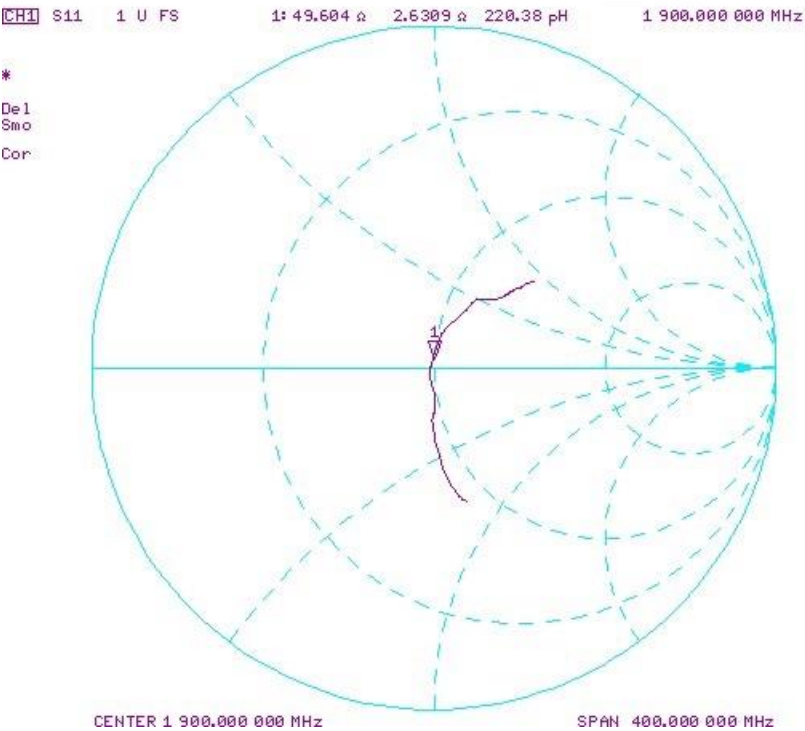
The following dipole was checked to pass the above 3 requirements to have 2-year calibration period from the calibration date:

| Calibration Date | Extension Date | Certificate Electrical Delay (ns) | Certificate SAR Target Head (1g) W/kg @ 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 |
|------------------|----------------|-----------------------------------|--------------------------------------------------|----------------------------------------|------------------|---------------------------------------------------|-----------------------------------------|-------------------|---------------------------------------|------------------------------------|-----------------------|--------------------------------------------|-----------------------------------------|----------------------------|-----------------------------------|--------------------------------|---------------|-----------|
| 9/7/2017         | 9/7/2018       | 1.2                               | 3.95                                             | 3.99                                   | 1.01%            | 2.06                                              | 2.07                                    | 0.49%             | 53.7                                  | 49.6                               | 4.1                   | 4.6                                        | 2.6                                     | 2                          | -24.9                             | -28.9                          | -16.10%       | PASS      |

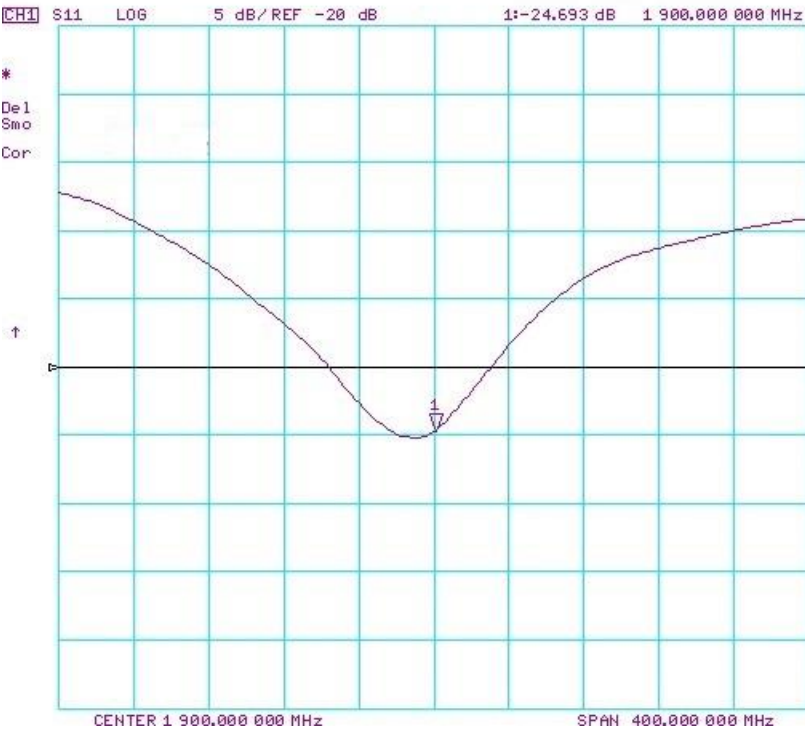
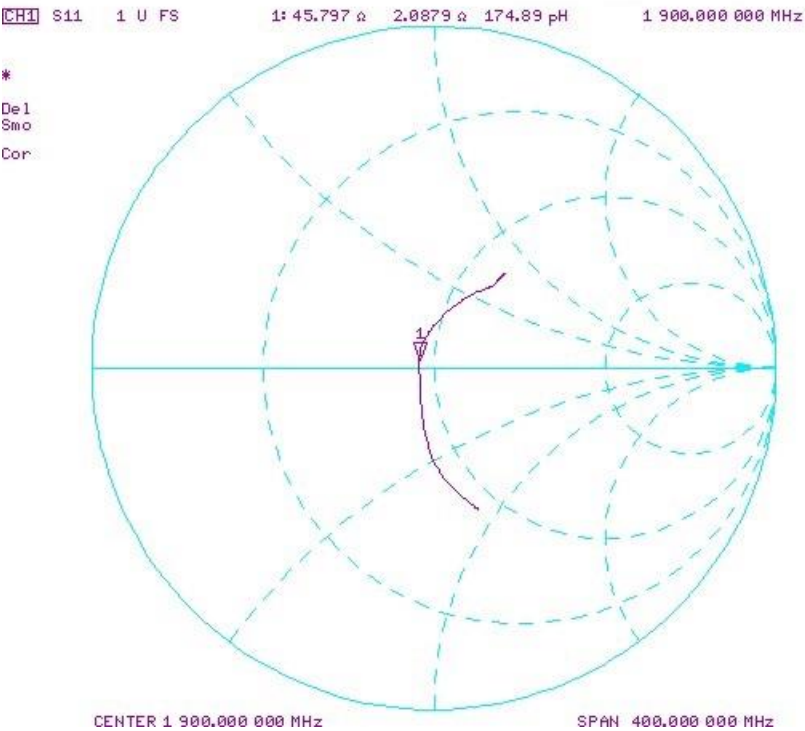
  

| Calibration Date | Extension Date | Certificate Electrical Delay (ns) | Certificate SAR Target Body (1g) W/kg @ 20.0 dBm | Measured Body SAR (1g) W/kg @ 20.0 dBm | Deviation 1g (%) | Certificate SAR Target Body (10g) W/kg @ 20.0 dBm | Measured Body SAR (10g) W/kg @ 20.0 dBm | Deviation 10g (%) | Certificate 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 |
|------------------|----------------|-----------------------------------|--------------------------------------------------|----------------------------------------|------------------|---------------------------------------------------|-----------------------------------------|-------------------|---------------------------------------|------------------------------------|-----------------------|--------------------------------------------|-----------------------------------------|----------------------------|-----------------------------------|--------------------------------|---------------|-----------|
| 9/7/2017         | 9/7/2018       | 1.2                               | 3.95                                             | 4.13                                   | 4.56%            | 2.09                                              | 2.14                                    | 2.39%             | 49.2                                  | 45.8                               | 3.4                   | 5.6                                        | 2.1                                     | 3.5                        | -24.8                             | -24.7                          | 0.40%         | PASS      |

Impedance & Return-Loss Measurement Plot for Head TSL



Impedance & Return-Loss Measurement Plot for Body TSL



# Certification of Calibration

Object D1900V2 – SN: 5d181

Calibration procedure(s) Procedure for Calibration Extension for SAR Dipoles.

Extended Calibration date: September 7, 2019

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                            | 10/2/2018  | Annual       | 10/2/2019  | US39170118    |
| Agilent               | E4438C    | ESG Vector Signal Generator                             | 6/27/2019  | Annual       | 6/27/2020  | MY45093852    |
| Amplifier Research    | 15S1G6    | Amplifier                                               | CBT        | N/A          | CBT        | 343972        |
| Anritsu               | ML2495A   | Power Meter                                             | 10/21/2018 | Annual       | 10/21/2019 | 941001        |
| 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       |
| Control Company       | 4040      | Temperature / Humidity Monitor                          | 2/28/2018  | Biennial     | 2/28/2020  | 150761911     |
| Control Company       | 4352      | Ultra Long Stem Thermometer                             | 2/28/2018  | Biennial     | 2/28/2020  | 170330160     |
| Keysight Technologies | 85033E    | Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm) | 7/2/2019   | Annual       | 7/2/2020   | MY53401181    |
| Keysight              | 772D      | Dual Directional Coupler                                | CBT        | N/A          | CBT        | MY52180215    |
| 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            | NC-100    | Torque Wrench                                           | 11/1/2017  | Biennial     | 11/1/2019  | N/A           |
| SPEAG                 | DAK-3.5   | Dielectric Assessment Kit                               | 5/7/2019   | Annual       | 5/7/2020   | 1070          |
| SPEAG                 | EX3DV4    | SAR Probe                                               | 1/24/2019  | Annual       | 1/24/2020  | 7490          |
| SPEAG                 | DAE4      | Data Acquisition Electronics                            | 1/15/2019  | Annual       | 1/15/2020  | 1532          |

Measurement Uncertainty =  $\pm 23\%$  (k=2)

|                | Name            | Function                 | Signature           |
|----------------|-----------------|--------------------------|---------------------|
| Calibrated By: | Parker Jones    | Team Lead Engineer       | <i>Parker Jones</i> |
| Approved By:   | Kaitlin O'Keefe | Senior Technical Manager | <i>KOK</i>          |

# 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 3-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 Body (10g) W/kg @ 20.0 dBm | Measured Body 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 |
|------------------|----------------|-----------------------------------|--------------------------------------------------|----------------------------------------|------------------|---------------------------------------------------|-----------------------------------------|-------------------|---------------------------------------|------------------------------------|-----------------------|--------------------------------------------|-----------------------------------------|----------------------------|-----------------------------------|--------------------------------|---------------|-----------|
| 9/7/2017         | 9/7/2019       | 1.2                               | 3.95                                             | 3.92                                   | -0.76%           | 2.06                                              | 2.04                                    | -0.97%            | 53.7                                  | 50.3                               | -3.4                  | 4.6                                        | 0.2                                     | -4.4                       | -24.9                             | -27                            | -8.40%        | 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 |
| 9/7/2017         | 9/7/2019       | 1.2                               | 3.95                                             | 4.05                                   | 2.53%            | 2.09                                              | 2.1                                     | 0.48%             | 49.2                                  | 46.2                               | -3                    | 5.6                                        | 2.7                                     | -2.9                       | -24.8                             | -23.1                          | 6.90%         | PASS      |