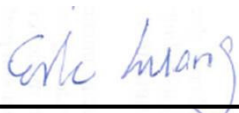


# FCC SAR Test Report

APPLICANT : Motorola Mobility LLC  
EQUIPMENT : Mobile Cellular Phone  
BRAND NAME : Motorola  
MODEL NAME : XT1921-5, XT1921-3  
FCC ID : IHDT56XC2  
STANDARD : FCC 47 CFR Part 2 (2.1093)  
ANSI/IEEE C95.1-1992  
IEEE 1528-2013

We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and had been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.



Reviewed by: Eric Huang / Manager



Approved by: Jones Tsai / Manager



## SPORTON INTERNATIONAL INC.

No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Taoyuan City, Taiwan (R.O.C.)



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## Revision History

| REPORT NO. | VERSION | DESCRIPTION                              | ISSUED DATE   |
|------------|---------|------------------------------------------|---------------|
| FA7D2018   | Rev. 01 | Initial issue of report                  | Feb. 13, 2018 |
| FA7D2018   | Rev. 02 | 1. Add sensor trigger test in the report | Mar. 23, 2018 |
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## 1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for Motorola Mobility LLC, Mobile Cellular Phone, XT1921-5, XT1921-3, are as follows.

| Equipment Class  | Frequency Band   | Highest SAR Summary      |                               |                             | Highest Simultaneous Transmission<br>1g SAR (W/kg) |
|------------------|------------------|--------------------------|-------------------------------|-----------------------------|----------------------------------------------------|
|                  |                  | Head<br>(Separation 0mm) | Body-worn<br>(Separation 5mm) | Hotspot<br>(Separation 5mm) |                                                    |
|                  |                  | 1g SAR (W/kg)            |                               |                             |                                                    |
| Licensed         | GSM850           | 0.48                     | 1.19                          | 1.19                        | 1.59                                               |
|                  | GSM1900          | 0.26                     | 0.72                          | 0.72                        |                                                    |
|                  | WCDMA II         | 0.49                     | 1.29                          | 1.29                        |                                                    |
|                  | WCDMA IV         | 0.48                     | 1.45                          | 1.45                        |                                                    |
|                  | WCDMA V          | 0.79                     | 1.05                          | 1.05                        |                                                    |
|                  | CDMA BC0         | 0.60                     | 1.07                          | 1.09                        |                                                    |
|                  | CDMA BC1         | 0.39                     | 1.42                          | 1.39                        |                                                    |
|                  | CDMA BC10        | 0.58                     | 1.01                          | 1.10                        |                                                    |
|                  | LTE Band 2       | 0.39                     | 1.13                          | 1.13                        |                                                    |
|                  | LTE Band 4       | 0.49                     | 1.14                          | 1.14                        |                                                    |
|                  | LTE Band 5       | 0.67                     | 1.01                          | 1.06                        |                                                    |
|                  | LTE Band 7       | 0.42                     | 1.12                          | 1.12                        |                                                    |
|                  | LTE Band 12 / 17 | 0.36                     | 0.77                          | 0.77                        |                                                    |
|                  | LTE Band 13      | 0.54                     | 1.06                          | 1.20                        |                                                    |
|                  | LTE Band 25      | 0.30                     | 1.21                          | 1.21                        |                                                    |
|                  | LTE Band 26      | 0.71                     | 1.18                          | 1.19                        |                                                    |
|                  | LTE Band 38      | 0.25                     | 1.30                          | 1.30                        |                                                    |
|                  | LTE Band 41      | 0.37                     | 1.40                          | 1.40                        |                                                    |
|                  | LTE Band 66      | 0.29                     | 1.20                          | 1.20                        |                                                    |
|                  | LTE Band 71      | 0.17                     | 0.43                          | 0.43                        |                                                    |
| DTS              | 2.4GHz WLAN      | 1.35                     | 0.99                          | 0.99                        | 1.59                                               |
| NII              | 5GHz WLAN        | 1.42                     | 1.15                          | 1.35                        | 1.59                                               |
| DSS              | Bluetooth        | 0.23                     | 0.16                          | 0.16                        | 1.57                                               |
| Date of Testing: |                  | 2017/12/30 ~ 2018/1/30   |                               |                             |                                                    |

This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications

## **2. Administration Data**

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test.

| Testing Laboratory |                                                                                                                                                  |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Site          | SPORTON INTERNATIONAL INC.                                                                                                                       |
| Test Site Location | No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Taoyuan City, Taiwan (R.O.C.)<br>TEL: +886-3-327-3456<br>FAX: +886-3-328-4978 |

| Applicant    |                                                      |
|--------------|------------------------------------------------------|
| Company Name | Motorola Mobility LLC                                |
| Address      | 222 W. Merchandise Mart Plaza, Chicago IL 60654, USA |

| Manufacturer |                                                      |
|--------------|------------------------------------------------------|
| Company Name | Motorola Mobility LLC                                |
| Address      | 222 W. Merchandise Mart Plaza, Chicago IL 60654, USA |

## **3. Guidance Applied**

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards:

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D05A Rel.10 LTE SAR Test Guidance v01r02
- FCC KDB 941225 D06 Hotspot Mode SAR v02r01



## 4. Equipment Under Test (EUT) Information

### 4.1 General Information

| Product Feature & Specification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Equipment Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Mobile Cellular Phone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Brand Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Motorola                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Model Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | XT1921-5, XT1921-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| FCC ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | IHDT56XC2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| IMEI Code                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 990005440056357                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Wireless Technology and Frequency Range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | GSM850: 824.2 MHz ~ 848.8 MHz<br>GSM1900: 1850.2 MHz ~ 1909.8 MHz<br>WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz<br>WCDMA Band IV: 1712.4 MHz ~ 1752.6 MHz<br>WCDMA Band V: 826.4 MHz ~ 846.6 MHz<br>CDMA2000 BC0: 824.7 MHz ~ 848.31 MHz<br>CDMA 2000 BC1: 1851.25 MHz ~ 1908.75 MHz<br>CDMA 2000 BC10: 817.9 MHz ~ 823.1 MHz<br>LTE Band 2: 1850.7 MHz ~ 1909.3 MHz<br>LTE Band 4: 1710.7 MHz ~ 1754.3 MHz<br>LTE Band 5: 824.7 MHz ~ 848.3 MHz<br>LTE Band 7: 2502.5 MHz ~ 2567.5 MHz<br>LTE Band 12: 699.7 MHz ~ 715.3 MHz<br>LTE Band 13: 779.5 MHz ~ 784.5 MHz<br>LTE Band 17: 706.5 MHz ~ 713.5 MHz<br>LTE Band 25: 1850.7 MHz ~ 1914.3 MHz<br>LTE Band 26: 814.7 MHz ~ 848.3 MHz<br>LTE Band 38: 2572.5 MHz ~ 2617.5 MHz<br>LTE Band 41: 2498.5 MHz ~ 2687.5 MHz<br>LTE Band 66: 1710.7 MHz ~ 1779.3 MHz<br>LTE Band 71: 665.5 MHz ~ 695.5 MHz<br>WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz<br>WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz<br>WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz<br>WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz<br>WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz<br>Bluetooth: 2402 MHz ~ 2480 MHz |
| Mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | GSM/GPRS/EGPRS<br>RMC/AMR 12.2Kbps<br>HSDPA<br>HSUPA<br>DC-HSDPA<br>CDMA2000 : 1xRTT/1xEv-Do(Rev.0)/1xEv-Do(Rev.A)<br>LTE: QPSK, 16QAM, 64QAM<br>WLAN 2.4GHz : 802.11b/g/n HT20<br>WLAN 5GHz : 802.11a/n HT20/HT40<br>Bluetooth BR/EDR/LE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| HW Version                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | DVT1B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| SW Version                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Sprint:fastboot_james_sprint_oem_sprint_userdebug_8.0.0_OCP27.62_1046_intcfg-test-keys_sprint.tar.gz<br>TMO:fastboot_james_t_oem_t_userdebug_8.0.0_OCP27.62_942_intcfg-test-keys_t.tar.gz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| GSM / (E)GPRS Transfer mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| EUT Stage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Identical Prototype                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Remark:</b><br>1. This device 2.4GHz / 5.8GHz WLAN supports Hotspot operation.<br>2. When operating in a call in talk position at the head, the device utilizes the At-Head power table. When operating in a body-worn condition, with proximity of the user's body at the front or back of the device, the device operates in the Body-Worn power table. If neither the At-Head or Body-Worn condition is detected, but the device is operating in WiFi Hotspot mode, the device utilizes the Hotspot power table. When operating in any other radiated condition, the device uses the Default power table.<br>3. The device employs proximity sensors that detect the presence of the user's body at the front or back faces of the device. The control logic is such that, when this front or back body-worn condition is detected and the device is operating in a mode where on-body operation may be expected, the conducted power is applied in the Body-Worn power table. In this condition (user's body detected at front or back face of the device), the Body-Worn power table is applied regardless whether or not the Wi-Fi hotspot mode is active.<br>4. Note that the Body-Worn Reduced power tables and detection schemes described above are sufficient to assure that body-worn SAR limits are met, regardless whether the Wi-Fi hotspot feature is active or not. However, because FCC has an additional specific test definition and limit for Wi-Fi hotspot mode operation, the additional Hotspot power table is applied if hand-held operation is indicated (i.e., not At-Head or Body-Worn) when the Wi-Fi hotspot feature is active. This ensures the 4 edges of the device comply with the letter of the Wi-Fi Hotspot requirement.<br>5. Reduced power for different RF exposure conditions:<br>6. Head: If audio is present at the earpiece, the device will reduce output powers on the WLAN transmitter for held-to-ear and detail descriptions of the power reduction mechanism are included in the operational description.<br>7. Body worn: The device employs proximity sensors that detect the presence of the user's body at the front or back faces of the device, when operating in near-body condition by end user, the device will reduced maximum output powers on the GSM1900, WCDMA B2 / B4 / B5, CDMA BC1 and LTE B2 / B4 / B5 / B7 / B25 / B38 / B41 / B66 and 5GHz WLAN transmitter and detail descriptions of the power reduction mechanism are included in the operational description.<br>8. Hotspot: When the mobile hotspot session is turn on by end user, the device will reduced output powers on the GSM1900, WCDMA B2 / B4 / B5, CDMA BC1 and LTE B2 / B4 / B5 / B7 / B25 / B38 / B41 / B66 and 5GHz WLAN transmitter and detail descriptions of the power reduction mechanism are included in the operational description. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## 4.2 General LTE SAR Test and Reporting Considerations

| Summarized necessary items addressed in KDB 941225 D05 v02r05           |                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |       |        |                                                                         |        |          |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
|-------------------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|-------------------------------------------------------------------------|--------|----------|--|--|--|--|--|------------|---------------------------------------------------------------|--|--|--|--|--|----------|---------|---------|-------|--------|--------|--------|------|-----|-----|-----|------|------|------|-----|--------|-----|-----|-----|------|------|------|-----|--------|-----|-----|-----|------|------|------|-----|--------|-----|-----|-----|------|------|------|-----|--------|-----|-----|-----|------|------|------|-----|---------|-----|--|--|--|--|--|-----|
| FCC ID                                                                  |                                                               | IHDT56XC2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |       |        |                                                                         |        |          |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| Equipment Name                                                          |                                                               | Mobile Cellular Phone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |       |        |                                                                         |        |          |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| Operating Frequency Range of each LTE transmission band                 |                                                               | LTE Band 2: 1850.7 MHz ~ 1909.3 MHz<br>LTE Band 4: 1710.7 MHz ~ 1754.3 MHz<br>LTE Band 5: 824.7 MHz ~ 848.3 MHz<br>LTE Band 7: 2502.5 MHz ~ 2567.5 MHz<br>LTE Band 12: 699.7 MHz ~ 715.3 MHz<br>LTE Band 13: 779.5 MHz ~ 784.5 MHz<br>LTE Band 17: 706.5 MHz ~ 713.5 MHz<br>LTE Band 25: 1850.7 MHz ~ 1914.3 MHz<br>LTE Band 26: 814.7 MHz ~ 848.3 MHz<br>LTE Band 38: 2572.5 MHz ~ 2617.5 MHz<br>LTE Band 41: 2498.5 MHz ~ 2687.5 MHz<br>LTE Band 66: 1710.7 MHz ~ 1779.3 MHz<br>LTE Band 71: 665.5 MHz ~ 695.5 MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |        |                                                                         |        |          |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| Channel Bandwidth                                                       |                                                               | LTE Band 02:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz<br>LTE Band 04:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz<br>LTE Band 05:1.4MHz, 3MHz, 5MHz, 10MHz<br>LTE Band 07: 5MHz, 10MHz, 15MHz, 20MHz<br>LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz<br>LTE Band 13: 5MHz, 10MHz<br>LTE Band 17: 5MHz, 10MHz<br>LTE Band 25:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz<br>LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz<br>LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz<br>LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz<br>LTE Band 66: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz<br>LTE Band 71: 5MHz, 10MHz, 15MHz, 20MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |       |        |                                                                         |        |          |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| uplink modulations used                                                 |                                                               | QPSK / 16QAM / 64QAM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |        |                                                                         |        |          |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| LTE Voice / Data requirements                                           |                                                               | Voice and Data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |        |                                                                         |        |          |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| LTE MPR permanently built-in by design                                  |                                                               | <table><tr><th colspan="8">Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3</th></tr><tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (N<sub>RB</sub>)</th><th rowspan="2">MPR (dB)</th></tr><tr><th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></tr><tr><td>QPSK</td><td>&gt; 5</td><td>&gt; 4</td><td>&gt; 8</td><td>&gt; 12</td><td>&gt; 16</td><td>&gt; 18</td><td>≤ 1</td></tr><tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr><tr><td>16 QAM</td><td>&gt; 5</td><td>&gt; 4</td><td>&gt; 8</td><td>&gt; 12</td><td>&gt; 16</td><td>&gt; 18</td><td>≤ 2</td></tr><tr><td>64 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 2</td></tr><tr><td>64 QAM</td><td>&gt; 5</td><td>&gt; 4</td><td>&gt; 8</td><td>&gt; 12</td><td>&gt; 16</td><td>&gt; 18</td><td>≤ 3</td></tr><tr><td>256 QAM</td><td colspan="6">≥ 1</td><td>≤ 5</td></tr></table> |       |        | Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3 |        |          |  |  |  |  |  | Modulation | Channel bandwidth / Transmission bandwidth (N <sub>RB</sub> ) |  |  |  |  |  | MPR (dB) | 1.4 MHz | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz | QPSK | > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | ≤ 1 | 16 QAM | ≤ 5 | ≤ 4 | ≤ 8 | ≤ 12 | ≤ 16 | ≤ 18 | ≤ 1 | 16 QAM | > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | ≤ 2 | 64 QAM | ≤ 5 | ≤ 4 | ≤ 8 | ≤ 12 | ≤ 16 | ≤ 18 | ≤ 2 | 64 QAM | > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | ≤ 3 | 256 QAM | ≥ 1 |  |  |  |  |  | ≤ 5 |
| Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3 |                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |       |        |                                                                         |        |          |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| Modulation                                                              | Channel bandwidth / Transmission bandwidth (N <sub>RB</sub> ) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |       |        |                                                                         |        | MPR (dB) |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
|                                                                         | 1.4 MHz                                                       | 3.0 MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 5 MHz | 10 MHz | 15 MHz                                                                  | 20 MHz |          |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| QPSK                                                                    | > 5                                                           | > 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | > 8   | > 12   | > 16                                                                    | > 18   | ≤ 1      |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| 16 QAM                                                                  | ≤ 5                                                           | ≤ 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ≤ 8   | ≤ 12   | ≤ 16                                                                    | ≤ 18   | ≤ 1      |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| 16 QAM                                                                  | > 5                                                           | > 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | > 8   | > 12   | > 16                                                                    | > 18   | ≤ 2      |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| 64 QAM                                                                  | ≤ 5                                                           | ≤ 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ≤ 8   | ≤ 12   | ≤ 16                                                                    | ≤ 18   | ≤ 2      |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| 64 QAM                                                                  | > 5                                                           | > 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | > 8   | > 12   | > 16                                                                    | > 18   | ≤ 3      |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| 256 QAM                                                                 | ≥ 1                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |       |        |                                                                         |        | ≤ 5      |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| LTE A-MPR                                                               |                                                               | In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |        |                                                                         |        |          |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| Spectrum plots for RB configuration                                     |                                                               | A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |        |                                                                         |        |          |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| Power reduction applied to satisfy SAR compliance                       |                                                               | Yes, power reduction mechanisms applied to satisfy SAR compliance for LTE B2 / B4 / B5 / B7 / B25 / B38 / B41 / B66                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |       |        |                                                                         |        |          |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| LTE Carrier Aggregation Combinations                                    |                                                               | Inter-Band and Intra-Band possible combinations as below page and the detail power verification please referred to section 12.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |        |                                                                         |        |          |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| LTE Carrier Aggregation Additional Information                          |                                                               | (1) This device supports LTE Carrier Aggregation (CA) in the uplink for LTE Band 41 with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance.<br>(2) This device supports maximum of 2 carriers in the downlink and 2 carriers in the uplink. Additional following LTE Release features are not supported: Relay, HetNet, Enhanced MIMO, eICI, WiFi Offloading, MDH, eMBMA, Cross-Carrier Scheduling, Enhanced SC-FDMA.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |       |        |                                                                         |        |          |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |



| Transmission (H, M, L) channel numbers and frequencies in each LTE band |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|-------------------------------------------------------------------------|-------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|
| LTE Band 2                                                              |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|                                                                         | Bandwidth 1.4 MHz |             | Bandwidth 3 MHz  |             | Bandwidth 5 MHz  |             | Bandwidth 10 MHz |             | Bandwidth 15 MHz |             | Bandwidth 20 MHz |             |
|                                                                         | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |
| L                                                                       | 18607             | 1850.7      | 18615            | 1851.5      | 18625            | 1852.5      | 18650            | 1855        | 18675            | 1857.5      | 18700            | 1860        |
| M                                                                       | 18900             | 1880        | 18900            | 1880        | 18900            | 1880        | 18900            | 1880        | 18900            | 1880        | 18900            | 1880        |
| H                                                                       | 19193             | 1909.3      | 19185            | 1908.5      | 19175            | 1907.5      | 19150            | 1905        | 19125            | 1902.5      | 19100            | 1900        |
| LTE Band 4                                                              |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|                                                                         | Bandwidth 1.4 MHz |             | Bandwidth 3 MHz  |             | Bandwidth 5 MHz  |             | Bandwidth 10 MHz |             | Bandwidth 15 MHz |             | Bandwidth 20 MHz |             |
|                                                                         | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |
| L                                                                       | 19957             | 1710.7      | 19965            | 1711.5      | 19975            | 1712.5      | 20000            | 1715        | 20025            | 1717.5      | 20050            | 1720        |
| M                                                                       | 20175             | 1732.5      | 20175            | 1732.5      | 20175            | 1732.5      | 20175            | 1732.5      | 20175            | 1732.5      | 20175            | 1732.5      |
| H                                                                       | 20393             | 1754.3      | 20385            | 1753.5      | 20375            | 1752.5      | 20350            | 1750        | 20325            | 1747.5      | 20300            | 1745        |
| LTE Band 5                                                              |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|                                                                         | Bandwidth 1.4 MHz |             | Bandwidth 3 MHz  |             | Bandwidth 5 MHz  |             | Bandwidth 10 MHz |             |                  |             |                  |             |
|                                                                         | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |
| L                                                                       | 20407             | 824.7       | 20415            | 825.5       | 20425            | 826.5       | 20450            | 829         |                  |             |                  |             |
| M                                                                       | 20525             | 836.5       | 20525            | 836.5       | 20525            | 836.5       | 20525            | 836.5       |                  |             |                  |             |
| H                                                                       | 20643             | 848.3       | 20635            | 847.5       | 20625            | 846.5       | 20600            | 844         |                  |             |                  |             |
| LTE Band 7                                                              |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|                                                                         | Bandwidth 5 MHz   |             | Bandwidth 10 MHz |             | Bandwidth 15 MHz |             | Bandwidth 20 MHz |             |                  |             |                  |             |
|                                                                         | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |
| L                                                                       | 20775             | 2502.5      | 20800            | 2505        | 20825            | 2507.5      | 20850            | 2510        |                  |             |                  |             |
| M                                                                       | 21100             | 2535        | 21100            | 2535        | 21100            | 2535        | 21100            | 2535        |                  |             |                  |             |
| H                                                                       | 21425             | 2567.5      | 21400            | 2565        | 21375            | 2562.5      | 21350            | 2560        |                  |             |                  |             |
| LTE Band 12                                                             |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|                                                                         | Bandwidth 1.4 MHz |             | Bandwidth 3 MHz  |             | Bandwidth 5 MHz  |             | Bandwidth 10 MHz |             |                  |             |                  |             |
|                                                                         | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |
| L                                                                       | 23017             | 699.7       | 23025            | 700.5       | 23035            | 701.5       | 23060            | 704         |                  |             |                  |             |
| M                                                                       | 23095             | 707.5       | 23095            | 707.5       | 23095            | 707.5       | 23095            | 707.5       |                  |             |                  |             |
| H                                                                       | 23173             | 715.3       | 23165            | 714.5       | 23155            | 713.5       | 23130            | 711         |                  |             |                  |             |
| LTE Band 13                                                             |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|                                                                         | Bandwidth 5 MHz   |             |                  |             | Bandwidth 10 MHz |             |                  |             |                  |             |                  |             |
|                                                                         | Channel #         |             | Freq.(MHz)       |             | Channel #        |             | Freq.(MHz)       |             |                  |             |                  |             |
| L                                                                       | 23205             |             | 779.5            |             | 23230            |             | 782              |             |                  |             |                  |             |
| M                                                                       | 23230             |             | 782              |             |                  |             |                  |             |                  |             |                  |             |
| H                                                                       | 23255             |             | 784.5            |             |                  |             |                  |             |                  |             |                  |             |
| LTE Band 17                                                             |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|                                                                         | Bandwidth 5 MHz   |             |                  |             | Bandwidth 10 MHz |             |                  |             |                  |             |                  |             |
|                                                                         | Channel #         |             | Freq.(MHz)       |             | Channel #        |             | Freq. (MHz)      |             |                  |             |                  |             |
| L                                                                       | 23755             |             | 706.5            |             | 23780            |             | 709              |             |                  |             |                  |             |
| M                                                                       | 23790             |             | 710              |             | 23790            |             | 710              |             |                  |             |                  |             |
| H                                                                       | 23825             |             | 713.5            |             | 23800            |             | 711              |             |                  |             |                  |             |
| LTE Band 25                                                             |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|                                                                         | Bandwidth 1.4 MHz |             | Bandwidth 3 MHz  |             | Bandwidth 5 MHz  |             | Bandwidth 10 MHz |             | Bandwidth 15 MHz |             | Bandwidth 20 MHz |             |
|                                                                         | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |
| L                                                                       | 26047             | 1850.7      | 26055            | 1851.5      | 26065            | 1852.5      | 26090            | 1855        | 26115            | 1857.5      | 26140            | 1860        |
| M                                                                       | 26340             | 1880        | 26340            | 1880        | 26340            | 1880        | 26340            | 1880        | 26340            | 1880        | 26340            | 1880        |
| H                                                                       | 26683             | 1914.3      | 26675            | 1913.5      | 26665            | 1912.5      | 26640            | 1910        | 26615            | 1907.5      | 26590            | 1905        |

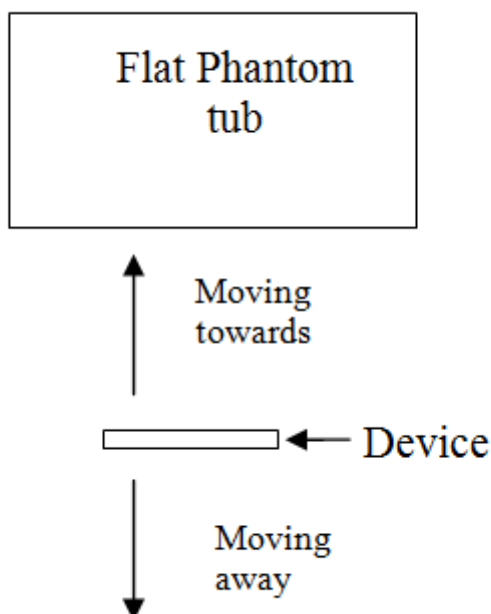


| LTE Band 26 |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|-------------|-------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|
|             | Bandwidth 1.4 MHz |             | Bandwidth 3 MHz  |             | Bandwidth 5 MHz  |             | Bandwidth 10 MHz |             | Bandwidth 15 MHz |             |                  |             |
|             | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |                  |             |
| L           | 26697             | 814.7       | 26705            | 815.5       | 26715            | 816.5       | 26740            | 819         | 26765            | 821.5       |                  |             |
| M           | 26865             | 831.5       | 26865            | 831.5       | 26865            | 831.5       | 26865            | 831.5       | 26865            | 831.5       |                  |             |
| H           | 27033             | 848.3       | 27025            | 847.5       | 27015            | 846.5       | 26990            | 844         | 26965            | 841.5       |                  |             |
| LTE Band 38 |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|             | Bandwidth 5 MHz   |             | Bandwidth 10 MHz |             | Bandwidth 15 MHz |             | Bandwidth 20 MHz |             |                  |             |                  |             |
|             | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |                  |             |
| L           | 37775             | 2572.5      | 37800            | 2575        | 37825            | 2577.5      | 37850            | 2580        |                  |             |                  |             |
| M           | 38000             | 2595        | 38000            | 2595        | 38000            | 2595        | 38000            | 2595        |                  |             |                  |             |
| H           | 38225             | 2617.5      | 38200            | 2615        | 38175            | 2612.5      | 38150            | 2610        |                  |             |                  |             |
| LTE Band 41 |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|             | Bandwidth 5 MHz   |             | Bandwidth 10 MHz |             | Bandwidth 15 MHz |             | Bandwidth 20 MHz |             |                  |             |                  |             |
|             | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |                  |             |
| L           | 39675             | 2498.5      | 39700            | 2501        | 39725            | 2503.5      | 39750            | 2506        |                  |             |                  |             |
| L           | 40148             | 2545.8      | 40160            | 2547        | 40173            | 2548.3      | 40185            | 2549.5      |                  |             |                  |             |
| M           | 40620             | 2593        | 40620            | 2593        | 40620            | 2593        | 40620            | 2593        |                  |             |                  |             |
| H           | 41093             | 2640.3      | 41080            | 2639        | 41068            | 2637.8      | 41055            | 2636.5      |                  |             |                  |             |
| H           | 41565             | 2687.5      | 41540            | 2685        | 41515            | 2682.5      | 41490            | 2680        |                  |             |                  |             |
| LTE Band 66 |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|             | Bandwidth 1.4 MHz |             | Bandwidth 3 MHz  |             | Bandwidth 5 MHz  |             | Bandwidth 10 MHz |             | Bandwidth 15 MHz |             | Bandwidth 20 MHz |             |
|             | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |
| L           | 131979            | 1710.7      | 131987           | 1711.5      | 131997           | 1712.5      | 132022           | 1715        | 132047           | 1717.5      | 132072           | 1720        |
| M           | 132322            | 1745        | 132322           | 1745        | 132322           | 1745        | 132322           | 1745        | 132322           | 1745        | 132322           | 1745        |
| H           | 132665            | 1779.3      | 132657           | 1778.5      | 132647           | 1777.5      | 132622           | 1775        | 132597           | 1772.5      | 132572           | 1770        |
| LTE Band 71 |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|             | Bandwidth 5 MHz   |             | Bandwidth 10 MHz |             | Bandwidth 15 MHz |             | Bandwidth 20 MHz |             |                  |             |                  |             |
|             | Ch. #             | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) | Ch. #            | Freq. (MHz) |                  |             |
| L           | 133147            | 665.5       | 133172           | 668         | 133197           | 670.5       | 133222           | 673         |                  |             |                  |             |
| M           | 133247            | 675.5       | 133272           | 678         | 133297           | 680.5       | 133322           | 683         |                  |             |                  |             |
| H           | 133447            | 695.5       | 133422           | 693         | 133397           | 690.5       | 133372           | 688         |                  |             |                  |             |

### **4.3 Proximity Sensor Triggering Test**

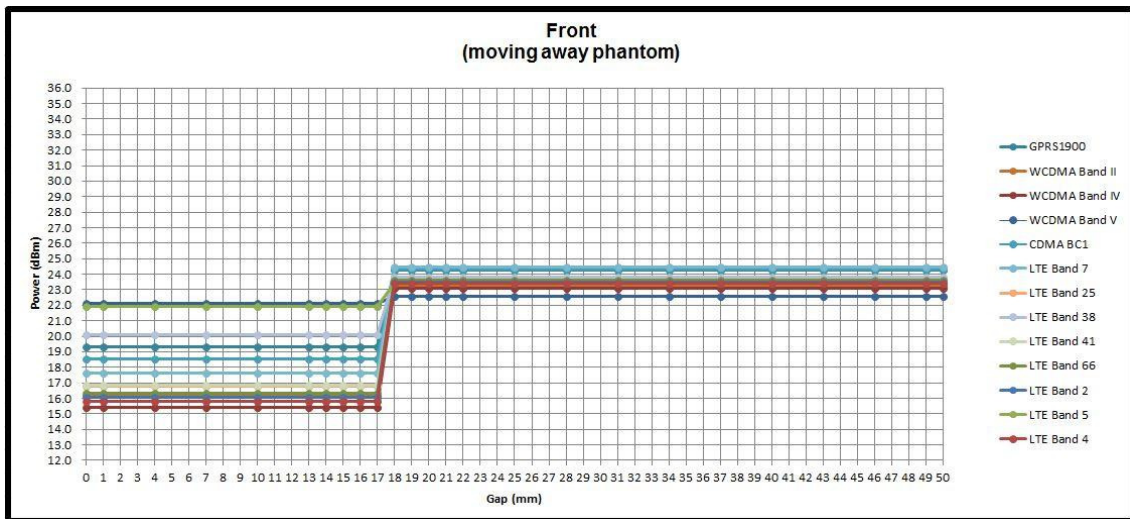
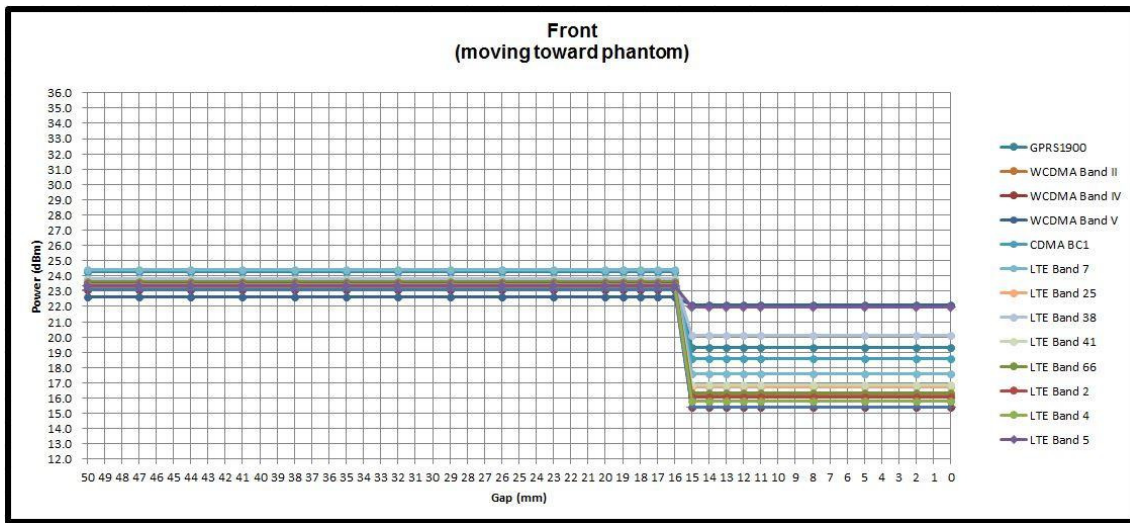
#### **<Proximity Sensor Triggering Distance>:**

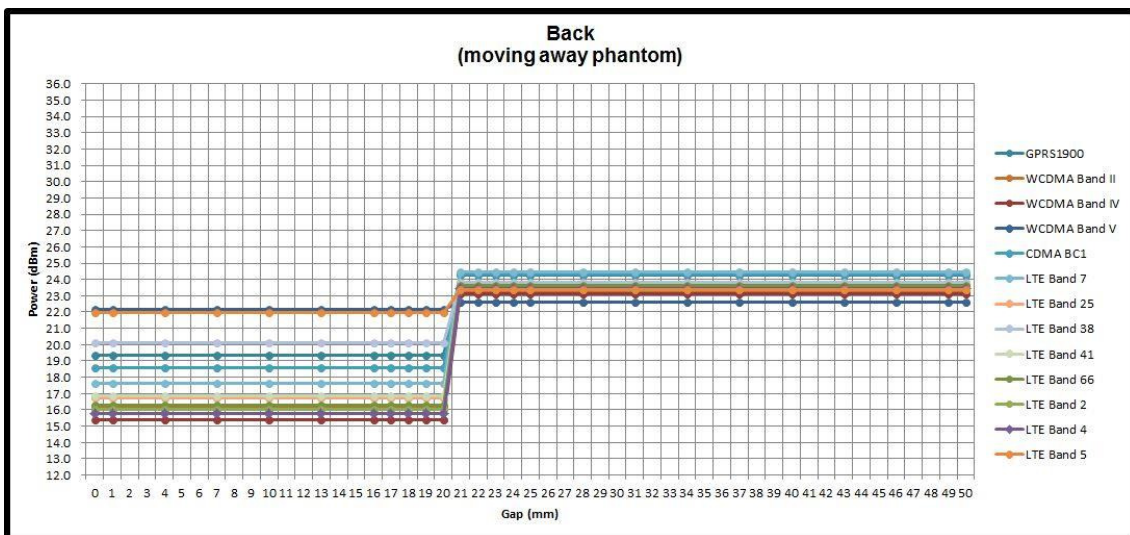
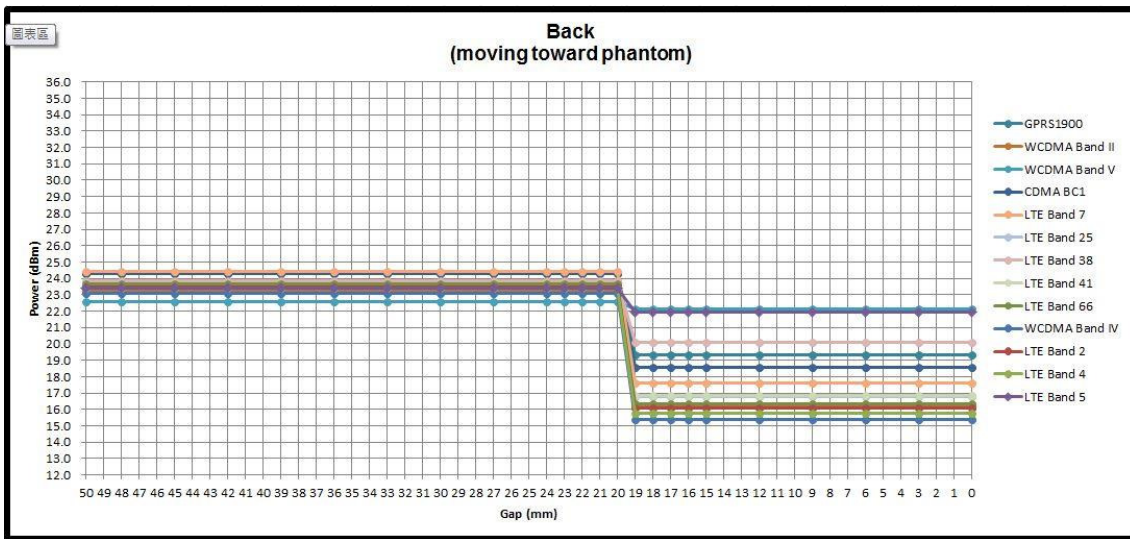
1. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed and the tissue-equivalent medium for highest frequency (2600MHz) and lowest (750MHz) frequency was used for proximity sensor triggering testing.
2. Capacitive proximity sensors placed coincident with antenna elements at the top and bottom ends of the phone are utilized to determine when the device comes in proximity of the user's body at the front or back of the device.
3. The output power will reduce to body worn power level when top and bottom sensor pad be detected.
4. The sensors used to detect the proximity of the user's body (Body-Worn condition) at the front or back surface of the device use a detection threshold distance. The data shown in the sections below shows the distance(s).
5. When the sensor is active, the device will reduced maximum output powers on the GSM1900, WCDMA B2 / B4 / B5, CDMA BC1 and LTE B2 / B4 / B5 / B7 / B25 / B38 / B41 / B66 transmitter.



| Proximity Sensor Trigger Distance (mm) |                |             |                |             |
|----------------------------------------|----------------|-------------|----------------|-------------|
| Position                               | Front          |             | Back           |             |
| Position                               | Moving towards | Moving away | Moving towards | Moving away |
| Minimum                                | 15.0           | 17.0        | 19.0           | 20.0        |

<Sensor triggers distance V.S Measure power>





## **5. RF Exposure Limits**

### **5.1 Uncontrolled Environment**

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

### **5.2 Controlled Environment**

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

**Limits for Occupational/Controlled Exposure (W/kg)**

| Whole-Body | Partial-Body | Hands, Wrists, Feet and Ankles |
|------------|--------------|--------------------------------|
| 0.4        | 8.0          | 20.0                           |

**Limits for General Population/Uncontrolled Exposure (W/kg)**

| Whole-Body | Partial-Body | Hands, Wrists, Feet and Ankles |
|------------|--------------|--------------------------------|
| 0.08       | 1.6          | 4.0                            |

1. Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

## **6. Specific Absorption Rate (SAR)**

### **6.1 Introduction**

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

### **6.2 SAR Definition**

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). The equation description is as below:

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

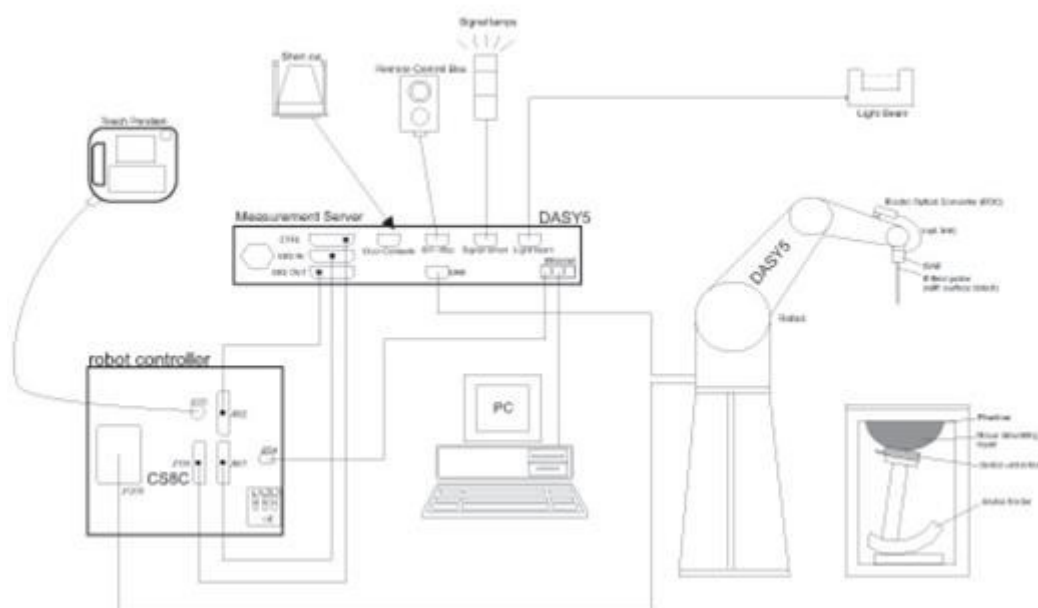
SAR is expressed in units of Watts per kilogram (W/kg)

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

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength.

## **7. System Description and Setup**

The DASY system used for performing compliance tests consists of the following items:



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP or Win7 and the DASY5 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

## 7.1 E-Field Probe

The SAR measurement is conducted with the dosimetric probe (manufactured by SPEAG). The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency. This probe has a built in optical surface detection system to prevent from collision with phantom.

### <ES3DV3 Probe>

|                      |                                                                                                                                                                                  |                                                                                    |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| <b>Construction</b>  | Symmetric design with triangular core<br>Interleaved sensors<br>Built-in shielding against static charges<br>PEEK enclosure material (resistant to organic solvents, e.g., DGBE) |  |
| <b>Frequency</b>     | 10 MHz – 4 GHz;<br>Linearity: $\pm 0.2$ dB (30 MHz – 4 GHz)                                                                                                                      |                                                                                    |
| <b>Directivity</b>   | $\pm 0.2$ dB in TSL (rotation around probe axis)<br>$\pm 0.3$ dB in TSL (rotation normal to probe axis)                                                                          |                                                                                    |
| <b>Dynamic Range</b> | 5 $\mu$ W/g – >100 mW/g;<br>Linearity: $\pm 0.2$ dB                                                                                                                              |                                                                                    |
| <b>Dimensions</b>    | Overall length: 337 mm (tip: 20 mm)<br>Tip diameter: 3.9 mm (body: 12 mm)<br>Distance from probe tip to dipole centers: 3.0 mm                                                   |                                                                                    |

### <EX3DV4 Probe>

|                      |                                                                                                                                                           |                                                                                     |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <b>Construction</b>  | Symmetric design with triangular core<br>Built-in shielding against static charges<br>PEEK enclosure material (resistant to organic solvents, e.g., DGBE) |  |
| <b>Frequency</b>     | 10 MHz – >6 GHz<br>Linearity: $\pm 0.2$ dB (30 MHz – 6 GHz)                                                                                               |                                                                                     |
| <b>Directivity</b>   | $\pm 0.3$ dB in TSL (rotation around probe axis)<br>$\pm 0.5$ dB in TSL (rotation normal to probe axis)                                                   |                                                                                     |
| <b>Dynamic Range</b> | 10 $\mu$ W/g – >100 mW/g<br>Linearity: $\pm 0.2$ dB (noise: typically <1 $\mu$ W/g)                                                                       |                                                                                     |
| <b>Dimensions</b>    | Overall length: 337 mm (tip: 20 mm)<br>Tip diameter: 2.5 mm (body: 12 mm)<br>Typical distance from probe tip to dipole centers: 1 mm                      |                                                                                     |

## 7.2 Data Acquisition Electronics (DAE)

The data acquisition electronics (DAE) consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information as well as an optical uplink for commands and the clock.

The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.



**Fig 5.1 Photo of DAE**

### 7.3 Phantom

#### <SAM Twin Phantom>

|                          |                                                         |                                                                                    |
|--------------------------|---------------------------------------------------------|------------------------------------------------------------------------------------|
| <b>Shell Thickness</b>   | 2 ± 0.2 mm;<br>Center ear point: 6 ± 0.2 mm             |  |
| <b>Filling Volume</b>    | Approx. 25 liters                                       |                                                                                    |
| <b>Dimensions</b>        | Length: 1000 mm; Width: 500 mm; Height: adjustable feet |                                                                                    |
| <b>Measurement Areas</b> | Left Hand, Right Hand, Flat Phantom                     |                                                                                    |

The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.

#### <ELI Phantom>

|                        |                                                  |                                                                                     |
|------------------------|--------------------------------------------------|-------------------------------------------------------------------------------------|
| <b>Shell Thickness</b> | 2 ± 0.2 mm (sagging: <1%)                        |  |
| <b>Filling Volume</b>  | Approx. 30 liters                                |                                                                                     |
| <b>Dimensions</b>      | Major ellipse axis: 600 mm<br>Minor axis: 400 mm |                                                                                     |

The ELI phantom is intended for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI4 is fully compatible with standard and all known tissue simulating liquids.

## **7.4 Device Holder**

### **<Mounting Device for Hand-Held Transmitter>**

In combination with the Twin SAM V5.0/V5.0c or ELI phantoms, the Mounting Device for Hand-Held Transmitters enables rotation of the mounted transmitter device to specified spherical coordinates. At the heads, the rotation axis is at the ear opening. Transmitter devices can be easily and accurately positioned according to IEC 62209-1, IEEE 1528, FCC, or other specifications. The device holder can be locked for positioning at different phantom sections (left head, right head, flat). And upgrade kit to Mounting Device to enable easy mounting of wider devices like big smart-phones, e-books, small tablets, etc. It holds devices with width up to 140 mm.



Mounting Device for Hand-Held Transmitters



Mounting Device Adaptor for Wide-Phones

### **<Mounting Device for Laptops and other Body-Worn Transmitters>**

The extension is lightweight and made of POM, acrylic glass and foam. It fits easily on the upper part of the mounting device in place of the phone positioned. The extension is fully compatible with the SAM Twin and ELI phantoms.



Mounting Device for Laptops

## **8. Measurement Procedures**

The measurement procedures are as follows:

### <Conducted power measurement>

- (a) For WWAN power measurement, use base station simulator to configure EUT WWAN transmission in conducted connection with RF cable, at maximum power in each supported wireless interface and frequency band.
- (b) Read the WWAN RF power level from the base station simulator.
- (c) For WLAN/BT power measurement, use engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power in each supported wireless interface and frequency band
- (d) Connect EUT RF port through RF cable to the power meter, and measure WLAN/BT output power

### <SAR measurement>

- (a) Use base station simulator to configure EUT WWAN transmission in radiated connection, and engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power, in the highest power channel.
- (b) Place the EUT in the positions as Appendix D demonstrates.
- (c) Set scan area, grid size and other setting on the DASY software.
- (d) Measure SAR results for the highest power channel on each testing position.
- (e) Find out the largest SAR result on these testing positions of each band
- (f) Measure SAR results for other channels in worst SAR testing position if the reported SAR of highest power channel is larger than 0.8 W/kg

According to the test standard, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:

- (a) Power reference measurement
- (b) Area scan
- (c) Zoom scan
- (d) Power drift measurement

### **8.1 Spatial Peak SAR Evaluation**

The procedure for spatial peak SAR evaluation has been implemented according to the test standard. It can be conducted for 1g and 10g, as well as for user-specific masses. The DASY software includes all numerical procedures necessary to evaluate the spatial peak SAR value.

The base for the evaluation is a "cube" measurement. The measured volume must include the 1g and 10g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan.

The entire evaluation of the spatial peak values is performed within the post-processing engine (SEMCAD). The system always gives the maximum values for the 1g and 10g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

- (a) Extraction of the measured data (grid and values) from the Zoom Scan
- (b) Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
- (c) Generation of a high-resolution mesh within the measured volume
- (d) Interpolation of all measured values from the measurement grid to the high-resolution grid
- (e) Extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
- (f) Calculation of the averaged SAR within masses of 1g and 10g

## **8.2 Power Reference Measurement**

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

## **8.3 Area Scan**

The area scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum found in the scanned area, within a range of the global maximum. The range (in dB0) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan), if only one zoom scan follows the area scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of zoom scans has to be increased accordingly.

Area scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

|                                                                                                        | $\leq 3$ GHz                                                                                                                                                                                                                                                           | $> 3$ GHz                                              |
|--------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface | $5 \pm 1$ mm                                                                                                                                                                                                                                                           | $\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm     |
| Maximum probe angle from probe axis to phantom surface normal at the measurement location              | $30^\circ \pm 1^\circ$                                                                                                                                                                                                                                                 | $20^\circ \pm 1^\circ$                                 |
| Maximum area scan spatial resolution: $\Delta x_{Area}$ , $\Delta y_{Area}$                            | $\leq 2$ GHz: $\leq 15$ mm<br>$2 - 3$ GHz: $\leq 12$ mm                                                                                                                                                                                                                | $3 - 4$ GHz: $\leq 12$ mm<br>$4 - 6$ GHz: $\leq 10$ mm |
|                                                                                                        | When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be $\leq$ the corresponding x or y dimension of the test device with at least one measurement point on the test device. |                                                        |

### 8.4 Zoom Scan

Zoom scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 gram and 10 gram of simulated tissue. The zoom scan measures points (refer to table below) within a cube whose base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the zoom scan evaluates the averaged SAR for 1 gram and 10 gram and displays these values next to the job's label.

Zoom scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

|                                                                                                                                                                                                                                                                                                             |                                           |                                                                                             | $\leq 3$ GHz                                           | $> 3$ GHz                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------------------------------------|
| Maximum zoom scan spatial resolution: $\Delta x_{\text{Zoom}}, \Delta y_{\text{Zoom}}$                                                                                                                                                                                                                      |                                           |                                                                                             | $\leq 2$ GHz: $\leq 8$ mm<br>$2 - 3$ GHz: $\leq 5$ mm* | $3 - 4$ GHz: $\leq 5$ mm*<br>$4 - 6$ GHz: $\leq 4$ mm*                              |
| Maximum zoom scan spatial resolution, normal to phantom surface                                                                                                                                                                                                                                             | uniform grid: $\Delta z_{\text{Zoom}}(n)$ |                                                                                             | $\leq 5$ mm                                            | $3 - 4$ GHz: $\leq 4$ mm<br>$4 - 5$ GHz: $\leq 3$ mm<br>$5 - 6$ GHz: $\leq 2$ mm    |
|                                                                                                                                                                                                                                                                                                             | graded grid                               | $\Delta z_{\text{Zoom}}(1)$ : between 1 <sup>st</sup> two points closest to phantom surface | $\leq 4$ mm                                            | $3 - 4$ GHz: $\leq 3$ mm<br>$4 - 5$ GHz: $\leq 2.5$ mm<br>$5 - 6$ GHz: $\leq 2$ mm  |
|                                                                                                                                                                                                                                                                                                             |                                           | $\Delta z_{\text{Zoom}}(n>1)$ : between subsequent points                                   | $\leq 1.5 \cdot \Delta z_{\text{Zoom}}(n-1)$           |                                                                                     |
| Minimum zoom scan volume                                                                                                                                                                                                                                                                                    | x, y, z                                   |                                                                                             | $\geq 30$ mm                                           | $3 - 4$ GHz: $\geq 28$ mm<br>$4 - 5$ GHz: $\geq 25$ mm<br>$5 - 6$ GHz: $\geq 22$ mm |
| Note: $\delta$ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.                                                                                                                                                           |                                           |                                                                                             |                                                        |                                                                                     |
| * When zoom scan is required and the <i>reported</i> SAR from the <i>area scan based 1-g SAR estimation</i> procedures of KDB 447498 is $\leq 1.4$ W/kg, $\leq 8$ mm, $\leq 7$ mm and $\leq 5$ mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz. |                                           |                                                                                             |                                                        |                                                                                     |

### 8.5 Volume Scan Procedures

The volume scan is used to assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing. When all volume scan were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculating the multiband SAR.

### 8.6 Power Drift Monitoring

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In DASy measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drifts more than 5%, the SAR will be retested.

## 9. Test Equipment List

| Manufacturer  | Name of Equipment               | Type/Model    | Serial Number  | Calibration   |               |
|---------------|---------------------------------|---------------|----------------|---------------|---------------|
|               |                                 |               |                | Last Cal.     | Due Date      |
| SPEAG         | 750MHz System Validation Kit    | D750V3        | 1012           | May. 22, 2017 | May. 21, 2018 |
| SPEAG         | 835MHz System Validation Kit    | D835V2        | 499            | Mar. 21, 2017 | Mar. 20, 2018 |
| SPEAG         | 1750MHz System Validation Kit   | D1750V2       | 1068           | Nov. 15, 2017 | Nov. 14, 2018 |
| SPEAG         | 1900MHz System Validation Kit   | D1900V2       | 5d041          | Sep. 28, 2017 | Sep. 27, 2018 |
| SPEAG         | 2450MHz System Validation Kit   | D2450V2       | 736            | Sep. 18, 2017 | Sep. 17, 2018 |
| SPEAG         | 2600MHz System Validation Kit   | D2600V2       | 1008           | Sep. 18, 2017 | Sep. 17, 2018 |
| SPEAG         | 5GHz System Validation Kit      | D5GHzV2       | 1171           | Jul. 18, 2017 | Jul. 17, 2018 |
| SPEAG         | Data Acquisition Electronics    | DAE3          | 495            | May. 22, 2017 | May. 21, 2018 |
| SPEAG         | Data Acquisition Electronics    | DAE4          | 1399           | Nov. 16, 2017 | Nov. 15, 2018 |
| SPEAG         | Data Acquisition Electronics    | DAE4          | 778            | May. 22, 2017 | May. 21, 2018 |
| SPEAG         | Data Acquisition Electronics    | DAE4          | 854            | May. 02, 2017 | May. 01, 2018 |
| SPEAG         | Data Acquisition Electronics    | DAE4          | 853            | Jul. 19, 2017 | Jul. 18, 2018 |
| SPEAG         | Dosimetric E-Field Probe        | EX3DV4        | 3925           | May. 24, 2017 | May. 23, 2018 |
| SPEAG         | Dosimetric E-Field Probe        | ES3DV3        | 3270           | Sep. 25, 2017 | Sep. 24, 2018 |
| SPEAG         | Dosimetric E-Field Probe        | EX3DV4        | 3931           | Sep. 29, 2017 | Sep. 28, 2018 |
| SPEAG         | Dosimetric E-Field Probe        | ES3DV3        | 3169           | May. 11, 2017 | May. 10, 2018 |
| SPEAG         | Dosimetric E-Field Probe        | EX3DV4        | 7306           | Jul. 24, 2017 | Jul. 23, 2018 |
| WonDer        | Thermometer                     | WD-5016       | TM281-1        | Mar. 17, 2017 | Mar. 16, 2018 |
| WonDer        | Thermometer                     | WD-5016       | TM281-2        | Mar. 17, 2017 | Mar. 16, 2018 |
| WonDer        | Thermometer                     | WD-5016       | TM560-1        | Mar. 17, 2017 | Mar. 16, 2018 |
| WonDer        | Thermometer                     | WD-5016       | TM560-2        | Mar. 17, 2017 | Mar. 16, 2018 |
| TECPEL        | Thermometer                     | UL-A03        | TM225-1        | Mar. 21, 2017 | Mar. 20, 2018 |
| Anritsu       | Radio Communication Analyzer    | MT8821C       | 6201341950     | Apr. 20, 2017 | Apr. 19, 2018 |
| Agilent       | Wireless Communication Test Set | E5515C        | MY50266977     | May. 30, 2017 | May. 29, 2018 |
| R&S           | BT Base Station                 | CBT32         | 100522         | Mar. 14, 2017 | Mar. 13, 2018 |
| SPEAG         | Device Holder                   | N/A           | N/A            | N/A           | N/A           |
| Anritsu       | Signal Generator                | MG3710A       | 6201502524     | Dec. 07, 2017 | Dec. 06, 2018 |
| Agilent       | ENA Network Analyzer            | E5071C        | MY46104758     | Aug. 24, 2017 | Aug. 23, 2018 |
| SPEAG         | Dielectric Probe Kit            | DAK-3.5       | 1126           | Sep. 26, 2017 | Sep. 25, 2018 |
| LINE SEIKI    | Digital Thermometer             | LKMelectronic | DTM3000SPEZIAL | Sep. 06, 2017 | Sep. 05, 2018 |
| Anritsu       | Power Meter                     | ML2495A       | 1419002        | May. 15, 2017 | May. 14, 2018 |
| Anritsu       | Power Sensor                    | MA2411B       | 1339124        | May. 15, 2017 | May. 14, 2018 |
| Anritsu       | Power Meter                     | ML2495A       | 1218006        | Oct. 06, 2017 | Oct. 05, 2018 |
| Anritsu       | Power Sensor                    | MA2411B       | 1207363        | Oct. 06, 2017 | Oct. 05, 2018 |
| Agilent       | Spectrum Analyzer               | E4408B        | MY44211028     | Aug. 23, 2017 | Aug. 22, 2018 |
| Anritsu       | Spectrum Analyzer               | MS2830A       | 6201396378     | Jun. 26, 2017 | Jun. 25, 2018 |
| Mini-Circuits | Power Amplifier                 | ZVE-8G+       | D120604        | Mar. 09, 2017 | Mar. 08, 2018 |
| Mini-Circuits | Power Amplifier                 | ZHL-42W+      | QA1344002      | Mar. 09, 2017 | Mar. 08, 2018 |
| ATM           | Dual Directional Coupler        | C122H-10      | P610410z-02    | Note 1        |               |
| Woken         | Attenuator 1                    | WK0602-XX     | N/A            | Note 1        |               |
| PE            | Attenuator 2                    | PE7005-10     | N/A            | Note 1        |               |
| PE            | Attenuator 3                    | PE7005- 3     | N/A            | Note 1        |               |

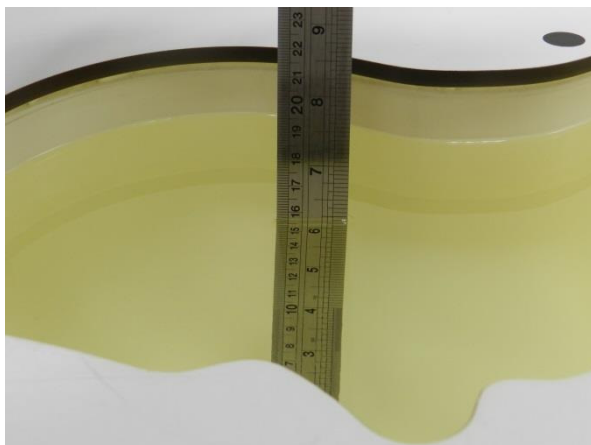
**General Note:**

1. Prior to system verification and validation, the path loss from the signal generator to the system check source and the power meter, which includes the amplifier, cable, attenuator and directional coupler, was measured by the network analyzer. The reading of the power meter was offset by the path loss difference between the path to the power meter and the path to the system check source to monitor the actual power level fed to the system check source.

## **10. System Verification**

### **10.1 Tissue Simulating Liquids**

For the measurement of the field distribution inside the SAM phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 10.1. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 10.2.



**Fig 10.1 Photo of Liquid Height for Head SAR**



**Fig 10.2 Photo of Liquid Height for Body SAR**

## 10.2 Tissue Verification

The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.

| Frequency (MHz)  | Water (%) | Sugar (%) | Cellulose (%) | Salt (%) | Preventol (%) | DGBE (%) | Conductivity ( $\sigma$ ) | Permittivity ( $\epsilon_r$ ) |
|------------------|-----------|-----------|---------------|----------|---------------|----------|---------------------------|-------------------------------|
| For Head         |           |           |               |          |               |          |                           |                               |
| 750              | 41.1      | 57.0      | 0.2           | 1.4      | 0.2           | 0        | 0.89                      | 41.9                          |
| 835              | 40.3      | 57.9      | 0.2           | 1.4      | 0.2           | 0        | 0.90                      | 41.5                          |
| 900              | 40.3      | 57.9      | 0.2           | 1.4      | 0.2           | 0        | 0.97                      | 41.5                          |
| 1800, 1900, 2000 | 55.2      | 0         | 0             | 0.3      | 0             | 44.5     | 1.40                      | 40.0                          |
| 2450             | 55.0      | 0         | 0             | 0        | 0             | 45.0     | 1.80                      | 39.2                          |
| 2600             | 54.8      | 0         | 0             | 0.1      | 0             | 45.1     | 1.96                      | 39.0                          |
| For Body         |           |           |               |          |               |          |                           |                               |
| 750              | 51.7      | 47.2      | 0             | 0.9      | 0.1           | 0        | 0.96                      | 55.5                          |
| 835              | 50.8      | 48.2      | 0             | 0.9      | 0.1           | 0        | 0.97                      | 55.2                          |
| 900              | 50.8      | 48.2      | 0             | 0.9      | 0.1           | 0        | 1.05                      | 55.0                          |
| 1800, 1900, 2000 | 70.2      | 0         | 0             | 0.4      | 0             | 29.4     | 1.52                      | 53.3                          |
| 2450             | 68.6      | 0         | 0             | 0        | 0             | 31.4     | 1.95                      | 52.7                          |
| 2600             | 68.1      | 0         | 0             | 0.1      | 0             | 31.8     | 2.16                      | 52.5                          |

### Simulating Liquid for 5GHz, Manufactured by SPEAG

| Ingredients        | (% by weight) |
|--------------------|---------------|
| Water              | 64~78%        |
| Mineral oil        | 11~18%        |
| Emulsifiers        | 9~15%         |
| Additives and Salt | 2~3%          |

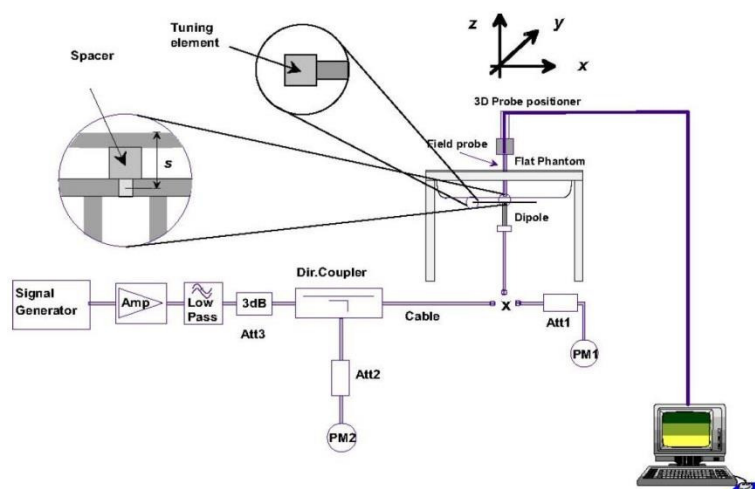
**<Tissue Dielectric Parameter Check Results>**

| Frequency (MHz) | Tissue Type | Liquid Temp. (°C) | Conductivity ( $\sigma$ ) | Permittivity ( $\epsilon_r$ ) | Conductivity Target ( $\sigma$ ) | Permittivity Target ( $\epsilon_r$ ) | Delta ( $\sigma$ ) (%) | Delta ( $\epsilon_r$ ) (%) | Limit (%) | Date       |
|-----------------|-------------|-------------------|---------------------------|-------------------------------|----------------------------------|--------------------------------------|------------------------|----------------------------|-----------|------------|
| 750             | HSL         | 22.1              | 0.900                     | 40.782                        | 0.89                             | 41.90                                | 1.12                   | -2.67                      | ±5        | 2017/12/30 |
| 750             | MSL         | 22.3              | 0.976                     | 54.334                        | 0.96                             | 55.50                                | 1.67                   | -2.10                      | ±5        | 2018/1/9   |
| 750             | MSL         | 22.5              | 0.972                     | 53.878                        | 0.96                             | 55.50                                | 1.25                   | -2.92                      | ±5        | 2018/1/29  |
| 835             | HSL         | 22.1              | 0.910                     | 42.472                        | 0.90                             | 41.50                                | 1.11                   | 2.34                       | ±5        | 2017/12/30 |
| 835             | HSL         | 22.6              | 0.873                     | 43.230                        | 0.90                             | 41.50                                | -3.00                  | 4.17                       | ±5        | 2018/1/7   |
| 835             | MSL         | 22.5              | 0.937                     | 56.065                        | 0.97                             | 55.20                                | -3.40                  | 1.57                       | ±5        | 2018/1/10  |
| 835             | MSL         | 22.2              | 0.964                     | 56.895                        | 0.97                             | 55.20                                | -0.62                  | 3.07                       | ±5        | 2018/1/23  |
| 1750            | HSL         | 22.4              | 1.362                     | 38.748                        | 1.37                             | 40.10                                | -0.58                  | -3.37                      | ±5        | 2018/1/6   |
| 1750            | MSL         | 22.3              | 1.466                     | 55.250                        | 1.49                             | 53.40                                | -1.61                  | 3.46                       | ±5        | 2018/1/23  |
| 1750            | MSL         | 22.4              | 1.463                     | 55.130                        | 1.49                             | 53.40                                | -1.81                  | 3.24                       | ±5        | 2018/1/28  |
| 1900            | HSL         | 22.1              | 1.439                     | 39.417                        | 1.40                             | 40.00                                | 2.79                   | -1.46                      | ±5        | 2018/1/7   |
| 1900            | MSL         | 22.4              | 1.554                     | 51.750                        | 1.52                             | 53.30                                | 2.24                   | -2.91                      | ±5        | 2018/1/22  |
| 1900            | MSL         | 22.6              | 1.552                     | 51.708                        | 1.52                             | 53.30                                | 2.11                   | -2.99                      | ±5        | 2018/1/25  |
| 1900            | MSL         | 22.4              | 1.550                     | 51.600                        | 1.52                             | 53.30                                | 1.97                   | -3.19                      | ±5        | 2018/1/28  |
| 2450            | HSL         | 22.2              | 1.776                     | 38.792                        | 1.80                             | 39.20                                | -1.33                  | -1.04                      | ±5        | 2018/1/11  |
| 2450            | HSL         | 22.6              | 1.762                     | 39.606                        | 1.80                             | 39.20                                | -2.11                  | 1.04                       | ±5        | 2018/1/19  |
| 2450            | MSL         | 22.2              | 1.996                     | 54.487                        | 1.95                             | 52.70                                | 2.36                   | 3.39                       | ±5        | 2018/1/11  |
| 2450            | MSL         | 22.6              | 2.019                     | 53.573                        | 1.95                             | 52.70                                | 3.54                   | 1.66                       | ±5        | 2018/1/18  |
| 2600            | HSL         | 22.2              | 1.950                     | 38.370                        | 1.96                             | 39.00                                | -0.51                  | -1.62                      | ±5        | 2018/1/8   |
| 2600            | HSL         | 22.2              | 1.950                     | 38.370                        | 1.96                             | 39.00                                | -0.51                  | -1.62                      | ±5        | 2018/1/8   |
| 2600            | HSL         | 22.7              | 1.966                     | 38.516                        | 1.96                             | 39.00                                | 0.31                   | -1.24                      | ±5        | 2018/1/26  |
| 2600            | MSL         | 22.1              | 2.210                     | 53.884                        | 2.16                             | 52.50                                | 2.31                   | 2.64                       | ±5        | 2018/1/23  |
| 2600            | MSL         | 22.4              | 2.225                     | 52.759                        | 2.16                             | 52.50                                | 3.01                   | 0.49                       | ±5        | 2018/1/30  |
| 5250            | HSL         | 22.6              | 4.513                     | 37.118                        | 4.71                             | 35.95                                | -4.18                  | 3.25                       | ±5        | 2018/1/19  |
| 5250            | MSL         | 22.5              | 5.537                     | 47.352                        | 5.36                             | 48.95                                | 3.30                   | -3.26                      | ±5        | 2018/1/21  |
| 5600            | HSL         | 22.6              | 4.852                     | 36.677                        | 5.07                             | 35.50                                | -4.30                  | 3.32                       | ±5        | 2018/1/19  |
| 5600            | MSL         | 22.5              | 6.012                     | 46.731                        | 5.77                             | 48.50                                | 4.19                   | -3.65                      | ±5        | 2018/1/21  |
| 5750            | HSL         | 22.6              | 5.011                     | 36.475                        | 5.22                             | 35.35                                | -4.00                  | 3.18                       | ±5        | 2018/1/19  |
| 5750            | MSL         | 22.5              | 6.223                     | 46.468                        | 5.94                             | 48.28                                | 4.76                   | -3.75                      | ±5        | 2018/1/21  |

### 10.3 System Performance Check Results

Comparing to the original SAR value provided by SPEAG, the verification data should be within its specification of 10 %. Below table shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance check can meet the variation criterion and the plots can be referred to Appendix A of this report.

| Date       | Frequency (MHz) | Tissue Type | Input Power (mW) | Dipole S/N    | Probe S/N       | DAE S/N     | Measured 1g SAR (W/kg) | Targeted 1g SAR (W/kg) | Normalized 1g SAR (W/kg) | Deviation (%) |
|------------|-----------------|-------------|------------------|---------------|-----------------|-------------|------------------------|------------------------|--------------------------|---------------|
| 2017/12/30 | 750             | HSL         | 250              | D750V3-1012   | EX3DV4 - SN7306 | DAE4 Sn853  | 2.09                   | 8.22                   | 8.36                     | 1.70          |
| 2018/1/9   | 750             | MSL         | 250              | D750V3-1012   | EX3DV4 - SN3931 | DAE4 Sn1399 | 2.31                   | 8.71                   | 9.24                     | 6.08          |
| 2018/1/29  | 750             | MSL         | 250              | D750V3-1012   | EX3DV4 - SN3931 | DAE4 Sn1399 | 2.28                   | 8.71                   | 9.12                     | 4.71          |
| 2017/12/30 | 835             | HSL         | 250              | D835V2-499    | EX3DV4 - SN7306 | DAE4 Sn853  | 2.46                   | 9.45                   | 9.84                     | 4.13          |
| 2018/1/7   | 835             | HSL         | 250              | D835V2-499    | EX3DV4 - SN3925 | DAE4 Sn853  | 2.27                   | 9.45                   | 9.08                     | -3.92         |
| 2018/1/10  | 835             | MSL         | 250              | D835V2-499    | EX3DV4 - SN3931 | DAE4 Sn1399 | 2.48                   | 9.67                   | 9.92                     | 2.59          |
| 2018/1/23  | 835             | MSL         | 250              | D835V2-499    | ES3DV3 - SN3270 | DAE4 Sn854  | 2.36                   | 9.67                   | 9.44                     | -2.38         |
| 2018/1/6   | 1750            | HSL         | 250              | D1750V2-1068  | EX3DV4 - SN3925 | DAE4 Sn853  | 8.58                   | 36.70                  | 34.32                    | -6.49         |
| 2018/1/23  | 1750            | MSL         | 250              | D1750V2-1068  | ES3DV3 - SN3270 | DAE4 Sn854  | 8.80                   | 37.20                  | 35.20                    | -5.38         |
| 2018/1/28  | 1750            | MSL         | 250              | D1750V2-1068  | EX3DV4 - SN3931 | DAE4 Sn1399 | 8.61                   | 37.20                  | 34.44                    | -7.42         |
| 2018/1/7   | 1900            | HSL         | 250              | D1900V2-5d041 | EX3DV4 - SN3925 | DAE4 Sn853  | 9.78                   | 40.50                  | 39.12                    | -3.41         |
| 2018/1/22  | 1900            | MSL         | 250              | D1900V2-5d041 | ES3DV3 - SN3270 | DAE4 Sn854  | 9.68                   | 40.70                  | 38.72                    | -4.86         |
| 2018/1/25  | 1900            | MSL         | 250              | D1900V2-5d041 | EX3DV4 - SN3931 | DAE4 Sn1399 | 10.50                  | 40.70                  | 42.00                    | 3.19          |
| 2018/1/28  | 1900            | MSL         | 250              | D1900V2-5d041 | EX3DV4 - SN3931 | DAE4 Sn1399 | 10.50                  | 40.70                  | 42.00                    | 3.19          |
| 2018/1/11  | 2450            | HSL         | 250              | D2450V2-736   | ES3DV3 - SN3169 | DAE3 Sn495  | 13.50                  | 52.40                  | 54.00                    | 3.05          |
| 2018/1/19  | 2450            | HSL         | 250              | D2450V2-736   | EX3DV4 - SN7306 | DAE4 Sn778  | 12.40                  | 52.40                  | 49.60                    | -5.34         |
| 2018/1/11  | 2450            | MSL         | 250              | D2450V2-736   | ES3DV3 - SN3169 | DAE3 Sn495  | 12.50                  | 50.80                  | 50.00                    | -1.57         |
| 2018/1/18  | 2450            | MSL         | 250              | D2450V2-736   | EX3DV4 - SN7306 | DAE4 Sn778  | 12.60                  | 50.80                  | 50.40                    | -0.79         |
| 2018/1/8   | 2600            | HSL         | 250              | D2600V2-1008  | EX3DV4 - SN3925 | DAE4 Sn853  | 13.90                  | 56.80                  | 55.60                    | -2.11         |
| 2018/1/8   | 2600            | HSL         | 250              | D2600V2-1008  | EX3DV4 - SN3931 | DAE4 Sn1399 | 13.70                  | 56.80                  | 54.80                    | -3.52         |
| 2018/1/26  | 2600            | HSL         | 250              | D2600V2-1008  | EX3DV4 - SN3931 | DAE4 Sn1399 | 13.80                  | 56.80                  | 55.20                    | -2.82         |
| 2018/1/23  | 2600            | MSL         | 250              | D2600V2-1008  | EX3DV4 - SN3931 | DAE4 Sn1399 | 14.20                  | 55.00                  | 56.80                    | 3.27          |
| 2018/1/30  | 2600            | MSL         | 250              | D2600V2-1008  | EX3DV4 - SN3931 | DAE4 Sn1399 | 14.30                  | 55.00                  | 57.20                    | 4.00          |
| 2018/1/19  | 5250            | HSL         | 100              | D5GHzV2-1171  | EX3DV4 - SN3931 | DAE4 Sn1399 | 7.54                   | 81.20                  | 75.40                    | -7.14         |
| 2018/1/21  | 5250            | MSL         | 100              | D5GHzV2-1171  | EX3DV4 - SN3931 | DAE4 Sn1399 | 7.21                   | 78.10                  | 72.10                    | -7.68         |
| 2018/1/19  | 5600            | HSL         | 100              | D5GHzV2-1171  | EX3DV4 - SN3925 | DAE4 Sn853  | 7.89                   | 84.90                  | 78.90                    | -7.07         |
| 2018/1/21  | 5600            | MSL         | 100              | D5GHzV2-1171  | EX3DV4 - SN3931 | DAE4 Sn1399 | 8.12                   | 81.00                  | 81.20                    | 0.25          |
| 2018/1/19  | 5750            | HSL         | 100              | D5GHzV2-1171  | EX3DV4 - SN3931 | DAE4 Sn1399 | 8.23                   | 82.20                  | 82.30                    | 0.12          |
| 2018/1/21  | 5750            | MSL         | 100              | D5GHzV2-1171  | EX3DV4 - SN3931 | DAE4 Sn1399 | 7.33                   | 78.70                  | 73.30                    | -6.86         |



**Fig 8.3.1 System Performance Check Setup**



**Fig 8.3.2 Setup Photo**

## 11. RF Exposure Positions

### 11.1 Ear and handset reference point

Figure 9.1.1 shows the front, back, and side views of the SAM phantom. The center-of-mouth reference point is labeled "M," the left ear reference point (ERP) is marked "LE," and the right ERP is marked "RE." Each ERP is 15 mm along the B-M (back-mouth) line behind the entrance-to-ear-canal (EEC) point, as shown in Figure 9.1.2 The Reference Plane is defined as passing through the two ear reference points and point M. The line N-F (neck-front), also called the reference pivoting line, is normal to the Reference Plane and perpendicular to both a line passing through RE and LE and the B-M line (see Figure 9.1.3). Both N-F and B-M lines should be marked on the exterior of the phantom shell to facilitate handset positioning. Posterior to the N-F line the ear shape is a flat surface with 6 mm thickness at each ERP, and forward of the N-F line the ear is truncated, as illustrated in Figure 9.1.2. The ear truncation is introduced to preclude the ear lobe from interfering with handset tilt, which could lead to unstable positioning at the cheek.

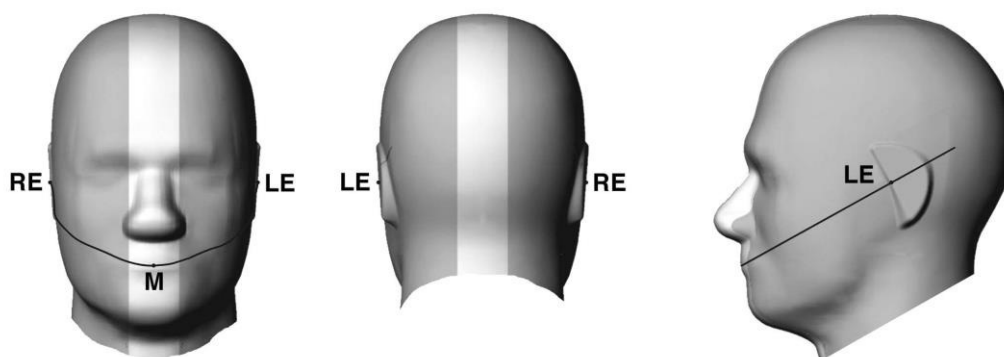


Fig 9.1.1 Front, back, and side views of SAM twin phantom

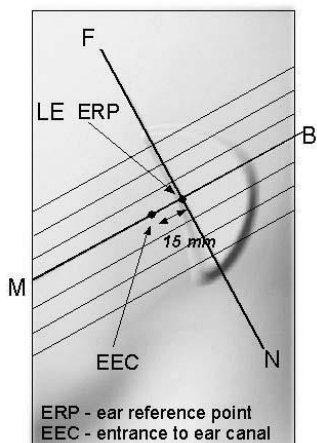


Fig 9.1.2 Close-up side view of phantom showing the ear region.

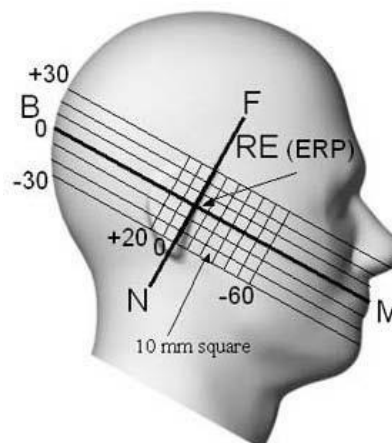


Fig 9.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

## 11.2 Definition of the cheek position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. Define two imaginary lines on the handset—the vertical centerline and the horizontal line. The vertical centerline passes through two points on the front side of the handset—the midpoint of the width  $w_t$  of the handset at the level of the acoustic output (point A in Figure 9.2.1 and Figure 9.2.2), and the midpoint of the width  $w_b$  of the bottom of the handset (point B). The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output (see Figure 9.2.1). The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily parallel to the front face of the handset (see Figure 9.2.2), especially for clamshell handsets, handsets with flip covers, and other irregularly-shaped handsets.
3. Position the handset close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom (see Figure 9.2.3), such that the plane defined by the vertical centerline and the horizontal line of the handset is approximately parallel to the sagittal plane of the phantom.
4. Translate the handset towards the phantom along the line passing through RE and LE until handset point A touches the pinna at the ERP.
5. While maintaining the handset in this plane, rotate it around the LE-RE line until the vertical centerline is in the plane normal to the plane containing B-M and N-F lines, i.e., the Reference Plane.
6. Rotate the handset around the vertical centerline until the handset (horizontal line) is parallel to the N-F line.
7. While maintaining the vertical centerline in the Reference Plane, keeping point A on the line passing through RE and LE, and maintaining the handset contact with the pinna, rotate the handset about the N-F line until any point on the handset is in contact with a phantom point below the pinna on the cheek. See Figure 9.2.3. The actual rotation angles should be documented in the test report.

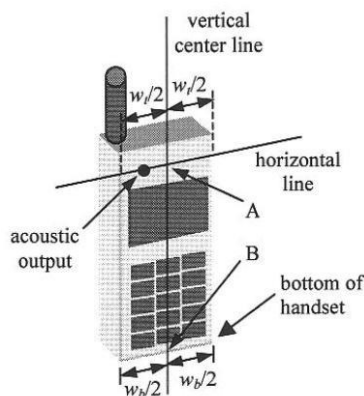


Fig 9.2.1 Handset vertical and horizontal reference lines—"fixed case"

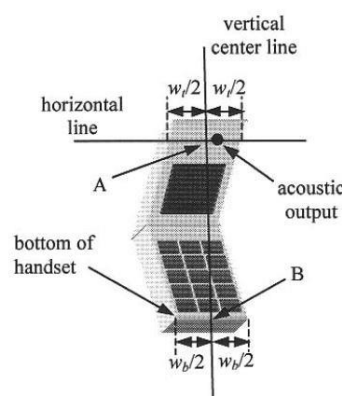


Fig 9.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

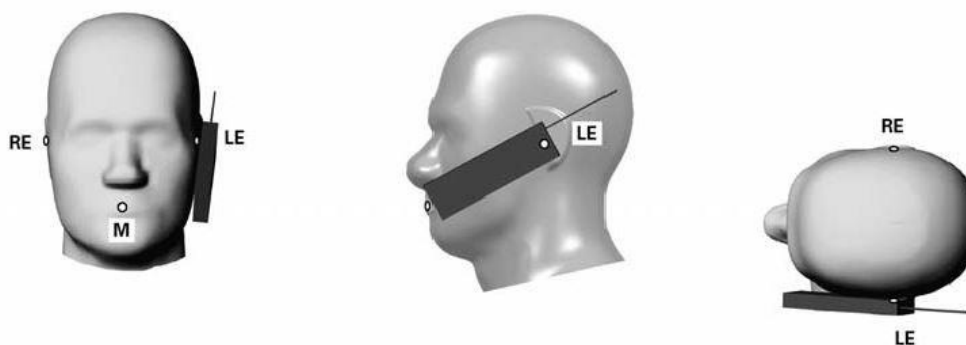
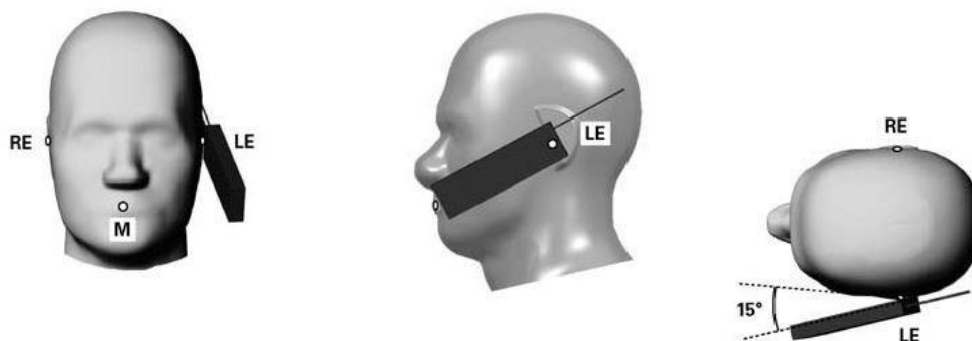


Fig 9.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

### **11.3 Definition of the tilt position**

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. While maintaining the orientation of the handset, move the handset away from the pinna along the line passing through RE and LE far enough to allow a rotation of the handset away from the cheek by 15°.
3. Rotate the handset around the horizontal line by 15°.
4. While maintaining the orientation of the handset, move the handset towards the phantom on the line passing through RE and LE until any part of the handset touches the ear. The tilt position is obtained when the contact point is on the pinna. See Figure 9.3.1. If contact occurs at any location other than the pinna, e.g., the antenna at the back of the phantom head, the angle of the handset should be reduced. In this case, the tilt position is obtained if any point on the handset is in contact with the pinna and a second point

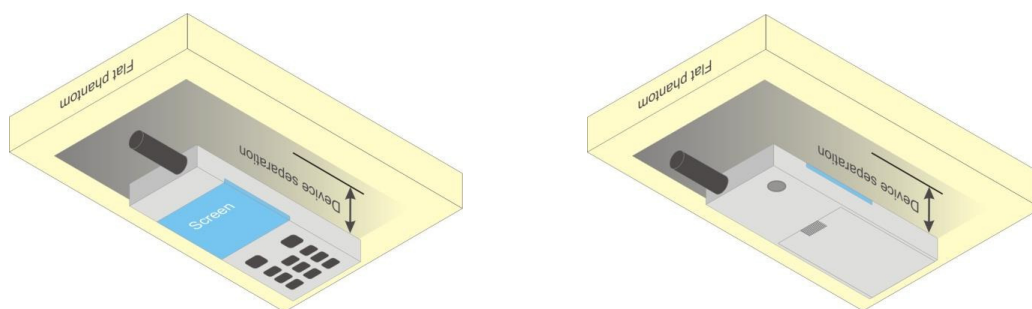


**Fig 9.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.**

### **11.4 Body Worn Accessory**

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 9.4). Per KDB648474 D04v01r03, body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB 447498 D01v06 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for body-worn accessory, measured without a headset connected to the handset is  $> 1.2 \text{ W/kg}$ , the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

Accessories for body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are tested with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.



**Fig 9.4 Body Worn Position**

### **11.5 Wireless Router**

Some battery-operated handsets have the capability to transmit and receive user through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06 v02r01 where SAR test considerations for handsets ( $L \times W \geq 9 \text{ cm} \times 5 \text{ cm}$ ) are based on a composite test separation distance of 10mm from the front, back and edges of the device containing transmitting antennas within 2.5cm of their edges, determined from general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some body-worn accessory SAR tests.

When the user enables the personal wireless router functions for the handset, actual operations include simultaneous transmission of both the WIFI transmitter and another licensed transmitter. Both transmitters often do not transmit at the same transmitting frequency and thus cannot be evaluated for SAR under actual use conditions due to the limitations of the SAR assessment probes. Therefore, SAR must be evaluated for each frequency transmission and mode separately and spatially summed with the WIFI transmitter according to FCC KDB Publication 447498 D01v06 publication procedures. The "Portable Hotspot" feature on the handset was NOT activated during SAR assessments, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal at a time.

## 12. Conducted RF Output Power (Unit: dBm)

### <GSM Conducted Power>

1. Per KDB 447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.
2. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Therefore, the GPRS (4Tx slots) for GSM850/GSM1900 is considered as the primary mode.
3. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is  $\leq \frac{1}{4}$  dB higher than the primary mode, SAR measurement is not required for the secondary mode
4. Power reduction which is triggered by hotspot mode is implemented in GSM1900 band, for hotspot mode SAR testing EUT was set in reduced power mode and GPRS 4Tx slot due to its highest frame-average power.

### <Default Power Mode>

| GSM850          | Burst Average Power (dBm) |       |       | Tune-up Limit (dBm) | Frame-Average Power (dBm) |       |       | Tune-up Limit (dBm) |
|-----------------|---------------------------|-------|-------|---------------------|---------------------------|-------|-------|---------------------|
| TX Channel      | 128                       | 189   | 251   |                     | 128                       | 189   | 251   |                     |
| Frequency (MHz) | 824.2                     | 836.4 | 848.8 |                     | 824.2                     | 836.4 | 848.8 |                     |
| GSM 1 Tx slot   | 33.10                     | 33.42 | 33.41 | 33.50               | 24.10                     | 24.42 | 24.41 | 24.50               |
| GPRS 1 Tx slot  | 33.14                     | 33.45 | 33.48 | 33.50               | 24.14                     | 24.45 | 24.48 | 24.50               |
| GPRS 2 Tx slots | 29.88                     | 30.00 | 30.09 | 30.50               | 23.88                     | 24.00 | 24.09 | 24.50               |
| GPRS 3 Tx slots | 27.68                     | 27.79 | 27.77 | 28.00               | 23.42                     | 23.53 | 23.51 | 23.74               |
| GPRS 4 Tx slots | 26.25                     | 26.33 | 26.34 | 27.50               | 23.25                     | 23.33 | 23.34 | 24.50               |
| EDGE 1 Tx slot  | 25.65                     | 25.80 | 25.79 | 26.00               | 16.65                     | 16.80 | 16.79 | 17.00               |
| EDGE 2 Tx slots | 25.37                     | 25.50 | 25.56 | 26.00               | 19.37                     | 19.50 | 19.56 | 20.00               |
| EDGE 3 Tx slots | 24.50                     | 24.61 | 24.62 | 25.00               | 20.24                     | 20.35 | 20.36 | 20.74               |
| EDGE 4 Tx slots | 23.12                     | 23.23 | 23.20 | 23.50               | 20.12                     | 20.23 | 20.20 | 20.50               |

| GSM1900         | Burst Average Power (dBm) |       |        | Tune-up Limit (dBm) | Frame-Average Power (dBm) |       |        | Tune-up Limit (dBm) |
|-----------------|---------------------------|-------|--------|---------------------|---------------------------|-------|--------|---------------------|
| TX Channel      | 512                       | 661   | 810    |                     | 512                       | 661   | 810    |                     |
| Frequency (MHz) | 1850.2                    | 1880  | 1909.8 |                     | 1850.2                    | 1880  | 1909.8 |                     |
| GSM 1 Tx slot   | 30.77                     | 30.86 | 30.62  | 31.00               | 21.77                     | 21.86 | 21.62  | 22.00               |
| GPRS 1 Tx slot  | 30.80                     | 30.89 | 30.67  | 31.00               | 21.80                     | 21.89 | 21.67  | 22.00               |
| GPRS 2 Tx slots | 27.31                     | 27.69 | 27.40  | 28.00               | 21.31                     | 21.69 | 21.40  | 22.00               |
| GPRS 3 Tx slots | 25.39                     | 25.62 | 25.40  | 26.00               | 21.13                     | 21.36 | 21.14  | 21.74               |
| GPRS 4 Tx slots | 24.09                     | 24.27 | 24.02  | 25.00               | 21.09                     | 21.27 | 21.02  | 22.00               |
| EDGE 1 Tx slot  | 25.01                     | 25.28 | 24.96  | 25.50               | 16.01                     | 16.28 | 15.96  | 16.50               |
| EDGE 2 Tx slots | 24.90                     | 25.11 | 24.78  | 25.50               | 18.90                     | 19.11 | 18.78  | 19.50               |
| EDGE 3 Tx slots | 23.89                     | 24.07 | 23.84  | 24.50               | 19.63                     | 19.81 | 19.58  | 20.24               |
| EDGE 4 Tx slots | 22.46                     | 22.68 | 22.34  | 23.00               | 19.46                     | 19.68 | 19.34  | 20.00               |

**<Near-body and Hotspot Power Mode>**

| GSM1900         |        | Burst Average Power (dBm) |        |        | Tune-up Limit (dBm) | Frame-Average Power (dBm) |        |       | Tune-up Limit (dBm) |
|-----------------|--------|---------------------------|--------|--------|---------------------|---------------------------|--------|-------|---------------------|
| TX Channel      | 512    | 661                       | 810    | 512    |                     | 661                       | 810    |       |                     |
| Frequency (MHz) | 1850.2 | 1880                      | 1909.8 | 1850.2 |                     | 1880                      | 1909.8 |       |                     |
| GSM 1 Tx slot   | 24.90  | 25.12                     | 24.93  | 25.50  | 15.90               | 16.12                     | 15.93  | 16.50 |                     |
| GPRS 1 Tx slot  | 24.52  | 24.85                     | 24.63  | 25.50  | 15.52               | 15.85                     | 15.63  | 16.50 |                     |
| GPRS 2 Tx slots | 21.85  | 22.13                     | 21.84  | 22.50  | 15.85               | 16.13                     | 15.84  | 16.50 |                     |
| GPRS 3 Tx slots | 19.26  | 19.48                     | 19.21  | 20.50  | 15.00               | 15.22                     | 14.95  | 16.24 |                     |
| GPRS 4 Tx slots | 19.08  | 19.34                     | 19.09  | 19.50  | 16.08               | 16.34                     | 16.09  | 16.50 |                     |
| EDGE 1 Tx slot  | 18.88  | 19.27                     | 18.89  | 20.00  | 9.88                | 10.27                     | 9.89   | 11.00 |                     |
| EDGE 2 Tx slots | 18.71  | 18.44                     | 18.16  | 20.00  | 12.71               | 12.44                     | 12.16  | 14.00 |                     |
| EDGE 3 Tx slots | 18.55  | 18.07                     | 17.85  | 19.00  | 14.29               | 13.81                     | 13.59  | 14.74 |                     |
| EDGE 4 Tx slots | 16.91  | 16.52                     | 16.22  | 17.50  | 13.91               | 13.52                     | 13.22  | 14.50 |                     |

**<WCDMA Conducted Power>**

1. The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
2. The procedures in KDB 941225 D01v03r01 are applied for 3GPP Rel. 6 HSPA to configure the device in the required sub-test mode(s) to determine SAR test exclusion.
3. For DC-HSDPA, the device was configured according to the H-Set 12, Fixed Reference Channel (FRC) configuration in Table C.8.1.12 of 3GPP TS 34.121-1, with the primary and the secondary serving HS-DSCH Cell enabled during the power measurement.

A summary of these settings are illustrated below:

**HSDPA Setup Configuration:**

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting:
  - i. Set Gain Factors ( $\beta_c$  and  $\beta_d$ ) and parameters were set according to each
  - ii. Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
  - iii. Set RMC 12.2Kbps + HSDPA mode.
  - iv. Set Cell Power = -86 dBm
  - v. Set HS-DSCH Configuration Type to FRC (H-set 1, QPSK)
  - vi. Select HSDPA Uplink Parameters
  - vii. Set Delta ACK, Delta NACK and Delta CQI = 8
  - viii. Set Ack-Nack Repetition Factor to 3
  - ix. Set CQI Feedback Cycle (k) to 4 ms
  - x. Set CQI Repetition Factor to 2
  - xi. Power Ctrl Mode = All Up bits
- d. The transmitted maximum output power was recorded.

**Table C.10.1.4:  $\beta$  values for transmitter characteristics tests with HS-DPCCH**

| Sub-test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | $\beta_c$         | $\beta_d$         | $\beta_d$<br>(SF) | $\beta_c/\beta_d$ | $\beta_{hs}$<br>(Note 1,<br>Note 2) | CM (dB)<br>(Note 3) | MPR (dB)<br>(Note 3) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------------------------|---------------------|----------------------|
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2/15              | 15/15             | 64                | 2/15              | 4/15                                | 0.0                 | 0.0                  |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 12/15<br>(Note 4) | 15/15<br>(Note 4) | 64                | 12/15<br>(Note 4) | 24/15                               | 1.0                 | 0.0                  |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 15/15             | 8/15              | 64                | 15/8              | 30/15                               | 1.5                 | 0.5                  |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 15/15             | 4/15              | 64                | 15/4              | 30/15                               | 1.5                 | 0.5                  |
| <p>Note 1: <math>\Delta_{ACK}</math>, <math>\Delta_{NACK}</math> and <math>\Delta_{CQI} = 30/15</math> with <math>\beta_{hs} = 30/15 * \beta_c</math>.</p> <p>Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, <math>\Delta_{ACK}</math> and <math>\Delta_{NACK} = 30/15</math> with <math>\beta_{hs} = 30/15 * \beta_c</math>, and <math>\Delta_{CQI} = 24/15</math> with <math>\beta_{hs} = 24/15 * \beta_c</math>.</p> <p>Note 3: CM = 1 for <math>\beta_c/\beta_d = 12/15</math>, <math>\beta_{hs}/\beta_c = 24/15</math>. For all other combinations of DPDCCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.</p> <p>Note 4: For subtest 2 the <math>\beta_c/\beta_d</math> ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to <math>\beta_c = 11/15</math> and <math>\beta_d = 15/15</math>.</p> |                   |                   |                   |                   |                                     |                     |                      |

**Setup Configuration**

**HSUPA Setup Configuration:**

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting \* :
  - i. Call Configs = 5.2B, 5.9B, 5.10B, and 5.13.2B with QPSK
  - ii. Set the Gain Factors ( $\beta_c$  and  $\beta_d$ ) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.3, quoted from the TS 34.121
  - iii. Set Cell Power = -86 dBm
  - iv. Set Channel Type = 12.2k + HSPA
  - v. Set UE Target Power
  - vi. Power Ctrl Mode= Alternating bits
  - vii. Set and observe the E-TFCI
  - viii. Confirm that E-TFCI is equal to the target E-TFCI of 75 for sub-test 1, and other subtest's E-TFCI
- d. The transmitted maximum output power was recorded.

**Table C.11.1.3:  $\beta$  values for transmitter characteristics tests with HS-DPCCH and E-DCH**

| Sub-test | $\beta_c$      | $\beta_d$      | $\beta_d$ (SF) | $\beta_c/\beta_d$ | $\beta_{HS}$ (Note 1) | $\beta_{ec}$ | $\beta_{ed}$ (Note 4) (Note 5)               | $\beta_{ed}$ (SF) | $\beta_{ed}$ (Codes) | CM (dB) (Note 2) | MPR (dB) (Note 2) (Note 6) | AG Index (Note 5) | E-TFCI |
|----------|----------------|----------------|----------------|-------------------|-----------------------|--------------|----------------------------------------------|-------------------|----------------------|------------------|----------------------------|-------------------|--------|
| 1        | 11/15 (Note 3) | 15/15 (Note 3) | 64             | 11/15 (Note 3)    | 22/15                 | 209/25       | 1309/225                                     | 4                 | 1                    | 1.0              | 0.0                        | 20                | 75     |
| 2        | 6/15           | 15/15          | 64             | 6/15              | 12/15                 | 12/15        | 94/75                                        | 4                 | 1                    | 3.0              | 2.0                        | 12                | 67     |
| 3        | 15/15          | 9/15           | 64             | 15/9              | 30/15                 | 30/15        | $\beta_{ed1}: 47/15$<br>$\beta_{ed2}: 47/15$ | 4                 | 2                    | 2.0              | 1.0                        | 15                | 92     |
| 4        | 2/15           | 15/15          | 64             | 2/15              | 4/15                  | 2/15         | 56/75                                        | 4                 | 1                    | 3.0              | 2.0                        | 17                | 71     |
| 5        | 15/15          | 0              | -              | -                 | 5/15                  | 5/15         | 47/15                                        | 4                 | 1                    | 1.0              | 0.0                        | 12                | 67     |

Note 1: For sub-test 1 to 4,  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 30/15$  with  $\beta_{hs} = 30/15 * \beta_c$ . For sub-test 5,  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 5/15$  with  $\beta_{hs} = 5/15 * \beta_c$ .

Note 2: CM = 1 for  $\beta_d/\beta_c = 12/15$ ,  $\beta_{hs}/\beta_c = 24/15$ . For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.

Note 3: For subtest 1 the  $\beta_c/\beta_d$  ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 10/15$  and  $\beta_d = 15/15$ .

Note 4: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.

Note 5:  $\beta_{ed}$  can not be set directly; it is set by Absolute Grant Value.

Note 6: For subtests 2, 3 and 4, UE may perform E-DPDCH power scaling at max power which could results in slightly smaller MPR values.

**Setup Configuration**

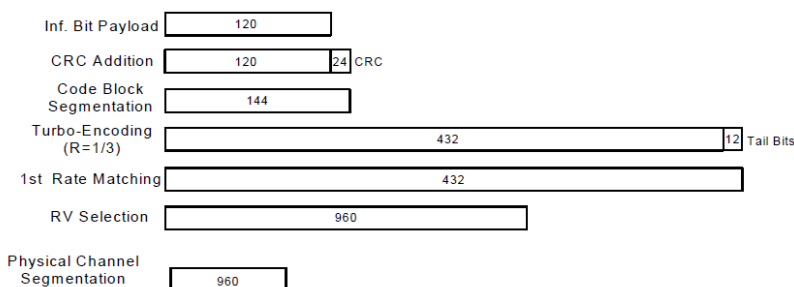
**DC-HSDPA 3GPP release 8 Setup Configuration:**

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration below
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting:
  - i. Set RMC 12.2Kbps + HSDPA mode.
  - ii. Set Cell Power = -25 dBm
  - iii. Set HS-DSCH Configuration Type to FRC (H-set 12, QPSK)
  - iv. Select HSDPA Uplink Parameters
  - v. Set Gain Factors ( $\beta_c$  and  $\beta_d$ ) and parameters were set according to each Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
    - a). Subtest 1:  $\beta_c/\beta_d=2/15$
    - b). Subtest 2:  $\beta_c/\beta_d=12/15$
    - c). Subtest 3:  $\beta_c/\beta_d=15/8$
    - d). Subtest 4:  $\beta_c/\beta_d=15/4$
  - vi. Set Delta ACK, Delta NACK and Delta CQI = 8
  - vii. Set Ack-Nack Repetition Factor to 3
  - viii. Set CQI Feedback Cycle (k) to 4 ms
  - ix. Set CQI Repetition Cycle to 2
  - x. Power Ctrl Mode = All Up bits
- d. The transmitted maximum output power was recorded.

The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification. A summary of these settings are illustrated below:

**C.8.1.12 Fixed Reference Channel Definition H-Set 12**
**Table C.8.1.12: Fixed Reference Channel H-Set 12**

| Parameter                                                                                                                                              | Unit      | Value |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------|
| Nominal Avg. Inf. Bit Rate                                                                                                                             | kbps      | 60    |
| Inter-TTI Distance                                                                                                                                     | TTI's     | 1     |
| Number of HARQ Processes                                                                                                                               | Processes | 6     |
| Information Bit Payload ( $N_{INF}$ )                                                                                                                  | Bits      | 120   |
| Number Code Blocks                                                                                                                                     | Blocks    | 1     |
| Binary Channel Bits Per TTI                                                                                                                            | Bits      | 960   |
| Total Available SML's in UE                                                                                                                            | SML's     | 19200 |
| Number of SML's per HARQ Proc.                                                                                                                         | SML's     | 3200  |
| Coding Rate                                                                                                                                            |           | 0.15  |
| Number of Physical Channel Codes                                                                                                                       | Codes     | 1     |
| Modulation                                                                                                                                             |           | QPSK  |
| Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table.               |           |       |
| Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used. |           |       |


**Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)**
**Setup Configuration**



## <WCDMA Conducted Power>

### General Note:

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is  $\leq \frac{1}{4}$  dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (HSUPA, HSDPA, DC-HSDPA) are less than  $\frac{1}{4}$  dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

### <Default Power Mode>

| Band            |                    | WCDMA II |       |        | Tune-up Limit (dBm) | WCDMA IV |        |        | Tune-up Limit (dBm) | WCDMA V |       |       | Tune-up Limit (dBm) |
|-----------------|--------------------|----------|-------|--------|---------------------|----------|--------|--------|---------------------|---------|-------|-------|---------------------|
| TX Channel      |                    | 9262     | 9400  | 9538   |                     | 1312     | 1413   | 1513   |                     | 4132    | 4182  | 4233  |                     |
| Rx Channel      |                    | 9662     | 9800  | 9938   |                     | 1537     | 1638   | 1738   |                     | 4357    | 4407  | 4458  |                     |
| Frequency (MHz) |                    | 1852.4   | 1880  | 1907.6 |                     | 1712.4   | 1732.6 | 1752.6 |                     | 826.4   | 836.4 | 846.6 |                     |
| 3GPP Rel 99     | AMR 12.2Kbps       | 22.90    | 23.21 | 23.15  | 24.00               | 22.82    | 23.00  | 23.08  | 24.00               | 22.31   | 22.36 | 22.54 | 24.00               |
| 3GPP Rel 99     | RMC 12.2Kbps       | 22.92    | 23.22 | 23.17  | 24.00               | 22.85    | 23.01  | 23.10  | 24.00               | 22.37   | 22.40 | 22.60 | 24.00               |
| 3GPP Rel 6      | HSDPA Subtest-1    | 21.95    | 22.22 | 22.18  | 23.00               | 21.82    | 22.02  | 22.11  | 23.00               | 21.38   | 21.48 | 21.55 | 23.00               |
| 3GPP Rel 6      | HSDPA Subtest-2    | 21.93    | 22.20 | 22.15  | 23.00               | 21.81    | 22.01  | 22.07  | 23.00               | 21.35   | 21.47 | 21.54 | 23.00               |
| 3GPP Rel 6      | HSDPA Subtest-3    | 21.37    | 21.50 | 21.47  | 22.50               | 21.32    | 21.53  | 21.59  | 22.50               | 20.83   | 20.93 | 21.02 | 22.50               |
| 3GPP Rel 6      | HSDPA Subtest-4    | 21.36    | 21.43 | 21.45  | 22.50               | 21.31    | 21.52  | 21.57  | 22.50               | 20.81   | 20.91 | 21.00 | 22.50               |
| 3GPP Rel 8      | DC-HSDPA Subtest-1 | 21.75    | 22.03 | 22.04  | 23.00               | 21.66    | 21.89  | 22.11  | 23.00               | 21.34   | 21.34 | 21.51 | 23.00               |
| 3GPP Rel 8      | DC-HSDPA Subtest-2 | 21.90    | 22.09 | 21.99  | 23.00               | 21.72    | 21.99  | 21.95  | 23.00               | 21.15   | 21.36 | 21.44 | 23.00               |
| 3GPP Rel 8      | DC-HSDPA Subtest-3 | 21.27    | 21.45 | 21.40  | 22.50               | 21.16    | 21.39  | 21.40  | 22.50               | 20.72   | 20.83 | 20.90 | 22.50               |
| 3GPP Rel 8      | DC-HSDPA Subtest-4 | 21.31    | 21.42 | 21.41  | 22.50               | 21.18    | 21.39  | 21.41  | 22.50               | 20.80   | 20.84 | 20.89 | 22.50               |
| 3GPP Rel 6      | HSUPA Subtest-1    | 21.92    | 22.22 | 22.05  | 23.00               | 21.75    | 21.92  | 22.02  | 23.00               | 21.38   | 21.42 | 21.47 | 23.00               |
| 3GPP Rel 6      | HSUPA Subtest-2    | 19.94    | 20.21 | 20.08  | 21.00               | 19.78    | 19.94  | 20.03  | 21.00               | 19.39   | 19.43 | 19.50 | 21.00               |
| 3GPP Rel 6      | HSUPA Subtest-3    | 20.97    | 21.19 | 21.06  | 22.00               | 20.74    | 20.92  | 20.99  | 22.00               | 20.41   | 20.42 | 20.50 | 22.00               |
| 3GPP Rel 6      | HSUPA Subtest-4    | 19.92    | 20.21 | 20.06  | 21.00               | 19.74    | 19.92  | 20.01  | 21.00               | 19.41   | 19.40 | 19.51 | 21.00               |
| 3GPP Rel 6      | HSUPA Subtest-5    | 21.94    | 22.21 | 22.17  | 23.00               | 21.85    | 21.99  | 22.12  | 23.00               | 21.37   | 21.51 | 21.56 | 23.00               |

### <Near-Body and Hotspot Power Mode>

| Band            |                    | WCDMA II |       |        | Tune-up Limit (dBm) | WCDMA IV |        |        | Tune-up Limit (dBm) | WCDMA V |       |       | Tune-up Limit (dBm) |
|-----------------|--------------------|----------|-------|--------|---------------------|----------|--------|--------|---------------------|---------|-------|-------|---------------------|
| TX Channel      |                    | 9262     | 9400  | 9538   |                     | 1312     | 1413   | 1513   |                     | 4132    | 4182  | 4233  |                     |
| Rx Channel      |                    | 9662     | 9800  | 9938   |                     | 1537     | 1638   | 1738   |                     | 4357    | 4407  | 4458  |                     |
| Frequency (MHz) |                    | 1852.4   | 1880  | 1907.6 |                     | 1712.4   | 1732.6 | 1752.6 |                     | 826.4   | 836.4 | 846.6 |                     |
| 3GPP Rel 99     | AMR 12.2Kbps       | 16.10    | 16.42 | 16.40  | 16.50               | 15.05    | 15.21  | 15.29  | 16.00               | 22.01   | 21.93 | 22.03 | 22.50               |
| 3GPP Rel 99     | RMC 12.2Kbps       | 16.20    | 16.50 | 16.46  | 16.50               | 15.15    | 15.34  | 15.40  | 16.00               | 22.12   | 22.04 | 22.13 | 22.50               |
| 3GPP Rel 6      | HSDPA Subtest-1    | 15.46    | 15.50 | 15.34  | 15.50               | 14.33    | 14.47  | 14.53  | 15.00               | 20.79   | 20.78 | 20.80 | 21.50               |
| 3GPP Rel 6      | HSDPA Subtest-2    | 15.43    | 15.50 | 15.34  | 15.50               | 14.29    | 14.46  | 14.50  | 15.00               | 20.80   | 20.77 | 20.79 | 21.50               |
| 3GPP Rel 6      | HSDPA Subtest-3    | 14.94    | 15.00 | 14.36  | 15.00               | 13.81    | 14.00  | 14.20  | 14.50               | 20.26   | 20.26 | 20.28 | 21.00               |
| 3GPP Rel 6      | HSDPA Subtest-4    | 14.94    | 15.00 | 14.37  | 15.00               | 13.83    | 13.94  | 14.13  | 14.50               | 20.26   | 20.26 | 20.30 | 21.00               |
| 3GPP Rel 8      | DC-HSDPA Subtest-1 | 15.36    | 15.43 | 15.33  | 15.50               | 14.31    | 14.45  | 14.49  | 15.00               | 20.73   | 20.70 | 20.77 | 21.50               |
| 3GPP Rel 8      | DC-HSDPA Subtest-2 | 15.34    | 15.44 | 15.27  | 15.50               | 14.28    | 14.45  | 14.46  | 15.00               | 20.75   | 20.68 | 20.78 | 21.50               |
| 3GPP Rel 8      | DC-HSDPA Subtest-3 | 14.84    | 14.96 | 14.30  | 15.00               | 13.81    | 13.91  | 14.19  | 14.50               | 20.16   | 20.21 | 20.26 | 21.00               |
| 3GPP Rel 8      | DC-HSDPA Subtest-4 | 14.91    | 14.95 | 14.31  | 15.00               | 13.80    | 13.87  | 14.04  | 14.50               | 20.19   | 20.16 | 20.30 | 21.00               |
| 3GPP Rel 6      | HSUPA Subtest-1    | 14.44    | 14.74 | 14.61  | 15.50               | 13.77    | 13.96  | 14.08  | 15.00               | 19.96   | 19.92 | 20.06 | 21.50               |
| 3GPP Rel 6      | HSUPA Subtest-2    | 12.44    | 12.74 | 12.62  | 13.50               | 11.81    | 11.97  | 12.03  | 13.00               | 17.95   | 18.01 | 18.08 | 19.50               |
| 3GPP Rel 6      | HSUPA Subtest-3    | 13.52    | 13.74 | 13.59  | 14.50               | 12.81    | 13.00  | 13.00  | 14.00               | 18.91   | 18.99 | 19.00 | 20.50               |
| 3GPP Rel 6      | HSUPA Subtest-4    | 12.44    | 12.78 | 12.61  | 13.50               | 11.77    | 12.01  | 12.10  | 13.00               | 17.97   | 17.99 | 18.04 | 19.50               |
| 3GPP Rel 6      | HSUPA Subtest-5    | 14.49    | 14.79 | 14.75  | 15.50               | 13.90    | 14.08  | 14.17  | 15.00               | 19.89   | 20.02 | 20.08 | 21.50               |

SPORTON INTERNATIONAL INC.

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FCC ID : IHDT56XC2

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Issued Date : Mar. 23, 2018

Form version. : 170509

**<CDMA2000 Conducted Power>**
**General Note:**

1. Per KDB 941225 D01v03r01, SAR for head exposure is measured in RC3 with the handset configured to transmit at full rate in SO55.
2. Per KDB 941225 D01v03r01, in Hotspot mode EUT is treated as data device and SAR is tested with Ev-Do Rev 0 (RTAP 153.6kbps) as the primary mode.
3. Per KDB 941225 D01v03r01, for Body-worn accessory SAR is measured in RC3 with the handset configured in TDSO/SO32 to transmit at full rate on FCH only with all other code channels disabled. The body-worn accessory procedures in KDB Publication 447498 are applied. The 3G SAR test reduction procedure is applied to the multiple code channel configuration (FCH+SCH), with FCH only as the primary mode.

**<Default Power Mode>**

| Band             | CDMA BC0 |        |        | Tune-up<br>Limit<br>(dBm) | CDMA BC1 |       |         | Tune-up<br>Limit<br>(dBm) | CDMA BC10 |       |       | Tune-up<br>Limit<br>(dBm) |
|------------------|----------|--------|--------|---------------------------|----------|-------|---------|---------------------------|-----------|-------|-------|---------------------------|
| TX Channel       | 1013     | 384    | 777    |                           | 25       | 600   | 1175    |                           | 476       | 580   | 684   |                           |
| Frequency (MHz)  | 824.7    | 836.52 | 848.31 |                           | 1851.25  | 1880  | 1908.75 |                           | 817.9     | 820.5 | 823.1 |                           |
| RC1 SO55         | 23.70    | 23.86  | 23.91  | 24.50                     | 24.11    | 24.16 | 24.08   | 24.50                     | 23.81     | 23.92 | 23.95 | 24.50                     |
| RC3 SO55         | 23.80    | 23.92  | 24.00  | 24.50                     | 24.18    | 24.32 | 24.14   | 24.50                     | 23.89     | 23.94 | 24.06 | 24.50                     |
| RC3 SO32 (F+SCH) | 23.68    | 23.81  | 23.85  | 24.50                     | 24.15    | 24.25 | 24.09   | 24.50                     | 23.83     | 23.91 | 23.94 | 24.50                     |
| RC3 SO32 (+SCH)  | 23.69    | 23.85  | 23.88  | 24.50                     | 24.12    | 24.23 | 24.06   | 24.50                     | 23.81     | 23.89 | 23.90 | 24.50                     |
| RTAP 153.6Kbps   | 23.79    | 23.91  | 23.99  | 24.50                     | 24.17    | 24.31 | 24.13   | 24.50                     | 23.88     | 23.93 | 24.05 | 24.50                     |
| RETAP 4096Bits   | 23.72    | 23.87  | 23.94  | 24.50                     | 24.15    | 24.28 | 24.11   | 24.50                     | 23.86     | 23.91 | 24.02 | 24.50                     |

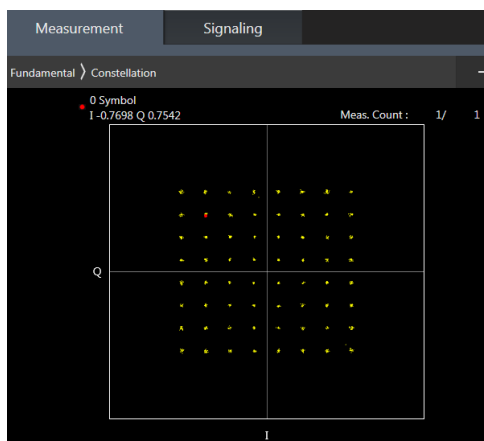
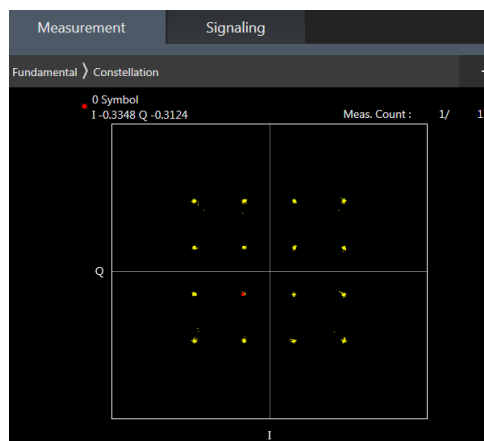
**<Near-Body and hotspot Power Mode>**

| Band             | CDMA BC1 |       |         | Tune-up<br>Limit<br>(dBm) |
|------------------|----------|-------|---------|---------------------------|
| TX Channel       | 25       | 600   | 1175    |                           |
| Frequency (MHz)  | 1851.25  | 1880  | 1908.75 |                           |
| RC1 SO55         | 18.29    | 18.42 | 18.22   | 19.00                     |
| RC3 SO55         | 18.31    | 18.46 | 18.15   | 19.00                     |
| RC3 SO32 (F+SCH) | 18.70    | 18.56 | 18.25   | 19.00                     |
| RC3 SO32 (+SCH)  | 18.33    | 18.35 | 18.17   | 19.00                     |
| RTAP 153.6Kbps   | 18.37    | 18.46 | 18.25   | 19.00                     |
| RETAP 4096Bits   | 18.33    | 18.36 | 18.20   | 19.00                     |

# **<LTE Conducted Power>**

## **General Note:**

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are  $\leq 0.8$  W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is  $> 1.45$  W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is  $>$  not  $\frac{1}{2}$  dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is  $>$  not  $\frac{1}{2}$  dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. For LTE B4 / B5 / B12 / B17 / B26 / B38 / B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
9. LTE band 17 SAR test was covered by Band 12; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
  - a. the maximum output power, including tolerance, for the smaller band is  $\leq$  the larger band to qualify for the SAR test exclusion
  - b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band
10. According to 2017 TCB workshop, for 64 QAM and 16 QAM should be verified by checking the signal constellation with a call box to avoid incorrect maximum power levels due to MPR and other requirements associated with signal modulation, and the following figure is taken from the "Fundamental Measurement >> Modulation Analysis >> constellation" mode of the device connect to the MT8821C base station, therefore, the device 64QAM and 16QAM signal modulation are correct.


**64QAM**

**16QAM**



**<Default Power Mode>**

**<LTE Band 2>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 18700                    | 18900                       | 19100                     |                        |             |
| Frequency (MHz) |            |         |           | 1860                     | 1880                        | 1900                      |                        |             |
| 20              | QPSK       | 1       | 0         | 22.73                    | 22.84                       | 22.83                     | 24                     | 0           |
| 20              | QPSK       | 1       | 49        | 22.99                    | 23.46                       | 23.18                     |                        |             |
| 20              | QPSK       | 1       | 99        | 22.99                    | 23.10                       | 22.90                     |                        |             |
| 20              | QPSK       | 50      | 0         | 22.20                    | 22.51                       | 22.29                     | 23                     | 1           |
| 20              | QPSK       | 50      | 24        | 22.19                    | 22.46                       | 22.26                     |                        |             |
| 20              | QPSK       | 50      | 50        | 22.18                    | 22.32                       | 22.10                     |                        |             |
| 20              | QPSK       | 100     | 0         | 22.12                    | 22.36                       | 22.14                     | 23                     | 1           |
| 20              | 16QAM      | 1       | 0         | 22.38                    | 22.66                       | 22.67                     |                        |             |
| 20              | 16QAM      | 1       | 49        | 22.32                    | 22.02                       | 22.43                     |                        |             |
| 20              | 16QAM      | 1       | 99        | 22.33                    | 22.34                       | 22.22                     | 23                     | 1           |
| 20              | 16QAM      | 50      | 0         | 21.19                    | 21.42                       | 21.34                     |                        |             |
| 20              | 16QAM      | 50      | 24        | 21.17                    | 21.43                       | 21.33                     |                        |             |
| 20              | 16QAM      | 50      | 50        | 21.17                    | 21.38                       | 21.10                     | 23                     | 1           |
| 20              | 16QAM      | 100     | 0         | 21.08                    | 21.35                       | 21.18                     |                        |             |
| 20              | 64QAM      | 1       | 0         | 22.41                    | 22.18                       | 22.15                     |                        |             |
| 20              | 64QAM      | 1       | 49        | 22.33                    | 22.63                       | 22.52                     | 23                     | 1           |
| 20              | 64QAM      | 1       | 99        | 22.32                    | 22.34                       | 22.17                     |                        |             |
| 20              | 64QAM      | 50      | 0         | 21.28                    | 21.52                       | 21.48                     | 22                     | 2           |
| 20              | 64QAM      | 50      | 24        | 21.29                    | 21.54                       | 21.46                     |                        |             |
| 20              | 64QAM      | 50      | 50        | 21.22                    | 21.42                       | 21.26                     |                        |             |
| 20              | 64QAM      | 100     | 0         | 21.20                    | 21.47                       | 21.34                     |                        |             |
| Channel         |            |         |           | 18675                    | 18900                       | 19125                     | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1857.5                   | 1880                        | 1902.5                    |                        |             |
| 15              | QPSK       | 1       | 0         | 22.78                    | 22.87                       | 22.99                     | 24                     | 0           |
| 15              | QPSK       | 1       | 37        | 23.13                    | 22.98                       | 23.28                     |                        |             |
| 15              | QPSK       | 1       | 74        | 23.33                    | 23.43                       | 23.45                     |                        |             |
| 15              | QPSK       | 36      | 0         | 22.18                    | 22.29                       | 22.25                     | 23                     | 1           |
| 15              | QPSK       | 36      | 20        | 22.18                    | 22.36                       | 22.24                     |                        |             |
| 15              | QPSK       | 36      | 39        | 22.17                    | 22.37                       | 22.16                     |                        |             |
| 15              | QPSK       | 75      | 0         | 22.21                    | 22.33                       | 22.22                     | 23                     | 1           |
| 15              | 16QAM      | 1       | 0         | 22.51                    | 22.77                       | 22.73                     |                        |             |
| 15              | 16QAM      | 1       | 37        | 22.20                    | 22.56                       | 22.54                     |                        |             |
| 15              | 16QAM      | 1       | 74        | 22.55                    | 22.62                       | 22.51                     | 23                     | 1           |
| 15              | 16QAM      | 36      | 0         | 21.13                    | 21.30                       | 21.29                     |                        |             |
| 15              | 16QAM      | 36      | 20        | 21.15                    | 21.36                       | 21.23                     |                        |             |
| 15              | 16QAM      | 36      | 39        | 21.15                    | 21.38                       | 21.08                     | 23                     | 1           |
| 15              | 16QAM      | 75      | 0         | 21.21                    | 21.28                       | 21.25                     |                        |             |
| 15              | 64QAM      | 1       | 0         | 22.06                    | 22.11                       | 22.12                     |                        |             |
| 15              | 64QAM      | 1       | 37        | 22.49                    | 22.35                       | 22.75                     | 23                     | 1           |
| 15              | 64QAM      | 1       | 74        | 22.53                    | 22.60                       | 22.49                     |                        |             |
| 15              | 64QAM      | 36      | 0         | 21.24                    | 21.36                       | 21.42                     |                        |             |
| 15              | 64QAM      | 36      | 20        | 21.21                    | 21.42                       | 21.33                     | 22                     | 2           |
| 15              | 64QAM      | 36      | 39        | 21.19                    | 21.44                       | 21.27                     |                        |             |
| 15              | 64QAM      | 75      | 0         | 21.27                    | 21.38                       | 21.38                     |                        |             |



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| Channel         |       |    |    | 18650  | 18900 | 19150  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| Frequency (MHz) |       |    |    | 1855   | 1880  | 1905   |                        |             |
| 10              | QPSK  | 1  | 0  | 22.85  | 22.93 | 22.74  | 24                     | 0           |
| 10              | QPSK  | 1  | 25 | 23.23  | 23.39 | 23.19  |                        |             |
| 10              | QPSK  | 1  | 49 | 23.22  | 23.41 | 23.26  |                        |             |
| 10              | QPSK  | 25 | 0  | 22.13  | 22.42 | 22.12  | 23                     | 1           |
| 10              | QPSK  | 25 | 12 | 22.05  | 22.39 | 22.15  |                        |             |
| 10              | QPSK  | 25 | 25 | 22.08  | 22.30 | 22.13  |                        |             |
| 10              | QPSK  | 50 | 0  | 22.10  | 22.30 | 22.13  |                        |             |
| 10              | 16QAM | 1  | 0  | 22.55  | 22.76 | 22.58  | 23                     | 1           |
| 10              | 16QAM | 1  | 25 | 22.45  | 22.52 | 22.49  |                        |             |
| 10              | 16QAM | 1  | 49 | 22.42  | 22.62 | 22.44  |                        |             |
| 10              | 16QAM | 25 | 0  | 21.11  | 21.46 | 21.18  | 23                     | 1           |
| 10              | 16QAM | 25 | 12 | 21.12  | 21.36 | 21.16  |                        |             |
| 10              | 16QAM | 25 | 25 | 21.10  | 21.23 | 21.14  |                        |             |
| 10              | 16QAM | 50 | 0  | 21.11  | 21.37 | 21.15  |                        |             |
| 10              | 64QAM | 1  | 0  | 21.93  | 22.01 | 22.21  | 23                     | 1           |
| 10              | 64QAM | 1  | 25 | 22.30  | 22.67 | 22.69  |                        |             |
| 10              | 64QAM | 1  | 49 | 22.32  | 22.59 | 22.45  |                        |             |
| 10              | 64QAM | 25 | 0  | 21.19  | 21.56 | 21.30  | 22                     | 2           |
| 10              | 64QAM | 25 | 12 | 21.20  | 21.46 | 21.30  |                        |             |
| 10              | 64QAM | 25 | 25 | 21.21  | 21.38 | 21.23  |                        |             |
| 10              | 64QAM | 50 | 0  | 21.16  | 21.39 | 21.25  |                        |             |
| Channel         |       |    |    | 18625  | 18900 | 19175  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1852.5 | 1880  | 1907.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 22.79  | 22.97 | 22.76  | 24                     | 0           |
| 5               | QPSK  | 1  | 12 | 23.06  | 23.35 | 23.04  |                        |             |
| 5               | QPSK  | 1  | 24 | 23.13  | 23.32 | 23.15  |                        |             |
| 5               | QPSK  | 12 | 0  | 22.17  | 22.47 | 22.23  | 23                     | 1           |
| 5               | QPSK  | 12 | 7  | 22.12  | 22.43 | 22.13  |                        |             |
| 5               | QPSK  | 12 | 13 | 22.13  | 22.29 | 22.09  |                        |             |
| 5               | QPSK  | 25 | 0  | 22.14  | 22.44 | 22.19  |                        |             |
| 5               | 16QAM | 1  | 0  | 22.54  | 22.82 | 22.50  | 23                     | 1           |
| 5               | 16QAM | 1  | 12 | 22.31  | 22.73 | 22.34  |                        |             |
| 5               | 16QAM | 1  | 24 | 22.30  | 22.69 | 22.31  |                        |             |
| 5               | 16QAM | 12 | 0  | 21.19  | 21.53 | 21.24  | 23                     | 1           |
| 5               | 16QAM | 12 | 7  | 21.13  | 21.42 | 21.18  |                        |             |
| 5               | 16QAM | 12 | 13 | 21.15  | 21.36 | 21.16  |                        |             |
| 5               | 16QAM | 25 | 0  | 21.13  | 21.43 | 21.18  |                        |             |
| 5               | 64QAM | 1  | 0  | 22.23  | 22.40 | 22.28  | 23                     | 1           |
| 5               | 64QAM | 1  | 12 | 22.37  | 22.66 | 22.40  |                        |             |
| 5               | 64QAM | 1  | 24 | 22.27  | 22.51 | 22.20  |                        |             |
| 5               | 64QAM | 12 | 0  | 21.29  | 21.56 | 21.36  | 22                     | 2           |
| 5               | 64QAM | 12 | 7  | 21.19  | 21.49 | 21.29  |                        |             |
| 5               | 64QAM | 12 | 13 | 21.19  | 21.39 | 21.26  |                        |             |
| 5               | 64QAM | 25 | 0  | 21.23  | 21.54 | 21.26  |                        |             |



# FCC SAR Test Report

Report No. : FA7D2018

| Channel         |       |    |    | 18615  | 18900 | 19185  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| Frequency (MHz) |       |    |    | 1851.5 | 1880  | 1908.5 |                        |             |
| 3               | QPSK  | 1  | 0  | 22.60  | 22.90 | 22.52  | 24                     | 0           |
| 3               | QPSK  | 1  | 8  | 23.12  | 23.39 | 23.13  |                        |             |
| 3               | QPSK  | 1  | 14 | 23.11  | 23.27 | 23.06  |                        |             |
| 3               | QPSK  | 8  | 0  | 22.19  | 22.37 | 22.16  | 23                     | 1           |
| 3               | QPSK  | 8  | 4  | 22.19  | 22.40 | 22.13  |                        |             |
| 3               | QPSK  | 8  | 7  | 22.11  | 22.37 | 22.09  |                        |             |
| 3               | QPSK  | 15 | 0  | 22.15  | 22.36 | 22.09  |                        |             |
| 3               | 16QAM | 1  | 0  | 22.44  | 22.72 | 22.50  | 23                     | 1           |
| 3               | 16QAM | 1  | 8  | 22.43  | 22.66 | 22.40  |                        |             |
| 3               | 16QAM | 1  | 14 | 22.35  | 22.55 | 22.35  |                        |             |
| 3               | 16QAM | 8  | 0  | 21.21  | 21.43 | 21.15  | 23                     | 1           |
| 3               | 16QAM | 8  | 4  | 21.17  | 21.48 | 21.18  |                        |             |
| 3               | 16QAM | 8  | 7  | 21.19  | 21.45 | 21.17  |                        |             |
| 3               | 16QAM | 15 | 0  | 21.20  | 21.42 | 21.17  |                        |             |
| 3               | 64QAM | 1  | 0  | 22.28  | 22.31 | 22.29  | 23                     | 1           |
| 3               | 64QAM | 1  | 8  | 22.33  | 22.76 | 22.47  |                        |             |
| 3               | 64QAM | 1  | 14 | 22.37  | 22.58 | 22.28  |                        |             |
| 3               | 64QAM | 8  | 0  | 21.28  | 21.58 | 21.38  | 22                     | 2           |
| 3               | 64QAM | 8  | 4  | 21.29  | 21.54 | 21.25  |                        |             |
| 3               | 64QAM | 8  | 7  | 21.10  | 21.41 | 21.28  |                        |             |
| 3               | 64QAM | 15 | 0  | 21.21  | 21.53 | 21.29  |                        |             |
| Channel         |       |    |    | 18607  | 18900 | 19193  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1850.7 | 1880  | 1909.3 |                        |             |
| 1.4             | QPSK  | 1  | 0  | 23.08  | 22.78 | 22.48  | 24                     | 0           |
| 1.4             | QPSK  | 1  | 3  | 23.18  | 23.41 | 23.11  |                        |             |
| 1.4             | QPSK  | 1  | 5  | 23.06  | 23.29 | 22.96  |                        |             |
| 1.4             | QPSK  | 3  | 0  | 23.11  | 23.37 | 23.01  |                        |             |
| 1.4             | QPSK  | 3  | 1  | 23.14  | 23.41 | 23.09  |                        |             |
| 1.4             | QPSK  | 3  | 3  | 23.13  | 23.32 | 23.04  |                        |             |
| 1.4             | QPSK  | 6  | 0  | 22.13  | 22.36 | 22.09  | 23                     | 1           |
| 1.4             | 16QAM | 1  | 0  | 22.43  | 22.59 | 22.40  | 23                     | 1           |
| 1.4             | 16QAM | 1  | 3  | 22.42  | 22.74 | 22.45  |                        |             |
| 1.4             | 16QAM | 1  | 5  | 22.44  | 22.68 | 22.30  |                        |             |
| 1.4             | 16QAM | 3  | 0  | 22.12  | 22.34 | 22.05  |                        |             |
| 1.4             | 16QAM | 3  | 1  | 22.14  | 22.39 | 22.17  |                        |             |
| 1.4             | 16QAM | 3  | 3  | 22.05  | 22.37 | 22.05  |                        |             |
| 1.4             | 16QAM | 6  | 0  | 21.20  | 21.40 | 21.18  | 23                     | 1           |
| 1.4             | 64QAM | 1  | 0  | 22.15  | 22.31 | 22.32  | 23                     | 1           |
| 1.4             | 64QAM | 1  | 3  | 22.38  | 22.62 | 22.44  |                        |             |
| 1.4             | 64QAM | 1  | 5  | 22.31  | 22.61 | 22.26  |                        |             |
| 1.4             | 64QAM | 3  | 0  | 21.30  | 21.56 | 21.31  |                        |             |
| 1.4             | 64QAM | 3  | 1  | 21.22  | 21.52 | 21.38  |                        |             |
| 1.4             | 64QAM | 3  | 3  | 21.27  | 21.41 | 21.36  |                        |             |
| 1.4             | 64QAM | 6  | 0  | 21.24  | 21.45 | 21.18  | 22                     | 2           |



**<LTE Band 4>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|--------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 20050                 | 20175                    | 20300                  |                     |          |
| Frequency (MHz) |            |         |           | 1720                  | 1732.5                   | 1745                   |                     |          |
| 20              | QPSK       | 1       | 0         | 22.50                 | 22.52                    | 22.45                  |                     |          |
| 20              | QPSK       | 1       | 49        | 23.11                 | 22.76                    | 23.09                  | 24                  | 0        |
| 20              | QPSK       | 1       | 99        | 23.06                 | 23.41                    | 23.37                  |                     |          |
| 20              | QPSK       | 50      | 0         | 22.05                 | 22.07                    | 22.08                  |                     |          |
| 20              | QPSK       | 50      | 24        | 22.07                 | 22.00                    | 22.31                  | 23                  | 1        |
| 20              | QPSK       | 50      | 50        | 21.99                 | 22.01                    | 22.41                  |                     |          |
| 20              | QPSK       | 100     | 0         | 21.92                 | 22.06                    | 22.21                  |                     |          |
| 20              | 16QAM      | 1       | 0         | 22.25                 | 22.16                    | 22.33                  | 23                  | 1        |
| 20              | 16QAM      | 1       | 49        | 22.12                 | 22.24                    | 22.73                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 22.39                 | 22.39                    | 22.91                  |                     |          |
| 20              | 16QAM      | 50      | 0         | 21.04                 | 21.05                    | 21.19                  | 23                  | 1        |
| 20              | 16QAM      | 50      | 24        | 21.04                 | 21.01                    | 21.28                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 21.00                 | 21.02                    | 21.34                  |                     |          |
| 20              | 16QAM      | 100     | 0         | 21.06                 | 21.07                    | 21.23                  | 23                  | 1        |
| 20              | 64QAM      | 1       | 0         | 21.91                 | 21.91                    | 21.87                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 22.36                 | 22.32                    | 22.42                  |                     |          |
| 20              | 64QAM      | 1       | 99        | 22.25                 | 22.24                    | 22.71                  | 22                  | 2        |
| 20              | 64QAM      | 50      | 0         | 21.11                 | 21.16                    | 21.21                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 21.08                 | 21.08                    | 21.37                  |                     |          |
| 20              | 64QAM      | 50      | 50        | 21.06                 | 21.13                    | 21.44                  | 22                  | 2        |
| 20              | 64QAM      | 100     | 0         | 21.05                 | 21.13                    | 21.32                  |                     |          |
| Channel         |            |         |           | 20025                 | 20175                    | 20325                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 1717.5                | 1732.5                   | 1747.5                 |                     |          |
| 15              | QPSK       | 1       | 0         | 22.58                 | 22.64                    | 22.90                  |                     |          |
| 15              | QPSK       | 1       | 37        | 22.40                 | 22.48                    | 23.34                  | 24                  | 0        |
| 15              | QPSK       | 1       | 74        | 23.03                 | 23.07                    | 23.39                  |                     |          |
| 15              | QPSK       | 36      | 0         | 22.06                 | 22.10                    | 22.20                  | 23                  | 1        |
| 15              | QPSK       | 36      | 20        | 22.01                 | 22.13                    | 22.40                  |                     |          |
| 15              | QPSK       | 36      | 39        | 21.97                 | 22.05                    | 22.33                  |                     |          |
| 15              | QPSK       | 75      | 0         | 22.09                 | 22.13                    | 22.34                  | 23                  | 1        |
| 15              | 16QAM      | 1       | 0         | 22.22                 | 22.48                    | 22.65                  |                     |          |
| 15              | 16QAM      | 1       | 37        | 22.42                 | 22.31                    | 22.82                  |                     |          |
| 15              | 16QAM      | 1       | 74        | 22.43                 | 22.50                    | 22.86                  | 23                  | 1        |
| 15              | 16QAM      | 36      | 0         | 21.05                 | 21.12                    | 21.29                  |                     |          |
| 15              | 16QAM      | 36      | 20        | 21.02                 | 21.12                    | 21.44                  |                     |          |
| 15              | 16QAM      | 36      | 39        | 21.00                 | 21.10                    | 21.29                  | 23                  | 1        |
| 15              | 16QAM      | 75      | 0         | 21.07                 | 21.14                    | 21.33                  |                     |          |
| 15              | 64QAM      | 1       | 0         | 21.81                 | 21.85                    | 22.05                  |                     |          |
| 15              | 64QAM      | 1       | 37        | 22.04                 | 22.24                    | 22.39                  | 23                  | 1        |
| 15              | 64QAM      | 1       | 74        | 22.25                 | 22.34                    | 22.56                  |                     |          |
| 15              | 64QAM      | 36      | 0         | 21.05                 | 21.19                    | 21.31                  |                     |          |
| 15              | 64QAM      | 36      | 20        | 21.07                 | 21.20                    | 21.45                  | 22                  | 2        |
| 15              | 64QAM      | 36      | 39        | 21.07                 | 21.11                    | 21.36                  |                     |          |
| 15              | 64QAM      | 75      | 0         | 21.18                 | 21.18                    | 21.44                  |                     |          |



| Channel         |       |    |    | 20000  | 20175  | 20350  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|--------|--------|------------------------|-------------|
| Frequency (MHz) |       |    |    | 1715   | 1732.5 | 1750   |                        |             |
| 10              | QPSK  | 1  | 0  | 22.84  | 22.73  | 23.06  | 24                     | 0           |
| 10              | QPSK  | 1  | 25 | 23.07  | 23.15  | 23.32  |                        |             |
| 10              | QPSK  | 1  | 49 | 23.40  | 23.39  | 23.40  |                        |             |
| 10              | QPSK  | 25 | 0  | 22.16  | 22.13  | 22.24  | 23                     | 1           |
| 10              | QPSK  | 25 | 12 | 22.10  | 22.09  | 22.41  |                        |             |
| 10              | QPSK  | 25 | 25 | 22.24  | 22.23  | 22.53  |                        |             |
| 10              | QPSK  | 50 | 0  | 22.22  | 22.17  | 22.47  | 23                     | 1           |
| 10              | 16QAM | 1  | 0  | 22.51  | 22.75  | 22.78  |                        |             |
| 10              | 16QAM | 1  | 25 | 22.30  | 22.41  | 22.62  |                        |             |
| 10              | 16QAM | 1  | 49 | 22.78  | 22.89  | 22.98  | 23                     | 1           |
| 10              | 16QAM | 25 | 0  | 21.21  | 21.19  | 21.29  |                        |             |
| 10              | 16QAM | 25 | 12 | 21.15  | 21.15  | 21.39  |                        |             |
| 10              | 16QAM | 25 | 25 | 21.22  | 21.20  | 21.50  | 23                     | 1           |
| 10              | 16QAM | 50 | 0  | 21.20  | 21.14  | 21.47  |                        |             |
| 10              | 64QAM | 1  | 0  | 21.81  | 21.81  | 22.07  |                        |             |
| 10              | 64QAM | 1  | 25 | 22.01  | 22.19  | 22.29  | 23                     | 1           |
| 10              | 64QAM | 1  | 49 | 22.18  | 22.36  | 22.51  |                        |             |
| 10              | 64QAM | 25 | 0  | 21.06  | 21.20  | 21.30  |                        |             |
| 10              | 64QAM | 25 | 12 | 21.07  | 21.14  | 21.35  | 22                     | 2           |
| 10              | 64QAM | 25 | 25 | 21.10  | 21.02  | 21.42  |                        |             |
| 10              | 64QAM | 50 | 0  | 21.15  | 21.22  | 21.40  |                        |             |
| Channel         |       |    |    | 19975  | 20175  | 20375  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1712.5 | 1732.5 | 1752.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 22.81  | 22.67  | 22.91  | 24                     | 0           |
| 5               | QPSK  | 1  | 12 | 23.05  | 23.00  | 23.25  |                        |             |
| 5               | QPSK  | 1  | 24 | 23.08  | 23.05  | 23.32  |                        |             |
| 5               | QPSK  | 12 | 0  | 22.08  | 22.21  | 22.44  | 23                     | 1           |
| 5               | QPSK  | 12 | 7  | 22.13  | 22.15  | 22.45  |                        |             |
| 5               | QPSK  | 12 | 13 | 22.15  | 22.14  | 22.34  |                        |             |
| 5               | QPSK  | 25 | 0  | 22.14  | 22.18  | 22.38  | 23                     | 1           |
| 5               | 16QAM | 1  | 0  | 22.57  | 22.55  | 22.87  |                        |             |
| 5               | 16QAM | 1  | 12 | 22.34  | 22.52  | 22.75  |                        |             |
| 5               | 16QAM | 1  | 24 | 22.34  | 22.35  | 22.75  | 23                     | 1           |
| 5               | 16QAM | 12 | 0  | 21.09  | 21.23  | 21.50  |                        |             |
| 5               | 16QAM | 12 | 7  | 21.21  | 21.17  | 21.55  |                        |             |
| 5               | 16QAM | 12 | 13 | 21.19  | 21.11  | 21.42  | 23                     | 1           |
| 5               | 16QAM | 25 | 0  | 21.20  | 21.21  | 21.44  |                        |             |
| 5               | 64QAM | 1  | 0  | 21.99  | 22.04  | 22.39  |                        |             |
| 5               | 64QAM | 1  | 12 | 22.45  | 22.41  | 22.88  | 23                     | 1           |
| 5               | 64QAM | 1  | 24 | 22.38  | 22.34  | 22.61  |                        |             |
| 5               | 64QAM | 12 | 0  | 21.17  | 21.26  | 21.54  |                        |             |
| 5               | 64QAM | 12 | 7  | 21.20  | 21.25  | 21.58  | 22                     | 2           |
| 5               | 64QAM | 12 | 13 | 21.25  | 21.17  | 21.44  |                        |             |
| 5               | 64QAM | 25 | 0  | 21.23  | 21.24  | 21.47  |                        |             |



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| Channel         |       |    |    | 19965  | 20175  | 20385  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|--------|--------|------------------------|-------------|
| Frequency (MHz) |       |    |    | 1711.5 | 1732.5 | 1753.5 |                        |             |
| 3               | QPSK  | 1  | 0  | 22.55  | 22.56  | 22.96  | 24                     | 0           |
| 3               | QPSK  | 1  | 8  | 23.23  | 23.14  | 23.40  |                        |             |
| 3               | QPSK  | 1  | 14 | 23.10  | 23.07  | 23.29  |                        |             |
| 3               | QPSK  | 8  | 0  | 22.10  | 22.10  | 22.45  | 23                     | 1           |
| 3               | QPSK  | 8  | 4  | 22.16  | 22.15  | 22.42  |                        |             |
| 3               | QPSK  | 8  | 7  | 22.14  | 22.12  | 22.41  |                        |             |
| 3               | QPSK  | 15 | 0  | 22.12  | 22.17  | 22.37  |                        |             |
| 3               | 16QAM | 1  | 0  | 22.37  | 22.66  | 22.80  | 23                     | 1           |
| 3               | 16QAM | 1  | 8  | 22.39  | 22.51  | 22.69  |                        |             |
| 3               | 16QAM | 1  | 14 | 22.28  | 22.49  | 22.67  |                        |             |
| 3               | 16QAM | 8  | 0  | 21.11  | 21.19  | 21.52  | 23                     | 1           |
| 3               | 16QAM | 8  | 4  | 21.24  | 21.22  | 21.42  |                        |             |
| 3               | 16QAM | 8  | 7  | 21.16  | 21.16  | 21.39  |                        |             |
| 3               | 16QAM | 15 | 0  | 21.20  | 21.15  | 21.38  |                        |             |
| 3               | 64QAM | 1  | 0  | 21.85  | 21.86  | 21.97  | 23                     | 1           |
| 3               | 64QAM | 1  | 8  | 21.95  | 22.18  | 22.30  |                        |             |
| 3               | 64QAM | 1  | 14 | 22.29  | 22.42  | 22.59  |                        |             |
| 3               | 64QAM | 8  | 0  | 21.04  | 21.27  | 21.21  | 22                     | 2           |
| 3               | 64QAM | 8  | 4  | 21.06  | 21.30  | 21.45  |                        |             |
| 3               | 64QAM | 8  | 7  | 21.17  | 21.13  | 21.31  |                        |             |
| 3               | 64QAM | 15 | 0  | 21.15  | 21.14  | 21.35  |                        |             |
| Channel         |       |    |    | 19957  | 20175  | 20393  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1710.7 | 1732.5 | 1754.3 |                        |             |
| 1.4             | QPSK  | 1  | 0  | 22.53  | 22.50  | 22.80  | 24                     | 0           |
| 1.4             | QPSK  | 1  | 3  | 23.18  | 23.17  | 23.40  |                        |             |
| 1.4             | QPSK  | 1  | 5  | 22.96  | 23.13  | 23.31  |                        |             |
| 1.4             | QPSK  | 3  | 0  | 23.04  | 23.04  | 23.40  |                        |             |
| 1.4             | QPSK  | 3  | 1  | 23.05  | 23.07  | 23.40  |                        |             |
| 1.4             | QPSK  | 3  | 3  | 23.01  | 23.10  | 23.33  |                        |             |
| 1.4             | QPSK  | 6  | 0  | 22.00  | 22.03  | 22.41  | 23                     | 1           |
| 1.4             | 16QAM | 1  | 0  | 22.42  | 22.35  | 22.66  | 23                     | 1           |
| 1.4             | 16QAM | 1  | 3  | 22.36  | 22.48  | 22.64  |                        |             |
| 1.4             | 16QAM | 1  | 5  | 22.27  | 22.42  | 22.70  |                        |             |
| 1.4             | 16QAM | 3  | 0  | 22.07  | 21.95  | 22.38  |                        |             |
| 1.4             | 16QAM | 3  | 1  | 22.03  | 22.04  | 22.48  |                        |             |
| 1.4             | 16QAM | 3  | 3  | 21.96  | 22.12  | 22.32  |                        |             |
| 1.4             | 16QAM | 6  | 0  | 21.09  | 21.11  | 21.47  | 23                     | 1           |
| 1.4             | 64QAM | 1  | 0  | 21.90  | 21.87  | 21.98  | 23                     | 1           |
| 1.4             | 64QAM | 1  | 3  | 22.13  | 22.32  | 22.33  |                        |             |
| 1.4             | 64QAM | 1  | 5  | 22.21  | 22.34  | 22.51  |                        |             |
| 1.4             | 64QAM | 3  | 0  | 21.15  | 21.21  | 21.32  |                        |             |
| 1.4             | 64QAM | 3  | 1  | 21.01  | 21.24  | 21.51  |                        |             |
| 1.4             | 64QAM | 3  | 3  | 21.14  | 21.14  | 21.31  |                        |             |
| 1.4             | 64QAM | 6  | 0  | 21.19  | 21.12  | 21.47  | 22                     | 2           |

**<LTE Band 5>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|--------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 20450                 | 20525                    | 20600                  |                     |          |
| Frequency (MHz) |            |         |           | 829                   | 836.5                    | 844                    |                     |          |
| 10              | QPSK       | 1       | 0         | 22.40                 | 22.50                    | 22.56                  | 24                  | 0        |
| 10              | QPSK       | 1       | 25        | 22.86                 | 23.07                    | 23.01                  |                     |          |
| 10              | QPSK       | 1       | 49        | 23.30                 | 23.39                    | 23.38                  |                     |          |
| 10              | QPSK       | 25      | 0         | 21.83                 | 21.95                    | 22.00                  | 23                  | 1        |
| 10              | QPSK       | 25      | 12        | 21.92                 | 22.02                    | 22.03                  |                     |          |
| 10              | QPSK       | 25      | 25        | 22.10                 | 22.10                    | 21.99                  |                     |          |
| 10              | QPSK       | 50      | 0         | 21.93                 | 22.02                    | 22.04                  | 23                  | 1        |
| 10              | 16QAM      | 1       | 0         | 22.28                 | 22.23                    | 22.41                  |                     |          |
| 10              | 16QAM      | 1       | 25        | 22.09                 | 22.11                    | 22.18                  |                     |          |
| 10              | 16QAM      | 1       | 49        | 22.36                 | 22.54                    | 22.69                  | 23                  | 1        |
| 10              | 16QAM      | 25      | 0         | 21.00                 | 22.98                    | 21.03                  |                     |          |
| 10              | 16QAM      | 25      | 12        | 21.12                 | 21.06                    | 21.05                  |                     |          |
| 10              | 16QAM      | 25      | 25        | 21.08                 | 21.09                    | 21.11                  | 23                  | 1        |
| 10              | 16QAM      | 50      | 0         | 21.06                 | 21.10                    | 21.07                  |                     |          |
| 10              | 64QAM      | 1       | 0         | 21.66                 | 21.94                    | 21.80                  |                     |          |
| 10              | 64QAM      | 1       | 25        | 22.26                 | 22.21                    | 22.33                  | 23                  | 1        |
| 10              | 64QAM      | 1       | 49        | 22.55                 | 22.36                    | 22.46                  |                     |          |
| 10              | 64QAM      | 25      | 0         | 21.06                 | 21.16                    | 21.19                  |                     |          |
| 10              | 64QAM      | 25      | 12        | 21.10                 | 21.22                    | 21.16                  | 22                  | 2        |
| 10              | 64QAM      | 25      | 25        | 21.26                 | 21.24                    | 21.28                  |                     |          |
| 10              | 64QAM      | 50      | 0         | 21.13                 | 21.27                    | 21.24                  |                     |          |
| Channel         |            |         |           | 20425                 | 20525                    | 20625                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 826.5                 | 836.5                    | 846.5                  |                     |          |
| 5               | QPSK       | 1       | 0         | 22.37                 | 22.37                    | 22.41                  | 24                  | 0        |
| 5               | QPSK       | 1       | 12        | 22.82                 | 23.06                    | 22.94                  |                     |          |
| 5               | QPSK       | 1       | 24        | 22.85                 | 22.99                    | 23.08                  |                     |          |
| 5               | QPSK       | 12      | 0         | 21.86                 | 22.02                    | 22.04                  | 23                  | 1        |
| 5               | QPSK       | 12      | 7         | 21.87                 | 22.02                    | 22.07                  |                     |          |
| 5               | QPSK       | 12      | 13        | 21.85                 | 21.94                    | 22.06                  |                     |          |
| 5               | QPSK       | 25      | 0         | 21.87                 | 21.99                    | 22.08                  | 23                  | 1        |
| 5               | 16QAM      | 1       | 0         | 22.29                 | 22.33                    | 22.25                  |                     |          |
| 5               | 16QAM      | 1       | 12        | 22.02                 | 22.20                    | 22.15                  |                     |          |
| 5               | 16QAM      | 1       | 24        | 22.18                 | 22.23                    | 22.40                  | 23                  | 1        |
| 5               | 16QAM      | 12      | 0         | 21.09                 | 21.02                    | 21.05                  |                     |          |
| 5               | 16QAM      | 12      | 7         | 21.06                 | 21.04                    | 21.14                  |                     |          |
| 5               | 16QAM      | 12      | 13        | 21.05                 | 21.15                    | 21.08                  | 23                  | 1        |
| 5               | 16QAM      | 25      | 0         | 21.08                 | 21.01                    | 21.12                  |                     |          |
| 5               | 64QAM      | 1       | 0         | 21.89                 | 21.97                    | 22.11                  |                     |          |
| 5               | 64QAM      | 1       | 12        | 22.14                 | 22.17                    | 22.35                  | 23                  | 1        |
| 5               | 64QAM      | 1       | 24        | 22.23                 | 22.14                    | 22.34                  |                     |          |
| 5               | 64QAM      | 12      | 0         | 21.03                 | 21.17                    | 21.21                  |                     |          |
| 5               | 64QAM      | 12      | 7         | 21.04                 | 21.12                    | 21.26                  | 22                  | 2        |
| 5               | 64QAM      | 12      | 13        | 20.96                 | 21.07                    | 21.17                  |                     |          |
| 5               | 64QAM      | 25      | 0         | 21.03                 | 21.18                    | 21.26                  |                     |          |



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| Channel         |       |    |    | 20415 | 20525 | 20635 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|-------|-------|-------|------------------------|-------------|
| Frequency (MHz) |       |    |    | 825.5 | 836.5 | 847.5 |                        |             |
| 3               | QPSK  | 1  | 0  | 22.30 | 22.39 | 22.47 | 24                     | 0           |
| 3               | QPSK  | 1  | 8  | 22.85 | 23.05 | 23.02 |                        |             |
| 3               | QPSK  | 1  | 14 | 22.84 | 22.95 | 23.01 |                        |             |
| 3               | QPSK  | 8  | 0  | 21.87 | 21.94 | 22.02 | 23                     | 1           |
| 3               | QPSK  | 8  | 4  | 21.91 | 21.97 | 22.12 |                        |             |
| 3               | QPSK  | 8  | 7  | 21.89 | 21.94 | 22.08 |                        |             |
| 3               | QPSK  | 15 | 0  | 21.85 | 21.96 | 22.09 |                        |             |
| 3               | 16QAM | 1  | 0  | 22.23 | 22.24 | 22.30 | 23                     | 1           |
| 3               | 16QAM | 1  | 8  | 22.24 | 22.32 | 22.36 |                        |             |
| 3               | 16QAM | 1  | 14 | 22.04 | 22.27 | 22.46 |                        |             |
| 3               | 16QAM | 8  | 0  | 21.00 | 21.08 | 21.08 | 23                     | 1           |
| 3               | 16QAM | 8  | 4  | 21.16 | 21.06 | 21.12 |                        |             |
| 3               | 16QAM | 8  | 7  | 21.12 | 21.08 | 21.13 |                        |             |
| 3               | 16QAM | 15 | 0  | 21.02 | 21.09 | 21.10 |                        |             |
| 3               | 64QAM | 1  | 0  | 21.94 | 22.07 | 22.04 | 23                     | 1           |
| 3               | 64QAM | 1  | 8  | 22.17 | 22.16 | 22.36 |                        |             |
| 3               | 64QAM | 1  | 14 | 22.26 | 22.12 | 22.24 |                        |             |
| 3               | 64QAM | 8  | 0  | 21.00 | 21.17 | 21.28 | 22                     | 2           |
| 3               | 64QAM | 8  | 4  | 21.14 | 21.02 | 21.36 |                        |             |
| 3               | 64QAM | 8  | 7  | 20.95 | 21.08 | 21.18 |                        |             |
| 3               | 64QAM | 15 | 0  | 21.01 | 21.13 | 21.22 |                        |             |
| Channel         |       |    |    | 20407 | 20525 | 20643 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 824.7 | 836.5 | 848.3 |                        |             |
| 1.4             | QPSK  | 1  | 0  | 22.24 | 22.36 | 22.37 | 24                     | 0           |
| 1.4             | QPSK  | 1  | 3  | 22.89 | 23.00 | 23.17 |                        |             |
| 1.4             | QPSK  | 1  | 5  | 22.82 | 22.95 | 23.08 |                        |             |
| 1.4             | QPSK  | 3  | 0  | 22.79 | 22.96 | 22.92 |                        |             |
| 1.4             | QPSK  | 3  | 1  | 22.86 | 23.00 | 23.00 |                        |             |
| 1.4             | QPSK  | 3  | 3  | 22.85 | 22.95 | 23.05 |                        |             |
| 1.4             | QPSK  | 6  | 0  | 21.79 | 21.96 | 22.03 | 23                     | 1           |
| 1.4             | 16QAM | 1  | 0  | 22.17 | 22.25 | 22.41 | 23                     | 1           |
| 1.4             | 16QAM | 1  | 3  | 22.04 | 22.34 | 22.30 |                        |             |
| 1.4             | 16QAM | 1  | 5  | 21.99 | 22.20 | 22.37 |                        |             |
| 1.4             | 16QAM | 3  | 0  | 21.89 | 21.96 | 22.09 |                        |             |
| 1.4             | 16QAM | 3  | 1  | 21.97 | 21.97 | 22.15 |                        |             |
| 1.4             | 16QAM | 3  | 3  | 21.85 | 21.89 | 22.02 |                        |             |
| 1.4             | 16QAM | 6  | 0  | 21.06 | 21.06 | 21.17 | 23                     | 1           |
| 1.4             | 64QAM | 1  | 0  | 21.97 | 22.03 | 22.07 | 23                     | 1           |
| 1.4             | 64QAM | 1  | 3  | 22.11 | 22.14 | 22.30 |                        |             |
| 1.4             | 64QAM | 1  | 5  | 22.24 | 22.12 | 22.43 |                        |             |
| 1.4             | 64QAM | 3  | 0  | 21.11 | 21.08 | 21.24 |                        |             |
| 1.4             | 64QAM | 3  | 1  | 21.02 | 21.04 | 21.25 |                        |             |
| 1.4             | 64QAM | 3  | 3  | 21.05 | 21.14 | 21.16 |                        |             |
| 1.4             | 64QAM | 6  | 0  | 21.09 | 21.24 | 21.19 | 22                     | 2           |

SPORTON INTERNATIONAL INC.

TEL : 886-3-327-3456 / FAX : 886-3-328-4978

FCC ID : IHDT56XC2

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Form version. : 170509



**<LTE Band 7>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|--------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 20850                 | 21100                    | 21350                  |                     |          |
| Frequency (MHz) |            |         |           | 2510                  | 2535                     | 2560                   |                     |          |
| 20              | QPSK       | 1       | 0         | 22.84                 | 22.81                    | 22.81                  | 24                  | 0        |
| 20              | QPSK       | 1       | 49        | 23.18                 | 22.94                    | 22.99                  |                     |          |
| 20              | QPSK       | 1       | 99        | 23.04                 | 23.02                    | 23.45                  |                     |          |
| 20              | QPSK       | 50      | 0         | 22.13                 | 22.14                    | 22.09                  | 23                  | 1        |
| 20              | QPSK       | 50      | 24        | 22.18                 | 22.02                    | 22.04                  |                     |          |
| 20              | QPSK       | 50      | 50        | 22.14                 | 21.99                    | 22.09                  |                     |          |
| 20              | QPSK       | 100     | 0         | 22.19                 | 22.05                    | 22.07                  |                     |          |
| 20              | 16QAM      | 1       | 0         | 22.44                 | 22.44                    | 22.36                  | 23                  | 1        |
| 20              | 16QAM      | 1       | 49        | 22.32                 | 22.30                    | 22.28                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 22.24                 | 22.19                    | 22.17                  |                     |          |
| 20              | 16QAM      | 50      | 0         | 21.17                 | 21.14                    | 21.11                  | 23                  | 1        |
| 20              | 16QAM      | 50      | 24        | 21.20                 | 21.08                    | 21.06                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 21.17                 | 21.02                    | 21.09                  |                     |          |
| 20              | 16QAM      | 100     | 0         | 21.21                 | 21.07                    | 21.04                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 22.25                 | 22.22                    | 22.13                  | 23                  | 1        |
| 20              | 64QAM      | 1       | 49        | 22.27                 | 22.13                    | 22.22                  |                     |          |
| 20              | 64QAM      | 1       | 99        | 22.06                 | 22.12                    | 22.18                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 21.13                 | 21.16                    | 21.26                  | 22                  | 2        |
| 20              | 64QAM      | 50      | 24        | 21.11                 | 21.03                    | 21.20                  |                     |          |
| 20              | 64QAM      | 50      | 50        | 21.05                 | 21.01                    | 21.25                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 21.14                 | 21.08                    | 21.22                  |                     |          |
| Channel         |            |         |           | 20825                 | 21100                    | 21375                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 2507.5                | 2535                     | 2562.5                 |                     |          |
| 15              | QPSK       | 1       | 0         | 22.71                 | 22.78                    | 22.71                  | 24                  | 0        |
| 15              | QPSK       | 1       | 37        | 22.94                 | 22.93                    | 22.33                  |                     |          |
| 15              | QPSK       | 1       | 74        | 23.10                 | 23.01                    | 23.03                  |                     |          |
| 15              | QPSK       | 36      | 0         | 22.15                 | 22.11                    | 22.11                  | 23                  | 1        |
| 15              | QPSK       | 36      | 20        | 22.12                 | 22.05                    | 22.13                  |                     |          |
| 15              | QPSK       | 36      | 39        | 22.16                 | 22.04                    | 22.12                  |                     |          |
| 15              | QPSK       | 75      | 0         | 22.08                 | 22.02                    | 22.07                  |                     |          |
| 15              | 16QAM      | 1       | 0         | 22.24                 | 22.41                    | 22.31                  | 23                  | 1        |
| 15              | 16QAM      | 1       | 37        | 22.17                 | 22.12                    | 22.35                  |                     |          |
| 15              | 16QAM      | 1       | 74        | 22.29                 | 22.25                    | 22.19                  |                     |          |
| 15              | 16QAM      | 36      | 0         | 21.17                 | 21.12                    | 21.12                  | 23                  | 1        |
| 15              | 16QAM      | 36      | 20        | 21.13                 | 21.08                    | 21.09                  |                     |          |
| 15              | 16QAM      | 36      | 39        | 21.21                 | 21.04                    | 21.10                  |                     |          |
| 15              | 16QAM      | 75      | 0         | 21.15                 | 21.08                    | 21.13                  |                     |          |
| 15              | 64QAM      | 1       | 0         | 21.92                 | 22.23                    | 22.08                  | 23                  | 1        |
| 15              | 64QAM      | 1       | 37        | 22.09                 | 22.05                    | 22.16                  |                     |          |
| 15              | 64QAM      | 1       | 74        | 22.03                 | 22.16                    | 22.22                  |                     |          |
| 15              | 64QAM      | 36      | 0         | 21.11                 | 21.11                    | 21.23                  | 22                  | 2        |
| 15              | 64QAM      | 36      | 20        | 21.06                 | 21.05                    | 21.20                  |                     |          |
| 15              | 64QAM      | 36      | 39        | 21.11                 | 21.02                    | 21.25                  |                     |          |
| 15              | 64QAM      | 75      | 0         | 21.09                 | 21.07                    | 21.27                  |                     |          |



# FCC SAR Test Report

Report No. : FA7D2018

| Channel         |       |    |    | 20800  | 21100 | 21400  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| Frequency (MHz) |       |    |    | 2505   | 2535  | 2565   |                        |             |
| 10              | QPSK  | 1  | 0  | 23.15  | 23.07 | 23.05  | 24                     | 0           |
| 10              | QPSK  | 1  | 25 | 23.25  | 23.05 | 23.20  |                        |             |
| 10              | QPSK  | 1  | 49 | 23.43  | 23.22 | 23.33  |                        |             |
| 10              | QPSK  | 25 | 0  | 22.25  | 22.20 | 22.23  | 23                     | 1           |
| 10              | QPSK  | 25 | 12 | 22.16  | 22.09 | 22.16  |                        |             |
| 10              | QPSK  | 25 | 25 | 22.16  | 22.12 | 22.14  |                        |             |
| 10              | QPSK  | 50 | 0  | 22.14  | 22.12 | 22.19  | 23                     | 1           |
| 10              | 16QAM | 1  | 0  | 22.63  | 22.61 | 22.67  |                        |             |
| 10              | 16QAM | 1  | 25 | 22.37  | 22.30 | 22.42  |                        |             |
| 10              | 16QAM | 1  | 49 | 22.51  | 22.39 | 22.39  | 23                     | 1           |
| 10              | 16QAM | 25 | 0  | 21.25  | 21.24 | 21.26  |                        |             |
| 10              | 16QAM | 25 | 12 | 21.19  | 21.12 | 21.19  |                        |             |
| 10              | 16QAM | 25 | 25 | 21.14  | 21.11 | 21.13  | 23                     | 1           |
| 10              | 16QAM | 50 | 0  | 21.23  | 21.15 | 21.24  |                        |             |
| 10              | 64QAM | 1  | 0  | 22.32  | 22.37 | 22.56  |                        |             |
| 10              | 64QAM | 1  | 25 | 22.29  | 22.29 | 22.56  | 23                     | 1           |
| 10              | 64QAM | 1  | 49 | 22.47  | 22.36 | 22.53  |                        |             |
| 10              | 64QAM | 25 | 0  | 21.26  | 21.22 | 21.37  |                        |             |
| 10              | 64QAM | 25 | 12 | 21.15  | 21.12 | 21.38  | 22                     | 2           |
| 10              | 64QAM | 25 | 25 | 21.14  | 21.18 | 21.29  |                        |             |
| 10              | 64QAM | 50 | 0  | 21.15  | 21.16 | 21.35  |                        |             |
| Channel         |       |    |    | 20775  | 21100 | 21425  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 2502.5 | 2535  | 2567.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 22.91  | 22.77 | 22.82  | 24                     | 0           |
| 5               | QPSK  | 1  | 12 | 23.18  | 23.04 | 23.10  |                        |             |
| 5               | QPSK  | 1  | 24 | 23.13  | 23.07 | 23.12  |                        |             |
| 5               | QPSK  | 12 | 0  | 22.20  | 22.12 | 22.14  | 23                     | 1           |
| 5               | QPSK  | 12 | 7  | 22.16  | 22.08 | 22.16  |                        |             |
| 5               | QPSK  | 12 | 13 | 22.16  | 22.05 | 22.12  |                        |             |
| 5               | QPSK  | 25 | 0  | 22.17  | 22.11 | 22.14  | 23                     | 1           |
| 5               | 16QAM | 1  | 0  | 22.58  | 22.39 | 22.47  |                        |             |
| 5               | 16QAM | 1  | 12 | 22.38  | 22.20 | 22.25  |                        |             |
| 5               | 16QAM | 1  | 24 | 22.45  | 22.38 | 22.34  | 23                     | 1           |
| 5               | 16QAM | 12 | 0  | 21.29  | 21.15 | 21.18  |                        |             |
| 5               | 16QAM | 12 | 7  | 21.20  | 21.15 | 21.18  |                        |             |
| 5               | 16QAM | 12 | 13 | 21.20  | 21.04 | 21.14  | 23                     | 1           |
| 5               | 16QAM | 25 | 0  | 21.22  | 21.12 | 21.19  |                        |             |
| 5               | 64QAM | 1  | 0  | 22.37  | 22.28 | 22.59  |                        |             |
| 5               | 64QAM | 1  | 12 | 22.29  | 22.19 | 22.52  | 23                     | 1           |
| 5               | 64QAM | 1  | 24 | 22.48  | 22.44 | 22.44  |                        |             |
| 5               | 64QAM | 12 | 0  | 21.29  | 21.22 | 21.45  |                        |             |
| 5               | 64QAM | 12 | 7  | 21.15  | 21.02 | 21.41  | 22                     | 2           |
| 5               | 64QAM | 12 | 13 | 21.05  | 21.18 | 21.38  |                        |             |
| 5               | 64QAM | 25 | 0  | 21.12  | 21.18 | 21.43  |                        |             |



**<LTE Band 12>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|--------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 23060                 | 23095                    | 23130                  |                     |          |
| Frequency (MHz) |            |         |           | 704                   | 707.5                    | 711                    |                     |          |
| 10              | QPSK       | 1       | 0         | 22.65                 | 22.71                    | 22.72                  | 24                  | 0        |
| 10              | QPSK       | 1       | 25        | 22.93                 | 22.95                    | 22.93                  |                     |          |
| 10              | QPSK       | 1       | 49        | 23.03                 | 23.07                    | 23.26                  |                     |          |
| 10              | QPSK       | 25      | 0         | 21.94                 | 21.94                    | 22.05                  | 23                  | 1        |
| 10              | QPSK       | 25      | 12        | 21.82                 | 21.88                    | 21.94                  |                     |          |
| 10              | QPSK       | 25      | 25        | 21.90                 | 21.91                    | 21.97                  |                     |          |
| 10              | QPSK       | 50      | 0         | 21.92                 | 21.95                    | 22.02                  | 23                  | 1        |
| 10              | 16QAM      | 1       | 0         | 22.25                 | 22.47                    | 22.40                  |                     |          |
| 10              | 16QAM      | 1       | 25        | 22.13                 | 22.06                    | 22.21                  |                     |          |
| 10              | 16QAM      | 1       | 49        | 22.23                 | 22.29                    | 22.24                  | 23                  | 1        |
| 10              | 16QAM      | 25      | 0         | 21.16                 | 21.15                    | 21.22                  |                     |          |
| 10              | 16QAM      | 25      | 12        | 21.09                 | 21.13                    | 21.15                  |                     |          |
| 10              | 16QAM      | 25      | 25        | 21.09                 | 21.20                    | 21.13                  | 23                  | 1        |
| 10              | 16QAM      | 50      | 0         | 21.09                 | 21.21                    | 21.20                  |                     |          |
| 10              | 64QAM      | 1       | 0         | 21.75                 | 22.11                    | 22.17                  |                     |          |
| 10              | 64QAM      | 1       | 25        | 22.37                 | 22.41                    | 22.36                  | 23                  | 1        |
| 10              | 64QAM      | 1       | 49        | 22.35                 | 22.39                    | 22.27                  |                     |          |
| 10              | 64QAM      | 25      | 0         | 21.23                 | 21.29                    | 21.31                  |                     |          |
| 10              | 64QAM      | 25      | 12        | 21.18                 | 21.29                    | 21.20                  | 22                  | 2        |
| 10              | 64QAM      | 25      | 25        | 21.22                 | 21.25                    | 21.24                  |                     |          |
| 10              | 64QAM      | 50      | 0         | 21.19                 | 21.29                    | 21.23                  |                     |          |
| Channel         |            |         |           | 23035                 | 23095                    | 23155                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 701.5                 | 707.5                    | 713.5                  |                     |          |
| 5               | QPSK       | 1       | 0         | 22.26                 | 22.25                    | 22.38                  | 24                  | 0        |
| 5               | QPSK       | 1       | 12        | 22.78                 | 22.84                    | 22.89                  |                     |          |
| 5               | QPSK       | 1       | 24        | 22.90                 | 22.91                    | 22.95                  |                     |          |
| 5               | QPSK       | 12      | 0         | 21.92                 | 21.87                    | 21.94                  | 23                  | 1        |
| 5               | QPSK       | 12      | 7         | 21.87                 | 21.94                    | 21.94                  |                     |          |
| 5               | QPSK       | 12      | 13        | 21.79                 | 21.95                    | 21.91                  |                     |          |
| 5               | QPSK       | 25      | 0         | 21.85                 | 21.89                    | 21.94                  | 23                  | 1        |
| 5               | 16QAM      | 1       | 0         | 22.22                 | 22.10                    | 22.26                  |                     |          |
| 5               | 16QAM      | 1       | 12        | 21.97                 | 22.03                    | 22.15                  |                     |          |
| 5               | 16QAM      | 1       | 24        | 22.17                 | 22.11                    | 22.13                  | 23                  | 1        |
| 5               | 16QAM      | 12      | 0         | 21.19                 | 21.12                    | 21.17                  |                     |          |
| 5               | 16QAM      | 12      | 7         | 21.13                 | 21.18                    | 21.20                  |                     |          |
| 5               | 16QAM      | 12      | 13        | 21.01                 | 21.13                    | 21.19                  | 23                  | 1        |
| 5               | 16QAM      | 25      | 0         | 21.05                 | 21.10                    | 21.21                  |                     |          |
| 5               | 64QAM      | 1       | 0         | 21.72                 | 22.17                    | 22.18                  |                     |          |
| 5               | 64QAM      | 1       | 12        | 22.42                 | 22.40                    | 22.37                  | 23                  | 1        |
| 5               | 64QAM      | 1       | 24        | 22.35                 | 22.37                    | 22.29                  |                     |          |
| 5               | 64QAM      | 12      | 0         | 21.30                 | 21.34                    | 21.39                  |                     |          |
| 5               | 64QAM      | 12      | 7         | 21.26                 | 21.39                    | 21.28                  | 22                  | 2        |
| 5               | 64QAM      | 12      | 13        | 21.26                 | 21.22                    | 21.20                  |                     |          |
| 5               | 64QAM      | 25      | 0         | 21.19                 | 21.37                    | 21.27                  |                     |          |



# FCC SAR Test Report

Report No. : FA7D2018

| Channel         |       |    |    | 23025 | 23095 | 23165 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|-------|-------|-------|------------------------|-------------|
| Frequency (MHz) |       |    |    | 700.5 | 707.5 | 714.5 |                        |             |
| 3               | QPSK  | 1  | 0  | 22.24 | 22.33 | 22.29 | 24                     | 0           |
| 3               | QPSK  | 1  | 8  | 23.01 | 22.89 | 23.01 |                        |             |
| 3               | QPSK  | 1  | 14 | 22.75 | 22.86 | 23.05 |                        |             |
| 3               | QPSK  | 8  | 0  | 21.86 | 21.91 | 21.97 | 23                     | 1           |
| 3               | QPSK  | 8  | 4  | 21.89 | 21.97 | 22.03 |                        |             |
| 3               | QPSK  | 8  | 7  | 21.81 | 21.94 | 21.92 |                        |             |
| 3               | QPSK  | 15 | 0  | 21.85 | 21.93 | 21.96 |                        |             |
| 3               | 16QAM | 1  | 0  | 22.24 | 22.14 | 22.25 | 23                     | 1           |
| 3               | 16QAM | 1  | 8  | 22.32 | 22.18 | 22.29 |                        |             |
| 3               | 16QAM | 1  | 14 | 22.09 | 22.16 | 22.42 |                        |             |
| 3               | 16QAM | 8  | 0  | 21.08 | 21.14 | 21.28 | 23                     | 1           |
| 3               | 16QAM | 8  | 4  | 21.19 | 21.21 | 21.30 |                        |             |
| 3               | 16QAM | 8  | 7  | 21.09 | 21.15 | 21.16 |                        |             |
| 3               | 16QAM | 15 | 0  | 21.14 | 21.16 | 21.20 |                        |             |
| 3               | 64QAM | 1  | 0  | 21.85 | 22.16 | 22.11 | 23                     | 1           |
| 3               | 64QAM | 1  | 8  | 22.33 | 22.32 | 22.38 |                        |             |
| 3               | 64QAM | 1  | 14 | 22.36 | 22.42 | 22.19 |                        |             |
| 3               | 64QAM | 8  | 0  | 21.15 | 21.27 | 21.21 | 22                     | 2           |
| 3               | 64QAM | 8  | 4  | 21.27 | 21.39 | 21.28 |                        |             |
| 3               | 64QAM | 8  | 7  | 21.22 | 21.23 | 21.31 |                        |             |
| 3               | 64QAM | 15 | 0  | 21.25 | 21.27 | 21.22 |                        |             |
| Channel         |       |    |    | 23017 | 23095 | 23173 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 699.7 | 707.5 | 715.3 |                        |             |
| 1.4             | QPSK  | 1  | 0  | 22.10 | 22.21 | 22.32 | 24                     | 0           |
| 1.4             | QPSK  | 1  | 3  | 22.76 | 22.93 | 22.92 |                        |             |
| 1.4             | QPSK  | 1  | 5  | 22.82 | 22.80 | 22.97 |                        |             |
| 1.4             | QPSK  | 3  | 0  | 22.97 | 22.84 | 22.98 |                        |             |
| 1.4             | QPSK  | 3  | 1  | 22.92 | 22.82 | 22.94 |                        |             |
| 1.4             | QPSK  | 3  | 3  | 22.83 | 22.85 | 22.96 |                        |             |
| 1.4             | QPSK  | 6  | 0  | 21.84 | 21.78 | 21.87 | 23                     | 1           |
| 1.4             | 16QAM | 1  | 0  | 21.88 | 22.05 | 22.31 | 23                     | 1           |
| 1.4             | 16QAM | 1  | 3  | 22.24 | 22.16 | 22.27 |                        |             |
| 1.4             | 16QAM | 1  | 5  | 22.09 | 22.25 | 22.11 |                        |             |
| 1.4             | 16QAM | 3  | 0  | 21.94 | 21.88 | 21.93 |                        |             |
| 1.4             | 16QAM | 3  | 1  | 21.87 | 21.90 | 21.96 |                        |             |
| 1.4             | 16QAM | 3  | 3  | 21.84 | 21.80 | 21.87 |                        |             |
| 1.4             | 16QAM | 6  | 0  | 21.06 | 21.03 | 21.06 | 23                     | 1           |
| 1.4             | 64QAM | 1  | 0  | 21.79 | 22.14 | 22.14 | 23                     | 1           |
| 1.4             | 64QAM | 1  | 3  | 22.44 | 22.49 | 22.37 |                        |             |
| 1.4             | 64QAM | 1  | 5  | 22.37 | 22.31 | 22.28 |                        |             |
| 1.4             | 64QAM | 3  | 0  | 21.18 | 21.36 | 21.29 |                        |             |
| 1.4             | 64QAM | 3  | 1  | 21.24 | 21.26 | 21.18 |                        |             |
| 1.4             | 64QAM | 3  | 3  | 21.24 | 21.34 | 21.19 |                        |             |
| 1.4             | 64QAM | 6  | 0  | 21.27 | 21.34 | 21.25 | 22                     | 2           |



**<LTE Band 13>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 23230                    |                             |                           |                        |             |
| Frequency (MHz) |            |         |           | 782                      |                             |                           |                        |             |
| 10              | QPSK       | 1       | 0         | 22.52                    |                             |                           | 24                     | 0           |
| 10              | QPSK       | 1       | 25        | 22.91                    |                             |                           |                        |             |
| 10              | QPSK       | 1       | 49        | 22.94                    |                             |                           |                        |             |
| 10              | QPSK       | 25      | 0         | 21.93                    |                             |                           | 23                     | 1           |
| 10              | QPSK       | 25      | 12        | 21.90                    |                             |                           |                        |             |
| 10              | QPSK       | 25      | 25        | 21.72                    |                             |                           |                        |             |
| 10              | QPSK       | 50      | 0         | 21.98                    |                             |                           | 23                     | 1           |
| 10              | 16QAM      | 1       | 0         | 22.41                    |                             |                           |                        |             |
| 10              | 16QAM      | 1       | 25        | 22.09                    |                             |                           |                        |             |
| 10              | 16QAM      | 1       | 49        | 22.15                    |                             |                           | 23                     | 1           |
| 10              | 16QAM      | 25      | 0         | 21.26                    |                             |                           |                        |             |
| 10              | 16QAM      | 25      | 12        | 21.16                    |                             |                           |                        |             |
| 10              | 16QAM      | 25      | 25        | 21.02                    |                             |                           | 23                     | 1           |
| 10              | 16QAM      | 50      | 0         | 21.01                    |                             |                           |                        |             |
| 10              | 64QAM      | 1       | 0         | 21.76                    |                             |                           |                        |             |
| 10              | 64QAM      | 1       | 25        | 22.34                    |                             |                           | 23                     | 1           |
| 10              | 64QAM      | 1       | 49        | 22.30                    |                             |                           |                        |             |
| 10              | 64QAM      | 25      | 0         | 21.11                    |                             |                           |                        |             |
| 10              | 64QAM      | 25      | 12        | 21.09                    |                             |                           | 22                     | 2           |
| 10              | 64QAM      | 25      | 25        | 20.97                    |                             |                           |                        |             |
| 10              | 64QAM      | 50      | 0         | 21.14                    |                             |                           |                        |             |
| Channel         |            |         |           | 23205                    | 23230                       | 23255                     | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 779.5                    | 782                         | 784.5                     |                        |             |
| 5               | QPSK       | 1       | 0         | 22.18                    | 22.19                       | 22.31                     | 24                     | 0           |
| 5               | QPSK       | 1       | 12        | 22.78                    | 22.82                       | 22.85                     |                        |             |
| 5               | QPSK       | 1       | 24        | 22.86                    | 22.82                       | 22.75                     |                        |             |
| 5               | QPSK       | 12      | 0         | 21.81                    | 21.82                       | 21.88                     | 23                     | 1           |
| 5               | QPSK       | 12      | 7         | 21.80                    | 21.87                       | 21.90                     |                        |             |
| 5               | QPSK       | 12      | 13        | 21.76                    | 21.84                       | 21.83                     |                        |             |
| 5               | QPSK       | 25      | 0         | 21.82                    | 21.87                       | 21.76                     | 23                     | 1           |
| 5               | 16QAM      | 1       | 0         | 22.11                    | 22.12                       | 22.28                     |                        |             |
| 5               | 16QAM      | 1       | 12        | 22.02                    | 22.05                       | 22.07                     |                        |             |
| 5               | 16QAM      | 1       | 24        | 22.28                    | 22.03                       | 21.99                     | 23                     | 1           |
| 5               | 16QAM      | 12      | 0         | 21.05                    | 21.05                       | 21.12                     |                        |             |
| 5               | 16QAM      | 12      | 7         | 21.12                    | 21.13                       | 21.15                     |                        |             |
| 5               | 16QAM      | 12      | 13        | 21.00                    | 21.03                       | 21.00                     | 23                     | 1           |
| 5               | 16QAM      | 25      | 0         | 21.11                    | 21.08                       | 21.00                     |                        |             |
| 5               | 64QAM      | 1       | 0         | 21.82                    | 21.55                       | 21.88                     |                        |             |
| 5               | 64QAM      | 1       | 12        | 22.07                    | 22.18                       | 22.06                     | 23                     | 1           |
| 5               | 64QAM      | 1       | 24        | 22.18                    | 22.11                       | 22.22                     |                        |             |
| 5               | 64QAM      | 12      | 0         | 20.91                    | 21.01                       | 21.02                     |                        |             |
| 5               | 64QAM      | 12      | 7         | 21.04                    | 21.06                       | 21.04                     | 22                     | 2           |
| 5               | 64QAM      | 12      | 13        | 20.94                    | 20.98                       | 20.96                     |                        |             |
| 5               | 64QAM      | 25      | 0         | 21.05                    | 21.04                       | 20.94                     |                        |             |



**<LTE Band 17>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|--------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 23780                 | 23790                    | 23800                  |                     |          |
| Frequency (MHz) |            |         |           | 709                   | 710                      | 711                    |                     |          |
| 10              | QPSK       | 1       | 0         | 22.52                 | 22.69                    | 22.62                  | 24                  | 0        |
| 10              | QPSK       | 1       | 25        | 22.91                 | 22.86                    | 23.01                  |                     |          |
| 10              | QPSK       | 1       | 49        | 22.94                 | 23.07                    | 23.09                  |                     |          |
| 10              | QPSK       | 25      | 0         | 21.93                 | 22.02                    | 21.99                  | 23                  | 1        |
| 10              | QPSK       | 25      | 12        | 21.90                 | 21.97                    | 21.98                  |                     |          |
| 10              | QPSK       | 25      | 25        | 21.72                 | 21.92                    | 21.94                  |                     |          |
| 10              | QPSK       | 50      | 0         | 21.98                 | 21.97                    | 21.97                  | 23                  | 1        |
| 10              | 16QAM      | 1       | 0         | 22.41                 | 22.45                    | 22.33                  |                     |          |
| 10              | 16QAM      | 1       | 25        | 22.09                 | 22.12                    | 22.20                  |                     |          |
| 10              | 16QAM      | 1       | 49        | 22.15                 | 22.33                    | 22.33                  | 23                  | 1        |
| 10              | 16QAM      | 25      | 0         | 21.16                 | 21.26                    | 21.22                  |                     |          |
| 10              | 16QAM      | 25      | 12        | 21.10                 | 21.13                    | 21.20                  |                     |          |
| 10              | 16QAM      | 25      | 25        | 21.02                 | 21.23                    | 21.17                  | 23                  | 1        |
| 10              | 16QAM      | 50      | 0         | 21.21                 | 21.16                    | 21.21                  |                     |          |
| 10              | 64QAM      | 1       | 0         | 22.14                 | 21.85                    | 22.10                  |                     |          |
| 10              | 64QAM      | 1       | 25        | 22.18                 | 22.36                    | 22.25                  | 23                  | 1        |
| 10              | 64QAM      | 1       | 49        | 22.38                 | 22.46                    | 22.30                  |                     |          |
| 10              | 64QAM      | 25      | 0         | 21.38                 | 21.32                    | 21.32                  |                     |          |
| 10              | 64QAM      | 25      | 12        | 21.20                 | 21.23                    | 21.14                  | 22                  | 2        |
| 10              | 64QAM      | 25      | 25        | 21.24                 | 21.19                    | 21.19                  |                     |          |
| 10              | 64QAM      | 50      | 0         | 21.23                 | 21.26                    | 21.24                  |                     |          |
| Channel         |            |         |           | 23755                 | 23790                    | 23825                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 706.5                 | 710                      | 713.5                  |                     |          |
| 5               | QPSK       | 1       | 0         | 22.38                 | 22.39                    | 22.34                  | 24                  | 0        |
| 5               | QPSK       | 1       | 12        | 22.83                 | 23.07                    | 22.88                  |                     |          |
| 5               | QPSK       | 1       | 24        | 22.93                 | 22.98                    | 23.02                  |                     |          |
| 5               | QPSK       | 12      | 0         | 21.89                 | 22.02                    | 22.06                  | 23                  | 1        |
| 5               | QPSK       | 12      | 7         | 21.82                 | 22.03                    | 21.91                  |                     |          |
| 5               | QPSK       | 12      | 13        | 21.88                 | 21.95                    | 21.91                  |                     |          |
| 5               | QPSK       | 25      | 0         | 21.95                 | 21.97                    | 21.92                  | 23                  | 1        |
| 5               | 16QAM      | 1       | 0         | 22.20                 | 22.19                    | 22.20                  |                     |          |
| 5               | 16QAM      | 1       | 12        | 22.10                 | 22.17                    | 22.12                  |                     |          |
| 5               | 16QAM      | 1       | 24        | 22.24                 | 22.29                    | 22.29                  | 23                  | 1        |
| 5               | 16QAM      | 12      | 0         | 21.10                 | 21.23                    | 21.27                  |                     |          |
| 5               | 16QAM      | 12      | 7         | 21.08                 | 21.20                    | 21.22                  |                     |          |
| 5               | 16QAM      | 12      | 13        | 21.08                 | 21.18                    | 21.21                  | 23                  | 1        |
| 5               | 16QAM      | 25      | 0         | 21.09                 | 21.13                    | 21.15                  |                     |          |
| 5               | 64QAM      | 1       | 0         | 22.23                 | 21.97                    | 22.13                  |                     |          |
| 5               | 64QAM      | 1       | 12        | 22.27                 | 22.31                    | 22.24                  | 23                  | 1        |
| 5               | 64QAM      | 1       | 24        | 22.23                 | 22.21                    | 22.16                  |                     |          |
| 5               | 64QAM      | 12      | 0         | 21.13                 | 21.24                    | 21.22                  |                     |          |
| 5               | 64QAM      | 12      | 7         | 21.12                 | 21.20                    | 21.19                  | 22                  | 2        |
| 5               | 64QAM      | 12      | 13        | 21.13                 | 21.17                    | 21.23                  |                     |          |
| 5               | 64QAM      | 25      | 0         | 21.14                 | 21.13                    | 21.22                  |                     |          |



**<LTE Band 25>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|--------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 26140                 | 26340                    | 26590                  |                     |          |
| Frequency (MHz) |            |         |           | 1860                  | 1880                     | 1905                   |                     |          |
| 20              | QPSK       | 1       | 0         | 22.89                 | 22.98                    | 23.03                  | 24                  | 0        |
| 20              | QPSK       | 1       | 49        | 23.51                 | 23.12                    | 23.14                  |                     |          |
| 20              | QPSK       | 1       | 99        | 23.03                 | 23.03                    | 22.97                  |                     |          |
| 20              | QPSK       | 50      | 0         | 22.13                 | 22.34                    | 22.25                  | 23                  | 1        |
| 20              | QPSK       | 50      | 24        | 22.07                 | 22.29                    | 22.07                  |                     |          |
| 20              | QPSK       | 50      | 50        | 22.35                 | 22.32                    | 22.11                  |                     |          |
| 20              | QPSK       | 100     | 0         | 22.23                 | 22.30                    | 22.24                  | 23                  | 1        |
| 20              | 16QAM      | 1       | 0         | 22.36                 | 22.52                    | 22.49                  |                     |          |
| 20              | 16QAM      | 1       | 49        | 22.20                 | 22.50                    | 22.24                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 22.15                 | 22.13                    | 21.97                  | 23                  | 1        |
| 20              | 16QAM      | 50      | 0         | 21.14                 | 21.35                    | 21.22                  |                     |          |
| 20              | 16QAM      | 50      | 24        | 21.08                 | 21.29                    | 21.07                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 21.21                 | 21.29                    | 21.06                  | 23                  | 1        |
| 20              | 16QAM      | 100     | 0         | 21.14                 | 21.33                    | 21.09                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 22.40                 | 22.41                    | 22.51                  | 23                  | 1        |
| 20              | 64QAM      | 1       | 49        | 22.39                 | 22.63                    | 22.60                  |                     |          |
| 20              | 64QAM      | 1       | 99        | 22.20                 | 22.32                    | 21.69                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 21.18                 | 21.40                    | 21.37                  | 22                  | 2        |
| 20              | 64QAM      | 50      | 24        | 21.17                 | 21.34                    | 21.25                  |                     |          |
| 20              | 64QAM      | 50      | 50        | 21.23                 | 21.40                    | 21.30                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 21.28                 | 21.42                    | 21.33                  |                     |          |
| Channel         |            |         |           | 26115                 | 26340                    | 26615                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 1857.5                | 1880                     | 1907.5                 |                     |          |
| 15              | QPSK       | 1       | 0         | 22.72                 | 22.87                    | 22.83                  | 24                  | 0        |
| 15              | QPSK       | 1       | 37        | 22.87                 | 23.12                    | 22.82                  |                     |          |
| 15              | QPSK       | 1       | 74        | 23.21                 | 23.31                    | 22.87                  |                     |          |
| 15              | QPSK       | 36      | 0         | 22.16                 | 22.36                    | 22.23                  | 23                  | 1        |
| 15              | QPSK       | 36      | 20        | 22.14                 | 22.42                    | 22.16                  |                     |          |
| 15              | QPSK       | 36      | 39        | 22.29                 | 22.43                    | 22.30                  |                     |          |
| 15              | QPSK       | 75      | 0         | 22.21                 | 22.41                    | 22.25                  | 23                  | 1        |
| 15              | 16QAM      | 1       | 0         | 22.33                 | 22.55                    | 22.49                  |                     |          |
| 15              | 16QAM      | 1       | 37        | 22.18                 | 22.49                    | 22.18                  |                     |          |
| 15              | 16QAM      | 1       | 74        | 22.38                 | 22.54                    | 21.88                  | 23                  | 1        |
| 15              | 16QAM      | 36      | 0         | 21.12                 | 21.39                    | 21.26                  |                     |          |
| 15              | 16QAM      | 36      | 20        | 21.14                 | 21.43                    | 21.16                  |                     |          |
| 15              | 16QAM      | 36      | 39        | 21.20                 | 21.35                    | 21.30                  | 23                  | 1        |
| 15              | 16QAM      | 75      | 0         | 21.27                 | 21.44                    | 21.25                  |                     |          |
| 15              | 64QAM      | 1       | 0         | 22.01                 | 22.20                    | 22.09                  |                     |          |
| 15              | 64QAM      | 1       | 37        | 22.41                 | 22.51                    | 22.14                  | 23                  | 1        |
| 15              | 64QAM      | 1       | 74        | 22.39                 | 22.43                    | 21.85                  |                     |          |
| 15              | 64QAM      | 36      | 0         | 21.20                 | 21.43                    | 21.41                  |                     |          |
| 15              | 64QAM      | 36      | 20        | 21.20                 | 21.45                    | 21.31                  | 22                  | 2        |
| 15              | 64QAM      | 36      | 39        | 21.29                 | 21.48                    | 21.28                  |                     |          |
| 15              | 64QAM      | 75      | 0         | 21.37                 | 21.49                    | 21.29                  |                     |          |



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| Channel         |       |    |    | 26090  | 26340 | 26640  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| Frequency (MHz) |       |    |    | 1855   | 1880  | 1910   |                        |             |
| 10              | QPSK  | 1  | 0  | 23.07  | 23.17 | 23.03  | 24                     | 0           |
| 10              | QPSK  | 1  | 25 | 23.29  | 23.50 | 23.09  |                        |             |
| 10              | QPSK  | 1  | 49 | 23.34  | 23.50 | 23.43  |                        |             |
| 10              | QPSK  | 25 | 0  | 22.18  | 22.40 | 22.16  | 23                     | 1           |
| 10              | QPSK  | 25 | 12 | 22.23  | 22.38 | 22.09  |                        |             |
| 10              | QPSK  | 25 | 25 | 22.10  | 22.37 | 22.29  |                        |             |
| 10              | QPSK  | 50 | 0  | 22.23  | 22.50 | 22.15  | 23                     | 1           |
| 10              | 16QAM | 1  | 0  | 22.60  | 22.82 | 22.51  |                        |             |
| 10              | 16QAM | 1  | 25 | 22.38  | 22.67 | 22.20  |                        |             |
| 10              | 16QAM | 1  | 49 | 22.59  | 22.67 | 22.22  | 23                     | 1           |
| 10              | 16QAM | 25 | 0  | 21.17  | 21.43 | 21.13  |                        |             |
| 10              | 16QAM | 25 | 12 | 21.21  | 21.34 | 21.09  |                        |             |
| 10              | 16QAM | 25 | 25 | 21.12  | 21.38 | 21.28  | 23                     | 1           |
| 10              | 16QAM | 50 | 0  | 21.23  | 21.41 | 21.14  |                        |             |
| 10              | 64QAM | 1  | 0  | 22.39  | 22.48 | 22.45  |                        |             |
| 10              | 64QAM | 1  | 25 | 22.53  | 22.78 | 22.25  | 23                     | 1           |
| 10              | 64QAM | 1  | 49 | 22.51  | 22.68 | 22.05  |                        |             |
| 10              | 64QAM | 25 | 0  | 21.29  | 21.58 | 21.32  |                        |             |
| 10              | 64QAM | 25 | 12 | 21.28  | 21.43 | 21.27  | 22                     | 2           |
| 10              | 64QAM | 25 | 25 | 21.19  | 21.49 | 21.25  |                        |             |
| 10              | 64QAM | 50 | 0  | 21.25  | 21.45 | 21.34  |                        |             |
| Channel         |       |    |    | 26065  | 26340 | 26665  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1852.5 | 1880  | 1912.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 22.90  | 23.16 | 22.99  | 24                     | 0           |
| 5               | QPSK  | 1  | 12 | 23.08  | 23.37 | 23.11  |                        |             |
| 5               | QPSK  | 1  | 24 | 23.19  | 23.28 | 23.18  |                        |             |
| 5               | QPSK  | 12 | 0  | 22.23  | 22.41 | 22.19  | 23                     | 1           |
| 5               | QPSK  | 12 | 7  | 22.16  | 22.44 | 22.10  |                        |             |
| 5               | QPSK  | 12 | 13 | 22.16  | 22.33 | 22.07  |                        |             |
| 5               | QPSK  | 25 | 0  | 22.20  | 22.37 | 22.14  | 23                     | 1           |
| 5               | 16QAM | 1  | 0  | 22.66  | 22.67 | 22.62  |                        |             |
| 5               | 16QAM | 1  | 12 | 22.38  | 22.78 | 22.39  |                        |             |
| 5               | 16QAM | 1  | 24 | 22.42  | 22.61 | 22.29  | 23                     | 1           |
| 5               | 16QAM | 12 | 0  | 21.27  | 21.40 | 21.23  |                        |             |
| 5               | 16QAM | 12 | 7  | 21.21  | 21.41 | 21.13  |                        |             |
| 5               | 16QAM | 12 | 13 | 21.19  | 21.37 | 21.12  | 23                     | 1           |
| 5               | 16QAM | 25 | 0  | 21.18  | 21.36 | 21.14  |                        |             |
| 5               | 64QAM | 1  | 0  | 22.36  | 22.37 | 22.33  |                        |             |
| 5               | 64QAM | 1  | 12 | 22.45  | 22.79 | 22.35  | 23                     | 1           |
| 5               | 64QAM | 1  | 24 | 22.52  | 22.51 | 22.20  |                        |             |
| 5               | 64QAM | 12 | 0  | 21.33  | 21.49 | 21.43  |                        |             |
| 5               | 64QAM | 12 | 7  | 21.27  | 21.51 | 21.30  | 22                     | 2           |
| 5               | 64QAM | 12 | 13 | 21.22  | 21.41 | 21.26  |                        |             |
| 5               | 64QAM | 25 | 0  | 21.29  | 21.40 | 21.35  |                        |             |



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| Channel         |       |    |    | 26055  | 26340 | 26675  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| Frequency (MHz) |       |    |    | 1851.5 | 1880  | 1913.5 |                        |             |
| 3               | QPSK  | 1  | 0  | 22.81  | 23.10 | 22.77  | 24                     | 0           |
| 3               | QPSK  | 1  | 8  | 23.16  | 23.40 | 23.18  |                        |             |
| 3               | QPSK  | 1  | 14 | 23.15  | 23.35 | 23.09  |                        |             |
| 3               | QPSK  | 8  | 0  | 22.20  | 22.38 | 22.09  | 23                     | 1           |
| 3               | QPSK  | 8  | 4  | 22.22  | 22.44 | 22.09  |                        |             |
| 3               | QPSK  | 8  | 7  | 22.14  | 22.32 | 22.06  |                        |             |
| 3               | QPSK  | 15 | 0  | 22.18  | 22.41 | 22.09  |                        |             |
| 3               | 16QAM | 1  | 0  | 22.48  | 22.77 | 22.40  | 23                     | 1           |
| 3               | 16QAM | 1  | 8  | 22.68  | 22.77 | 22.37  |                        |             |
| 3               | 16QAM | 1  | 14 | 22.36  | 22.52 | 22.24  |                        |             |
| 3               | 16QAM | 8  | 0  | 21.23  | 21.40 | 21.16  | 23                     | 1           |
| 3               | 16QAM | 8  | 4  | 21.23  | 21.45 | 21.18  |                        |             |
| 3               | 16QAM | 8  | 7  | 21.22  | 21.43 | 21.11  |                        |             |
| 3               | 16QAM | 15 | 0  | 21.20  | 21.39 | 21.15  |                        |             |
| 3               | 64QAM | 1  | 0  | 22.32  | 22.31 | 22.39  | 23                     | 1           |
| 3               | 64QAM | 1  | 8  | 22.40  | 22.79 | 22.36  |                        |             |
| 3               | 64QAM | 1  | 14 | 22.53  | 22.60 | 22.23  |                        |             |
| 3               | 64QAM | 8  | 0  | 21.41  | 21.48 | 21.39  | 22                     | 2           |
| 3               | 64QAM | 8  | 4  | 21.21  | 21.42 | 21.20  |                        |             |
| 3               | 64QAM | 8  | 7  | 21.23  | 21.45 | 21.30  |                        |             |
| 3               | 64QAM | 15 | 0  | 21.37  | 21.40 | 21.44  |                        |             |
| Channel         |       |    |    | 26047  | 26340 | 26683  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1850.7 | 1880  | 1914.3 |                        |             |
| 1.4             | QPSK  | 1  | 0  | 22.69  | 23.02 | 22.69  | 24                     | 0           |
| 1.4             | QPSK  | 1  | 3  | 23.31  | 23.44 | 23.08  |                        |             |
| 1.4             | QPSK  | 1  | 5  | 23.02  | 23.25 | 23.10  |                        |             |
| 1.4             | QPSK  | 3  | 0  | 23.16  | 23.43 | 23.11  |                        |             |
| 1.4             | QPSK  | 3  | 1  | 23.22  | 23.41 | 23.09  |                        |             |
| 1.4             | QPSK  | 3  | 3  | 23.12  | 23.31 | 23.04  |                        |             |
| 1.4             | QPSK  | 6  | 0  | 22.12  | 22.36 | 22.03  | 23                     | 1           |
| 1.4             | 16QAM | 1  | 0  | 22.50  | 22.65 | 22.34  | 23                     | 1           |
| 1.4             | 16QAM | 1  | 3  | 22.62  | 22.80 | 22.38  |                        |             |
| 1.4             | 16QAM | 1  | 5  | 22.48  | 22.50 | 22.21  |                        |             |
| 1.4             | 16QAM | 3  | 0  | 22.18  | 22.35 | 22.07  |                        |             |
| 1.4             | 16QAM | 3  | 1  | 22.09  | 22.37 | 22.08  |                        |             |
| 1.4             | 16QAM | 3  | 3  | 22.14  | 22.27 | 21.95  |                        |             |
| 1.4             | 16QAM | 6  | 0  | 21.25  | 21.45 | 21.17  | 23                     | 1           |
| 1.4             | 64QAM | 1  | 0  | 22.38  | 22.37 | 22.23  | 23                     | 1           |
| 1.4             | 64QAM | 1  | 3  | 22.47  | 22.88 | 22.40  |                        |             |
| 1.4             | 64QAM | 1  | 5  | 22.47  | 22.61 | 22.27  |                        |             |
| 1.4             | 64QAM | 3  | 0  | 21.39  | 21.55 | 21.49  |                        |             |
| 1.4             | 64QAM | 3  | 1  | 21.27  | 21.57 | 21.24  |                        |             |
| 1.4             | 64QAM | 3  | 3  | 21.20  | 21.49 | 21.19  |                        |             |
| 1.4             | 64QAM | 6  | 0  | 21.29  | 21.49 | 21.45  | 22                     | 2           |



**<LTE Band 26>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|--------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 26765                 | 26865                    | 26965                  |                     |          |
| Frequency (MHz) |            |         |           | 821.5                 | 831.5                    | 841.5                  |                     |          |
| 15              | QPSK       | 1       | 0         | 22.50                 | 22.48                    | 22.50                  | 24                  | 0        |
| 15              | QPSK       | 1       | 37        | 23.43                 | 22.62                    | 22.65                  |                     |          |
| 15              | QPSK       | 1       | 74        | 23.17                 | 23.14                    | 23.24                  |                     |          |
| 15              | QPSK       | 36      | 0         | 22.30                 | 22.33                    | 22.32                  | 23                  | 1        |
| 15              | QPSK       | 36      | 20        | 22.09                 | 22.05                    | 22.06                  |                     |          |
| 15              | QPSK       | 36      | 39        | 21.99                 | 21.89                    | 21.88                  |                     |          |
| 15              | QPSK       | 75      | 0         | 22.11                 | 22.18                    | 22.24                  | 23                  | 1        |
| 15              | 16QAM      | 1       | 0         | 22.43                 | 22.36                    | 22.49                  |                     |          |
| 15              | 16QAM      | 1       | 37        | 21.98                 | 22.14                    | 22.03                  |                     |          |
| 15              | 16QAM      | 1       | 74        | 22.64                 | 22.66                    | 22.73                  | 23                  | 1        |
| 15              | 16QAM      | 36      | 0         | 21.29                 | 21.38                    | 21.33                  |                     |          |
| 15              | 16QAM      | 36      | 20        | 21.07                 | 21.06                    | 21.12                  |                     |          |
| 15              | 16QAM      | 36      | 39        | 21.04                 | 21.00                    | 21.02                  | 23                  | 1        |
| 15              | 16QAM      | 75      | 0         | 21.16                 | 21.20                    | 21.29                  |                     |          |
| 15              | 64QAM      | 1       | 0         | 21.98                 | 22.03                    | 22.14                  |                     |          |
| 15              | 64QAM      | 1       | 37        | 22.13                 | 22.38                    | 22.42                  | 23                  | 1        |
| 15              | 64QAM      | 1       | 74        | 22.62                 | 22.74                    | 22.44                  |                     |          |
| 15              | 64QAM      | 36      | 0         | 21.38                 | 21.51                    | 21.52                  |                     |          |
| 15              | 64QAM      | 36      | 20        | 21.18                 | 21.31                    | 21.23                  | 22                  | 2        |
| 15              | 64QAM      | 36      | 39        | 20.98                 | 21.18                    | 21.12                  |                     |          |
| 15              | 64QAM      | 75      | 0         | 21.17                 | 21.32                    | 21.46                  |                     |          |
| Channel         |            |         |           | 26740                 | 26865                    | 26990                  |                     |          |
| Frequency (MHz) |            |         |           | 819                   | 831.5                    | 844                    |                     |          |
| 10              | QPSK       | 1       | 0         | 22.56                 | 22.54                    | 22.70                  | 24                  | 0        |
| 10              | QPSK       | 1       | 25        | 22.60                 | 22.89                    | 22.74                  |                     |          |
| 10              | QPSK       | 1       | 49        | 23.06                 | 23.17                    | 23.15                  |                     |          |
| 10              | QPSK       | 25      | 0         | 22.08                 | 22.18                    | 22.24                  | 23                  | 1        |
| 10              | QPSK       | 25      | 12        | 22.06                 | 22.28                    | 22.16                  |                     |          |
| 10              | QPSK       | 25      | 25        | 22.17                 | 22.28                    | 22.36                  |                     |          |
| 10              | QPSK       | 50      | 0         | 22.14                 | 22.28                    | 22.25                  | 23                  | 1        |
| 10              | 16QAM      | 1       | 0         | 22.56                 | 22.54                    | 22.68                  |                     |          |
| 10              | 16QAM      | 1       | 25        | 22.14                 | 22.42                    | 22.34                  |                     |          |
| 10              | 16QAM      | 1       | 49        | 22.57                 | 22.55                    | 22.54                  | 23                  | 1        |
| 10              | 16QAM      | 25      | 0         | 21.12                 | 21.20                    | 21.28                  |                     |          |
| 10              | 16QAM      | 25      | 12        | 21.07                 | 21.30                    | 21.19                  |                     |          |
| 10              | 16QAM      | 25      | 25        | 21.20                 | 21.26                    | 21.28                  | 23                  | 1        |
| 10              | 16QAM      | 50      | 0         | 21.24                 | 21.31                    | 21.37                  |                     |          |
| 10              | 64QAM      | 1       | 0         | 22.21                 | 22.13                    | 22.15                  |                     |          |
| 10              | 64QAM      | 1       | 25        | 22.37                 | 22.57                    | 22.49                  | 23                  | 1        |
| 10              | 64QAM      | 1       | 49        | 22.62                 | 22.73                    | 22.57                  |                     |          |
| 10              | 64QAM      | 25      | 0         | 21.37                 | 21.41                    | 21.49                  |                     |          |
| 10              | 64QAM      | 25      | 12        | 21.29                 | 21.48                    | 21.39                  | 22                  | 2        |
| 10              | 64QAM      | 25      | 25        | 21.37                 | 21.46                    | 21.45                  |                     |          |
| 10              | 64QAM      | 50      | 0         | 21.28                 | 21.46                    | 21.52                  |                     |          |



| Channel         |       |    |    | 26715 | 26865 | 27015 | Tune-up limit<br>(dBm) | MPR<br>(dB) |    |   |
|-----------------|-------|----|----|-------|-------|-------|------------------------|-------------|----|---|
| Frequency (MHz) |       |    |    | 816.5 | 831.5 | 846.5 |                        |             |    |   |
| 5               | QPSK  | 1  | 0  | 22.23 | 22.42 | 22.38 | 24                     | 0           |    |   |
| 5               | QPSK  | 1  | 12 | 22.58 | 22.86 | 22.78 |                        |             |    |   |
| 5               | QPSK  | 1  | 24 | 22.70 | 22.86 | 22.81 |                        |             |    |   |
| 5               | QPSK  | 12 | 0  | 22.10 | 22.25 | 22.30 | 23                     | 1           |    |   |
| 5               | QPSK  | 12 | 7  | 22.03 | 22.16 | 22.22 |                        |             |    |   |
| 5               | QPSK  | 12 | 13 | 22.03 | 22.26 | 22.24 |                        |             |    |   |
| 5               | QPSK  | 25 | 0  | 22.06 | 22.25 | 22.29 | 23                     | 1           |    |   |
| 5               | 16QAM | 1  | 0  | 22.29 | 22.42 | 22.39 |                        |             |    |   |
| 5               | 16QAM | 1  | 12 | 22.14 | 22.42 | 22.55 |                        |             |    |   |
| 5               | 16QAM | 1  | 24 | 22.21 | 22.31 | 22.37 | 23                     | 1           |    |   |
| 5               | 16QAM | 12 | 0  | 21.14 | 21.24 | 21.30 |                        |             |    |   |
| 5               | 16QAM | 12 | 7  | 21.06 | 21.18 | 21.23 |                        |             |    |   |
| 5               | 16QAM | 12 | 13 | 21.14 | 21.31 | 21.21 | 23                     | 1           |    |   |
| 5               | 16QAM | 25 | 0  | 21.10 | 21.24 | 21.26 |                        |             |    |   |
| 5               | 64QAM | 1  | 0  | 22.26 | 22.03 | 22.07 | 23                     | 1           |    |   |
| 5               | 64QAM | 1  | 12 | 22.39 | 22.39 | 22.17 |                        |             |    |   |
| 5               | 64QAM | 1  | 24 | 22.27 | 22.33 | 22.32 |                        |             |    |   |
| 5               | 64QAM | 12 | 0  | 21.26 | 21.22 | 21.26 | 22                     | 2           |    |   |
| 5               | 64QAM | 12 | 7  | 21.21 | 21.18 | 21.18 |                        |             |    |   |
| 5               | 64QAM | 12 | 13 | 21.19 | 21.17 | 21.26 |                        |             |    |   |
| 5               | 64QAM | 25 | 0  | 21.24 | 21.26 | 21.23 | 27025                  | MPR<br>(dB) |    |   |
| Channel         |       |    |    | 26705 | 26865 | 27025 |                        |             |    |   |
| Frequency (MHz) |       |    |    | 815.5 | 831.5 | 847.5 | Tune-up limit<br>(dBm) | MPR<br>(dB) |    |   |
| 3               | QPSK  | 1  | 0  | 22.21 | 22.38 | 22.34 |                        |             | 24 | 0 |
| 3               | QPSK  | 1  | 8  | 22.71 | 22.84 | 22.87 |                        |             |    |   |
| 3               | QPSK  | 1  | 14 | 22.68 | 22.93 | 22.81 |                        |             |    |   |
| 3               | QPSK  | 8  | 0  | 22.07 | 22.16 | 22.16 | 23                     | 1           |    |   |
| 3               | QPSK  | 8  | 4  | 22.03 | 22.23 | 22.24 |                        |             |    |   |
| 3               | QPSK  | 8  | 7  | 22.02 | 22.25 | 22.20 |                        |             |    |   |
| 3               | QPSK  | 15 | 0  | 21.97 | 22.14 | 22.24 | 23                     | 1           |    |   |
| 3               | 16QAM | 1  | 0  | 22.20 | 22.42 | 22.40 |                        |             |    |   |
| 3               | 16QAM | 1  | 8  | 22.26 | 22.48 | 22.39 |                        |             |    |   |
| 3               | 16QAM | 1  | 14 | 22.12 | 22.36 | 22.41 | 23                     | 1           |    |   |
| 3               | 16QAM | 8  | 0  | 21.17 | 21.22 | 21.26 |                        |             |    |   |
| 3               | 16QAM | 8  | 4  | 21.12 | 21.31 | 21.30 |                        |             |    |   |
| 3               | 16QAM | 8  | 7  | 21.12 | 21.28 | 21.27 | 23                     | 1           |    |   |
| 3               | 16QAM | 15 | 0  | 21.06 | 21.17 | 21.21 |                        |             |    |   |
| 3               | 64QAM | 1  | 0  | 22.17 | 22.09 | 21.98 | 23                     | 1           |    |   |
| 3               | 64QAM | 1  | 8  | 22.37 | 22.35 | 22.24 |                        |             |    |   |
| 3               | 64QAM | 1  | 14 | 22.33 | 22.29 | 22.22 |                        |             |    |   |
| 3               | 64QAM | 8  | 0  | 21.28 | 21.30 | 21.17 | 22                     | 2           |    |   |
| 3               | 64QAM | 8  | 4  | 21.22 | 21.18 | 21.25 |                        |             |    |   |
| 3               | 64QAM | 8  | 7  | 21.24 | 21.11 | 21.27 |                        |             |    |   |
| 3               | 64QAM | 15 | 0  | 21.25 | 21.29 | 21.21 | 27025                  | MPR<br>(dB) |    |   |
| Channel         |       |    |    | 26705 | 26865 | 27025 |                        |             |    |   |
| Frequency (MHz) |       |    |    | 815.5 | 831.5 | 847.5 | Tune-up limit<br>(dBm) | MPR<br>(dB) |    |   |



| Channel         |       |   |   | 26697 | 26865 | 27033 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|---|---|-------|-------|-------|------------------------|-------------|
| Frequency (MHz) |       |   |   | 814.7 | 831.5 | 848.3 |                        |             |
| 1.4             | QPSK  | 1 | 0 | 22.12 | 22.24 | 22.30 | 24                     | 0           |
| 1.4             | QPSK  | 1 | 3 | 22.69 | 22.76 | 22.85 |                        |             |
| 1.4             | QPSK  | 1 | 5 | 22.53 | 22.81 | 22.76 |                        |             |
| 1.4             | QPSK  | 3 | 0 | 22.71 | 22.71 | 22.76 |                        |             |
| 1.4             | QPSK  | 3 | 1 | 22.75 | 22.82 | 22.82 |                        |             |
| 1.4             | QPSK  | 3 | 3 | 22.71 | 22.82 | 22.82 |                        |             |
| 1.4             | QPSK  | 6 | 0 | 22.07 | 22.22 | 22.21 | 23                     | 1           |
| 1.4             | 16QAM | 1 | 0 | 22.23 | 22.33 | 22.36 | 23                     | 1           |
| 1.4             | 16QAM | 1 | 3 | 22.20 | 22.43 | 22.46 |                        |             |
| 1.4             | 16QAM | 1 | 5 | 22.17 | 22.51 | 22.30 |                        |             |
| 1.4             | 16QAM | 3 | 0 | 21.99 | 22.09 | 22.13 |                        |             |
| 1.4             | 16QAM | 3 | 1 | 22.08 | 22.18 | 22.17 |                        |             |
| 1.4             | 16QAM | 3 | 3 | 22.02 | 22.12 | 22.12 |                        |             |
| 1.4             | 16QAM | 6 | 0 | 21.20 | 21.34 | 21.24 | 23                     | 1           |
| 1.4             | 64QAM | 1 | 0 | 22.22 | 22.01 | 22.14 | 23                     | 1           |
| 1.4             | 64QAM | 1 | 3 | 22.44 | 22.31 | 22.07 |                        |             |
| 1.4             | 64QAM | 1 | 5 | 22.34 | 22.40 | 22.36 |                        |             |
| 1.4             | 64QAM | 3 | 0 | 21.33 | 21.32 | 21.21 |                        |             |
| 1.4             | 64QAM | 3 | 1 | 21.30 | 21.10 | 21.24 |                        |             |
| 1.4             | 64QAM | 3 | 3 | 21.22 | 21.09 | 21.36 |                        |             |
| 1.4             | 64QAM | 6 | 0 | 21.30 | 21.28 | 21.31 | 22                     | 2           |



**<LTE Band 66>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|--------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 132072                | 132322                   | 132572                 |                     |          |
| Frequency (MHz) |            |         |           | 1720                  | 1745                     | 1770                   |                     |          |
| 20              | QPSK       | 1       | 0         | 22.67                 | 22.66                    | 22.82                  | 24                  | 0        |
| 20              | QPSK       | 1       | 49        | 22.84                 | 22.96                    | 23.01                  |                     |          |
| 20              | QPSK       | 1       | 99        | 23.53                 | 23.54                    | 23.63                  |                     |          |
| 20              | QPSK       | 50      | 0         | 22.07                 | 22.03                    | 22.08                  | 23                  | 1        |
| 20              | QPSK       | 50      | 24        | 22.03                 | 22.05                    | 22.14                  |                     |          |
| 20              | QPSK       | 50      | 50        | 22.04                 | 22.05                    | 22.27                  |                     |          |
| 20              | QPSK       | 100     | 0         | 22.03                 | 22.11                    | 22.10                  | 23                  | 1        |
| 20              | 16QAM      | 1       | 0         | 22.18                 | 22.44                    | 22.33                  |                     |          |
| 20              | 16QAM      | 1       | 49        | 22.35                 | 22.39                    | 22.41                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 22.77                 | 22.91                    | 22.79                  | 23                  | 1        |
| 20              | 16QAM      | 50      | 0         | 21.06                 | 21.03                    | 21.09                  |                     |          |
| 20              | 16QAM      | 50      | 24        | 21.00                 | 21.07                    | 21.13                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 21.20                 | 21.09                    | 21.23                  | 23                  | 1        |
| 20              | 16QAM      | 100     | 0         | 21.05                 | 21.09                    | 21.17                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 22.05                 | 22.22                    | 21.94                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 22.21                 | 22.21                    | 22.30                  | 23                  | 1        |
| 20              | 64QAM      | 1       | 99        | 22.61                 | 22.71                    | 22.81                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 21.08                 | 21.11                    | 21.12                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 21.07                 | 21.12                    | 21.20                  | 22                  | 2        |
| 20              | 64QAM      | 50      | 50        | 21.14                 | 21.21                    | 21.27                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 21.11                 | 21.14                    | 21.24                  |                     |          |
| Channel         |            |         |           | 132047                | 132322                   | 132597                 | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 1717.5                | 1745                     | 1772.5                 |                     |          |
| 15              | QPSK       | 1       | 0         | 22.88                 | 22.98                    | 23.19                  | 24                  | 0        |
| 15              | QPSK       | 1       | 37        | 23.12                 | 22.92                    | 23.23                  |                     |          |
| 15              | QPSK       | 1       | 74        | 23.22                 | 23.31                    | 23.26                  |                     |          |
| 15              | QPSK       | 36      | 0         | 22.10                 | 22.10                    | 22.19                  | 23                  | 1        |
| 15              | QPSK       | 36      | 20        | 22.04                 | 22.01                    | 22.06                  |                     |          |
| 15              | QPSK       | 36      | 39        | 21.91                 | 21.99                    | 22.10                  |                     |          |
| 15              | QPSK       | 75      | 0         | 21.94                 | 22.06                    | 22.13                  | 23                  | 1        |
| 15              | 16QAM      | 1       | 0         | 22.49                 | 22.64                    | 22.70                  |                     |          |
| 15              | 16QAM      | 1       | 37        | 22.29                 | 22.50                    | 22.51                  |                     |          |
| 15              | 16QAM      | 1       | 74        | 22.58                 | 22.65                    | 22.66                  | 23                  | 1        |
| 15              | 16QAM      | 36      | 0         | 21.06                 | 21.11                    | 21.27                  |                     |          |
| 15              | 16QAM      | 36      | 20        | 21.05                 | 21.06                    | 21.12                  |                     |          |
| 15              | 16QAM      | 36      | 39        | 21.09                 | 21.17                    | 21.07                  | 23                  | 1        |
| 15              | 16QAM      | 75      | 0         | 21.13                 | 21.07                    | 21.13                  |                     |          |
| 15              | 64QAM      | 1       | 0         | 22.07                 | 22.26                    | 22.07                  |                     |          |
| 15              | 64QAM      | 1       | 37        | 22.30                 | 22.47                    | 22.59                  | 23                  | 1        |
| 15              | 64QAM      | 1       | 74        | 22.50                 | 22.54                    | 22.82                  |                     |          |
| 15              | 64QAM      | 36      | 0         | 21.13                 | 21.10                    | 21.25                  |                     |          |
| 15              | 64QAM      | 36      | 20        | 21.07                 | 21.08                    | 21.12                  | 22                  | 2        |
| 15              | 64QAM      | 36      | 39        | 20.88                 | 21.01                    | 21.19                  |                     |          |
| 15              | 64QAM      | 75      | 0         | 21.01                 | 21.19                    | 21.13                  |                     |          |



| Channel         |       |    |    | 132022 | 132322 | 132622 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|--------|--------|------------------------|-------------|
| Frequency (MHz) |       |    |    | 1715   | 1745   | 1775   |                        |             |
| 10              | QPSK  | 1  | 0  | 22.32  | 22.34  | 22.31  | 24                     | 0           |
| 10              | QPSK  | 1  | 25 | 23.12  | 23.02  | 23.20  |                        |             |
| 10              | QPSK  | 1  | 49 | 23.30  | 23.29  | 23.28  |                        |             |
| 10              | QPSK  | 25 | 0  | 21.96  | 22.06  | 22.03  | 23                     | 1           |
| 10              | QPSK  | 25 | 12 | 22.14  | 22.11  | 22.30  |                        |             |
| 10              | QPSK  | 25 | 25 | 22.13  | 22.11  | 22.18  |                        |             |
| 10              | QPSK  | 50 | 0  | 22.09  | 22.08  | 22.18  | 23                     | 1           |
| 10              | 16QAM | 1  | 0  | 21.90  | 21.91  | 21.93  |                        |             |
| 10              | 16QAM | 1  | 25 | 22.25  | 22.40  | 22.50  |                        |             |
| 10              | 16QAM | 1  | 49 | 22.72  | 22.82  | 22.88  | 23                     | 1           |
| 10              | 16QAM | 25 | 0  | 21.02  | 21.07  | 21.09  |                        |             |
| 10              | 16QAM | 25 | 12 | 21.12  | 21.17  | 21.21  |                        |             |
| 10              | 16QAM | 25 | 25 | 21.13  | 21.21  | 21.20  | 23                     | 1           |
| 10              | 16QAM | 50 | 0  | 21.13  | 21.07  | 21.26  |                        |             |
| 10              | 64QAM | 1  | 0  | 22.29  | 22.33  | 22.15  |                        |             |
| 10              | 64QAM | 1  | 25 | 22.27  | 22.18  | 22.43  | 23                     | 1           |
| 10              | 64QAM | 1  | 49 | 22.32  | 22.26  | 22.38  |                        |             |
| 10              | 64QAM | 25 | 0  | 21.17  | 21.09  | 21.29  |                        |             |
| 10              | 64QAM | 25 | 12 | 21.22  | 21.16  | 21.11  | 22                     | 2           |
| 10              | 64QAM | 25 | 25 | 21.11  | 21.07  | 21.11  |                        |             |
| 10              | 64QAM | 50 | 0  | 21.16  | 21.18  | 21.25  |                        |             |
| Channel         |       |    |    | 21.18  | 21.19  | 21.24  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1712.5 | 1745   | 1777.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 22.78  | 22.80  | 22.85  | 24                     | 0           |
| 5               | QPSK  | 1  | 12 | 23.00  | 22.99  | 23.15  |                        |             |
| 5               | QPSK  | 1  | 24 | 23.05  | 23.04  | 23.11  |                        |             |
| 5               | QPSK  | 12 | 0  | 22.09  | 22.09  | 22.24  | 23                     | 1           |
| 5               | QPSK  | 12 | 7  | 22.00  | 22.07  | 22.15  |                        |             |
| 5               | QPSK  | 12 | 13 | 22.04  | 22.06  | 22.09  |                        |             |
| 5               | QPSK  | 25 | 0  | 22.04  | 22.14  | 22.21  | 23                     | 1           |
| 5               | 16QAM | 1  | 0  | 22.37  | 22.60  | 22.69  |                        |             |
| 5               | 16QAM | 1  | 12 | 22.24  | 22.27  | 22.29  |                        |             |
| 5               | 16QAM | 1  | 24 | 22.32  | 22.33  | 22.44  | 23                     | 1           |
| 5               | 16QAM | 12 | 0  | 21.12  | 21.16  | 21.23  |                        |             |
| 5               | 16QAM | 12 | 7  | 21.03  | 21.15  | 21.18  |                        |             |
| 5               | 16QAM | 12 | 13 | 21.07  | 21.10  | 21.15  | 23                     | 1           |
| 5               | 16QAM | 25 | 0  | 21.05  | 21.17  | 21.12  |                        |             |
| 5               | 64QAM | 1  | 0  | 22.28  | 22.36  | 22.23  |                        |             |
| 5               | 64QAM | 1  | 12 | 22.25  | 22.22  | 22.33  | 23                     | 1           |
| 5               | 64QAM | 1  | 24 | 22.32  | 22.29  | 22.30  |                        |             |
| 5               | 64QAM | 12 | 0  | 21.13  | 21.18  | 21.27  |                        |             |
| 5               | 64QAM | 12 | 7  | 21.12  | 21.20  | 21.21  | 22                     | 2           |
| 5               | 64QAM | 12 | 13 | 21.09  | 21.14  | 21.18  |                        |             |
| 5               | 64QAM | 25 | 0  | 21.07  | 21.20  | 21.24  |                        |             |



# FCC SAR Test Report

Report No. : FA7D2018

| Channel         |       |    |    | 131987 | 132322 | 132657 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|--------|--------|------------------------|-------------|
| Frequency (MHz) |       |    |    | 1711.5 | 1745   | 1778.5 |                        |             |
| 3               | QPSK  | 1  | 0  | 22.70  | 22.72  | 22.72  | 24                     | 0           |
| 3               | QPSK  | 1  | 8  | 23.13  | 23.05  | 23.12  |                        |             |
| 3               | QPSK  | 1  | 14 | 23.00  | 22.97  | 23.02  |                        |             |
| 3               | QPSK  | 8  | 0  | 22.03  | 22.08  | 22.18  | 23                     | 1           |
| 3               | QPSK  | 8  | 4  | 22.08  | 22.09  | 22.11  |                        |             |
| 3               | QPSK  | 8  | 7  | 22.06  | 22.01  | 22.11  |                        |             |
| 3               | QPSK  | 15 | 0  | 22.04  | 22.08  | 22.16  |                        |             |
| 3               | 16QAM | 1  | 0  | 22.35  | 22.53  | 22.53  | 23                     | 1           |
| 3               | 16QAM | 1  | 8  | 22.29  | 22.45  | 22.47  |                        |             |
| 3               | 16QAM | 1  | 14 | 22.35  | 22.48  | 22.37  |                        |             |
| 3               | 16QAM | 8  | 0  | 21.10  | 21.17  | 21.24  | 23                     | 1           |
| 3               | 16QAM | 8  | 4  | 21.10  | 21.12  | 21.19  |                        |             |
| 3               | 16QAM | 8  | 7  | 21.11  | 21.13  | 21.09  |                        |             |
| 3               | 16QAM | 15 | 0  | 21.03  | 21.06  | 21.14  |                        |             |
| 3               | 64QAM | 1  | 0  | 22.35  | 22.39  | 22.14  | 23                     | 1           |
| 3               | 64QAM | 1  | 8  | 22.19  | 22.14  | 22.34  |                        |             |
| 3               | 64QAM | 1  | 14 | 22.39  | 22.21  | 22.27  |                        |             |
| 3               | 64QAM | 8  | 0  | 21.21  | 21.28  | 21.18  | 22                     | 2           |
| 3               | 64QAM | 8  | 4  | 21.14  | 21.15  | 21.19  |                        |             |
| 3               | 64QAM | 8  | 7  | 21.19  | 21.13  | 21.09  |                        |             |
| 3               | 64QAM | 15 | 0  | 21.03  | 21.21  | 21.34  |                        |             |
| Channel         |       |    |    | 131979 | 132322 | 132665 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1710.7 | 1745   | 1779.3 |                        |             |
| 1.4             | QPSK  | 1  | 0  | 22.63  | 22.67  | 22.74  | 24                     | 0           |
| 1.4             | QPSK  | 1  | 3  | 22.98  | 23.14  | 23.12  |                        |             |
| 1.4             | QPSK  | 1  | 5  | 23.02  | 22.96  | 23.00  |                        |             |
| 1.4             | QPSK  | 3  | 0  | 22.97  | 23.06  | 23.11  |                        |             |
| 1.4             | QPSK  | 3  | 1  | 23.04  | 23.10  | 23.14  |                        |             |
| 1.4             | QPSK  | 3  | 3  | 23.05  | 23.03  | 23.11  |                        |             |
| 1.4             | QPSK  | 6  | 0  | 21.98  | 22.06  | 22.08  | 23                     | 1           |
| 1.4             | 16QAM | 1  | 0  | 22.27  | 22.27  | 22.50  | 23                     | 1           |
| 1.4             | 16QAM | 1  | 3  | 22.17  | 22.28  | 22.50  |                        |             |
| 1.4             | 16QAM | 1  | 5  | 22.43  | 22.31  | 22.36  |                        |             |
| 1.4             | 16QAM | 3  | 0  | 22.02  | 22.03  | 22.08  |                        |             |
| 1.4             | 16QAM | 3  | 1  | 22.02  | 22.12  | 22.15  |                        |             |
| 1.4             | 16QAM | 3  | 3  | 21.98  | 22.03  | 22.04  |                        |             |
| 1.4             | 16QAM | 6  | 0  | 21.08  | 21.14  | 21.11  | 23                     | 1           |
| 1.4             | 64QAM | 1  | 0  | 22.36  | 22.45  | 22.23  | 23                     | 1           |
| 1.4             | 64QAM | 1  | 3  | 22.24  | 22.21  | 22.38  |                        |             |
| 1.4             | 64QAM | 1  | 5  | 22.22  | 22.34  | 22.37  |                        |             |
| 1.4             | 64QAM | 3  | 0  | 21.18  | 21.24  | 21.36  |                        |             |
| 1.4             | 64QAM | 3  | 1  | 21.17  | 21.13  | 21.25  |                        |             |
| 1.4             | 64QAM | 3  | 3  | 21.12  | 21.11  | 21.14  |                        |             |
| 1.4             | 64QAM | 6  | 0  | 21.11  | 21.27  | 21.24  | 22                     | 2           |

SPORTON INTERNATIONAL INC.

TEL : 886-3-327-3456 / FAX : 886-3-328-4978

FCC ID : IHDT56XC2

Issued Date : Mar. 23, 2018

Form version. : 170509



**<LTE Band 71>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|--------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 133222                | 133322                   | 133372                 |                     |          |
| Frequency (MHz) |            |         |           | 673                   | 683                      | 688                    |                     |          |
| 20              | QPSK       | 1       | 0         | 22.55                 | 22.47                    | 22.48                  | 24                  | 0        |
| 20              | QPSK       | 1       | 49        | 22.98                 | 22.88                    | 23.24                  |                     |          |
| 20              | QPSK       | 1       | 99        | 22.89                 | 22.74                    | 22.84                  |                     |          |
| 20              | QPSK       | 50      | 0         | 22.05                 | 21.79                    | 21.75                  | 23                  | 1        |
| 20              | QPSK       | 50      | 24        | 22.22                 | 22.10                    | 22.03                  |                     |          |
| 20              | QPSK       | 50      | 50        | 22.09                 | 21.97                    | 21.98                  |                     |          |
| 20              | QPSK       | 100     | 0         | 22.17                 | 21.87                    | 21.92                  | 23                  | 1        |
| 20              | 16QAM      | 1       | 0         | 21.22                 | 21.07                    | 21.05                  |                     |          |
| 20              | 16QAM      | 1       | 49        | 22.01                 | 21.67                    | 21.95                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 21.61                 | 21.38                    | 21.51                  | 23                  | 1        |
| 20              | 16QAM      | 50      | 0         | 21.12                 | 21.23                    | 21.29                  |                     |          |
| 20              | 16QAM      | 50      | 24        | 21.07                 | 21.14                    | 21.12                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 21.00                 | 21.15                    | 21.09                  | 23                  | 1        |
| 20              | 16QAM      | 100     | 0         | 21.31                 | 21.12                    | 21.31                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 21.57                 | 21.53                    | 21.34                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 21.76                 | 21.48                    | 21.52                  | 23                  | 1        |
| 20              | 64QAM      | 1       | 99        | 21.87                 | 21.31                    | 21.51                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 20.66                 | 20.47                    | 20.19                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 20.71                 | 20.32                    | 20.41                  | 22                  | 2        |
| 20              | 64QAM      | 50      | 50        | 20.80                 | 20.38                    | 20.39                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 20.52                 | 20.34                    | 20.22                  |                     |          |
| Channel         |            |         |           | 133197                | 133297                   | 133397                 |                     |          |
| Frequency (MHz) |            |         |           | 670.5                 | 680.5                    | 690.5                  |                     |          |
| 15              | QPSK       | 1       | 0         | 22.63                 | 22.50                    | 22.38                  | 24                  | 0        |
| 15              | QPSK       | 1       | 37        | 22.72                 | 22.64                    | 22.64                  |                     |          |
| 15              | QPSK       | 1       | 74        | 22.75                 | 22.53                    | 22.52                  |                     |          |
| 15              | QPSK       | 36      | 0         | 21.84                 | 21.73                    | 21.55                  | 23                  | 1        |
| 15              | QPSK       | 36      | 20        | 21.92                 | 21.67                    | 21.70                  |                     |          |
| 15              | QPSK       | 36      | 39        | 21.76                 | 21.60                    | 21.54                  |                     |          |
| 15              | QPSK       | 75      | 0         | 21.82                 | 21.56                    | 21.56                  | 23                  | 1        |
| 15              | 16QAM      | 1       | 0         | 21.85                 | 21.70                    | 21.67                  |                     |          |
| 15              | 16QAM      | 1       | 37        | 22.29                 | 21.59                    | 21.82                  |                     |          |
| 15              | 16QAM      | 1       | 74        | 21.82                 | 21.76                    | 21.79                  | 23                  | 1        |
| 15              | 16QAM      | 36      | 0         | 21.25                 | 21.16                    | 21.19                  |                     |          |
| 15              | 16QAM      | 36      | 20        | 21.19                 | 21.11                    | 21.10                  |                     |          |
| 15              | 16QAM      | 36      | 39        | 21.00                 | 21.25                    | 21.26                  | 23                  | 1        |
| 15              | 16QAM      | 75      | 0         | 21.23                 | 21.22                    | 21.26                  |                     |          |
| 15              | 64QAM      | 1       | 0         | 21.62                 | 21.56                    | 21.41                  |                     |          |
| 15              | 64QAM      | 1       | 37        | 21.80                 | 21.52                    | 21.40                  | 23                  | 1        |
| 15              | 64QAM      | 1       | 74        | 21.92                 | 21.41                    | 21.43                  |                     |          |
| 15              | 64QAM      | 36      | 0         | 20.66                 | 20.32                    | 20.37                  |                     |          |
| 15              | 64QAM      | 36      | 20        | 20.62                 | 20.45                    | 20.38                  | 22                  | 2        |
| 15              | 64QAM      | 36      | 39        | 20.71                 | 20.47                    | 20.37                  |                     |          |
| 15              | 64QAM      | 75      | 0         | 20.60                 | 20.30                    | 20.31                  |                     |          |



# FCC SAR Test Report

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| Channel         |       |    |    | 133172 | 133272 | 133422 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|--------|--------|------------------------|-------------|
| Frequency (MHz) |       |    |    | 668    | 678    | 693    |                        |             |
| 10              | QPSK  | 1  | 0  | 22.46  | 22.31  | 22.31  | 24                     | 0           |
| 10              | QPSK  | 1  | 25 | 22.85  | 22.97  | 22.78  |                        |             |
| 10              | QPSK  | 1  | 49 | 22.80  | 23.17  | 23.13  |                        |             |
| 10              | QPSK  | 25 | 0  | 21.97  | 21.77  | 21.71  | 23                     | 1           |
| 10              | QPSK  | 25 | 12 | 22.12  | 21.94  | 21.91  |                        |             |
| 10              | QPSK  | 25 | 25 | 22.09  | 22.01  | 22.01  |                        |             |
| 10              | QPSK  | 50 | 0  | 22.17  | 21.88  | 21.88  | 23                     | 1           |
| 10              | 16QAM | 1  | 0  | 21.61  | 21.50  | 21.49  |                        |             |
| 10              | 16QAM | 1  | 25 | 22.48  | 22.16  | 22.06  |                        |             |
| 10              | 16QAM | 1  | 49 | 22.48  | 22.40  | 22.17  | 23                     | 1           |
| 10              | 16QAM | 25 | 0  | 21.24  | 21.20  | 21.32  |                        |             |
| 10              | 16QAM | 25 | 12 | 21.18  | 21.16  | 21.17  |                        |             |
| 10              | 16QAM | 25 | 25 | 21.01  | 21.25  | 21.16  | 23                     | 1           |
| 10              | 16QAM | 50 | 0  | 21.26  | 21.24  | 21.26  |                        |             |
| 10              | 64QAM | 1  | 0  | 21.05  | 21.25  | 21.14  |                        |             |
| 10              | 64QAM | 1  | 25 | 21.93  | 21.15  | 21.15  | 23                     | 1           |
| 10              | 64QAM | 1  | 49 | 21.83  | 21.27  | 21.28  |                        |             |
| 10              | 64QAM | 25 | 0  | 20.42  | 20.14  | 20.10  |                        |             |
| 10              | 64QAM | 25 | 12 | 20.69  | 20.27  | 20.17  | 22                     | 2           |
| 10              | 64QAM | 25 | 25 | 20.73  | 20.34  | 20.20  |                        |             |
| 10              | 64QAM | 50 | 0  | 20.55  | 20.26  | 20.18  |                        |             |
| Channel         |       |    |    | 133147 | 133247 | 133447 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 665.5  | 675.5  | 695.5  |                        |             |
| 5               | QPSK  | 1  | 0  | 22.98  | 22.92  | 22.89  | 24                     | 0           |
| 5               | QPSK  | 1  | 12 | 23.24  | 22.94  | 22.92  |                        |             |
| 5               | QPSK  | 1  | 24 | 23.09  | 22.85  | 22.80  |                        |             |
| 5               | QPSK  | 12 | 0  | 22.16  | 21.92  | 21.99  | 23                     | 1           |
| 5               | QPSK  | 12 | 7  | 22.10  | 22.00  | 21.98  |                        |             |
| 5               | QPSK  | 12 | 13 | 22.01  | 21.95  | 21.85  |                        |             |
| 5               | QPSK  | 25 | 0  | 22.08  | 21.97  | 21.94  | 23                     | 1           |
| 5               | 16QAM | 1  | 0  | 22.36  | 22.29  | 22.18  |                        |             |
| 5               | 16QAM | 1  | 12 | 22.29  | 22.05  | 22.14  |                        |             |
| 5               | 16QAM | 1  | 24 | 22.44  | 22.10  | 22.10  | 23                     | 1           |
| 5               | 16QAM | 12 | 0  | 21.07  | 21.18  | 21.20  |                        |             |
| 5               | 16QAM | 12 | 7  | 21.03  | 21.17  | 21.19  |                        |             |
| 5               | 16QAM | 12 | 13 | 21.05  | 21.16  | 21.20  | 23                     | 1           |
| 5               | 16QAM | 25 | 0  | 21.23  | 21.12  | 21.22  |                        |             |
| 5               | 64QAM | 1  | 0  | 21.61  | 21.56  | 21.39  |                        |             |
| 5               | 64QAM | 1  | 12 | 21.86  | 21.51  | 21.44  | 23                     | 1           |
| 5               | 64QAM | 1  | 24 | 21.85  | 21.39  | 21.45  |                        |             |
| 5               | 64QAM | 12 | 0  | 20.71  | 20.37  | 20.27  |                        |             |
| 5               | 64QAM | 12 | 7  | 20.70  | 20.39  | 20.34  | 22                     | 2           |
| 5               | 64QAM | 12 | 13 | 20.80  | 20.37  | 20.29  |                        |             |
| 5               | 64QAM | 25 | 0  | 20.61  | 20.27  | 20.27  |                        |             |



**<Near-Body and Hotspot Power Mode>**

**<LTE Band 2>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 18700                    | 18900                       | 19100                     |                        |             |
| Frequency (MHz) |            |         |           | 1860                     | 1880                        | 1900                      |                        |             |
| 20              | QPSK       | 1       | 0         | 16.17                    | 16.37                       | 16.50                     | 16.5                   | 0           |
| 20              | QPSK       | 1       | 49        | 15.96                    | 16.19                       | 16.07                     |                        |             |
| 20              | QPSK       | 1       | 99        | 15.89                    | 15.78                       | 15.92                     |                        |             |
| 20              | QPSK       | 50      | 0         | 16.06                    | 16.41                       | 16.37                     | 16.5                   | 0           |
| 20              | QPSK       | 50      | 24        | 16.05                    | 16.35                       | 16.36                     |                        |             |
| 20              | QPSK       | 50      | 50        | 16.02                    | 16.24                       | 16.11                     |                        |             |
| 20              | QPSK       | 100     | 0         | 15.97                    | 16.28                       | 16.14                     |                        |             |
| 20              | 16QAM      | 1       | 0         | 16.36                    | 16.44                       | 16.42                     | 16.5                   | 0           |
| 20              | 16QAM      | 1       | 49        | 16.14                    | 16.22                       | 16.27                     |                        |             |
| 20              | 16QAM      | 1       | 99        | 16.02                    | 16.05                       | 16.13                     |                        |             |
| 20              | 16QAM      | 50      | 0         | 15.06                    | 15.37                       | 15.36                     | 16.5                   | 0           |
| 20              | 16QAM      | 50      | 24        | 15.03                    | 15.40                       | 15.32                     |                        |             |
| 20              | 16QAM      | 50      | 50        | 15.03                    | 15.27                       | 15.15                     |                        |             |
| 20              | 16QAM      | 100     | 0         | 15.01                    | 15.26                       | 15.24                     |                        |             |
| 20              | 64QAM      | 1       | 0         | 15.34                    | 15.53                       | 15.41                     | 16.5                   | 0           |
| 20              | 64QAM      | 1       | 49        | 15.09                    | 15.41                       | 15.36                     |                        |             |
| 20              | 64QAM      | 1       | 99        | 15.08                    | 15.03                       | 15.02                     |                        |             |
| 20              | 64QAM      | 50      | 0         | 14.08                    | 14.43                       | 14.38                     | 14.5                   | 2           |
| 20              | 64QAM      | 50      | 24        | 14.09                    | 14.39                       | 14.40                     |                        |             |
| 20              | 64QAM      | 50      | 50        | 14.03                    | 14.29                       | 14.19                     |                        |             |
| 20              | 64QAM      | 100     | 0         | 14.04                    | 14.25                       | 14.26                     |                        |             |
| Channel         |            |         |           | 18675                    | 18900                       | 19125                     | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 1857.5                   | 1880                        | 1902.5                    |                        |             |
| 15              | QPSK       | 1       | 0         | 16.25                    | 16.48                       | 16.42                     | 16.5                   | 0           |
| 15              | QPSK       | 1       | 37        | 15.87                    | 16.23                       | 15.93                     |                        |             |
| 15              | QPSK       | 1       | 74        | 16.18                    | 16.32                       | 16.48                     |                        |             |
| 15              | QPSK       | 36      | 0         | 16.03                    | 16.23                       | 16.30                     | 16.5                   | 0           |
| 15              | QPSK       | 36      | 20        | 16.07                    | 16.31                       | 16.35                     |                        |             |
| 15              | QPSK       | 36      | 39        | 16.02                    | 16.33                       | 16.17                     |                        |             |
| 15              | QPSK       | 75      | 0         | 16.06                    | 16.22                       | 16.25                     | 16.5                   | 0           |
| 15              | 16QAM      | 1       | 0         | 16.42                    | 16.40                       | 16.48                     |                        |             |
| 15              | 16QAM      | 1       | 37        | 15.99                    | 16.18                       | 16.22                     |                        |             |
| 15              | 16QAM      | 1       | 74        | 16.43                    | 16.41                       | 16.44                     | 16.5                   | 0           |
| 15              | 16QAM      | 36      | 0         | 15.00                    | 15.24                       | 15.34                     |                        |             |
| 15              | 16QAM      | 36      | 20        | 15.04                    | 15.30                       | 15.28                     |                        |             |
| 15              | 16QAM      | 36      | 39        | 15.00                    | 15.35                       | 15.20                     |                        |             |
| 15              | 16QAM      | 75      | 0         | 15.08                    | 15.21                       | 15.25                     | 16.5                   | 0           |
| 15              | 64QAM      | 1       | 0         | 15.40                    | 15.73                       | 15.31                     |                        |             |
| 15              | 64QAM      | 1       | 37        | 15.02                    | 15.49                       | 15.29                     |                        |             |
| 15              | 64QAM      | 1       | 74        | 15.25                    | 15.09                       | 14.92                     | 14.5                   | 2           |
| 15              | 64QAM      | 36      | 0         | 14.00                    | 14.32                       | 14.20                     |                        |             |
| 15              | 64QAM      | 36      | 20        | 13.99                    | 14.50                       | 14.43                     |                        |             |
| 15              | 64QAM      | 36      | 39        | 14.06                    | 14.12                       | 14.20                     |                        |             |
| 15              | 64QAM      | 75      | 0         | 14.24                    | 14.38                       | 14.44                     |                        |             |



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| Channel         |       |    |    | 18650  | 18900 | 19150  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| Frequency (MHz) |       |    |    | 1855   | 1880  | 1905   |                        |             |
| 10              | QPSK  | 1  | 0  | 16.16  | 16.42 | 16.29  | 16.5                   | 0           |
| 10              | QPSK  | 1  | 25 | 16.02  | 16.39 | 16.19  |                        |             |
| 10              | QPSK  | 1  | 49 | 16.12  | 16.29 | 16.27  |                        |             |
| 10              | QPSK  | 25 | 0  | 15.97  | 16.32 | 16.22  | 16.5                   | 0           |
| 10              | QPSK  | 25 | 12 | 15.94  | 16.27 | 16.20  |                        |             |
| 10              | QPSK  | 25 | 25 | 15.96  | 16.23 | 16.13  |                        |             |
| 10              | QPSK  | 50 | 0  | 15.96  | 16.25 | 16.14  |                        |             |
| 10              | 16QAM | 1  | 0  | 16.35  | 16.45 | 16.49  | 16.5                   | 0           |
| 10              | 16QAM | 1  | 25 | 16.25  | 16.45 | 16.39  |                        |             |
| 10              | 16QAM | 1  | 49 | 16.34  | 16.42 | 16.39  |                        |             |
| 10              | 16QAM | 25 | 0  | 15.05  | 15.36 | 15.21  | 16.5                   | 0           |
| 10              | 16QAM | 25 | 12 | 15.03  | 15.32 | 15.21  |                        |             |
| 10              | 16QAM | 25 | 25 | 15.01  | 15.21 | 15.14  |                        |             |
| 10              | 16QAM | 50 | 0  | 15.05  | 15.24 | 15.19  |                        |             |
| 10              | 64QAM | 1  | 0  | 15.40  | 15.57 | 15.56  | 16.5                   | 0           |
| 10              | 64QAM | 1  | 25 | 15.13  | 15.52 | 15.30  |                        |             |
| 10              | 64QAM | 1  | 49 | 15.09  | 15.19 | 15.00  |                        |             |
| 10              | 64QAM | 25 | 0  | 13.94  | 14.49 | 14.29  | 14.5                   | 2           |
| 10              | 64QAM | 25 | 12 | 14.18  | 14.23 | 14.50  |                        |             |
| 10              | 64QAM | 25 | 25 | 14.06  | 14.15 | 14.27  |                        |             |
| 10              | 64QAM | 50 | 0  | 14.08  | 14.12 | 14.46  |                        |             |
| Channel         |       |    |    | 18625  | 18900 | 19175  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1852.5 | 1880  | 1907.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 16.13  | 16.49 | 16.37  | 16.5                   | 0           |
| 5               | QPSK  | 1  | 12 | 16.05  | 16.32 | 16.15  |                        |             |
| 5               | QPSK  | 1  | 24 | 15.94  | 16.25 | 16.16  |                        |             |
| 5               | QPSK  | 12 | 0  | 16.05  | 16.39 | 16.21  | 16.5                   | 0           |
| 5               | QPSK  | 12 | 7  | 15.93  | 16.33 | 16.19  |                        |             |
| 5               | QPSK  | 12 | 13 | 15.95  | 16.21 | 16.14  |                        |             |
| 5               | QPSK  | 25 | 0  | 15.99  | 16.36 | 16.18  |                        |             |
| 5               | 16QAM | 1  | 0  | 16.37  | 16.47 | 16.34  | 16.5                   | 0           |
| 5               | 16QAM | 1  | 12 | 16.17  | 16.42 | 16.49  |                        |             |
| 5               | 16QAM | 1  | 24 | 16.25  | 16.38 | 16.46  |                        |             |
| 5               | 16QAM | 12 | 0  | 15.11  | 15.39 | 15.21  | 16.5                   | 0           |
| 5               | 16QAM | 12 | 7  | 15.09  | 15.31 | 15.18  |                        |             |
| 5               | 16QAM | 12 | 13 | 15.04  | 15.21 | 15.17  |                        |             |
| 5               | 16QAM | 25 | 0  | 15.06  | 15.36 | 15.18  |                        |             |
| 5               | 64QAM | 1  | 0  | 15.44  | 15.64 | 15.32  | 16.5                   | 0           |
| 5               | 64QAM | 1  | 12 | 15.08  | 15.43 | 15.22  |                        |             |
| 5               | 64QAM | 1  | 24 | 15.17  | 15.00 | 15.17  |                        |             |
| 5               | 64QAM | 12 | 0  | 13.99  | 14.28 | 14.33  | 14.5                   | 2           |
| 5               | 64QAM | 12 | 7  | 14.23  | 14.42 | 14.48  |                        |             |
| 5               | 64QAM | 12 | 13 | 14.12  | 14.31 | 14.11  |                        |             |
| 5               | 64QAM | 25 | 0  | 14.22  | 14.12 | 14.11  |                        |             |



# FCC SAR Test Report

Report No. : FA7D2018

| Channel         |       |    |    | 18615  | 18900 | 19185  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| Frequency (MHz) |       |    |    | 1851.5 | 1880  | 1908.5 |                        |             |
| 3               | QPSK  | 1  | 0  | 16.01  | 16.34 | 16.17  | 16.5                   | 0           |
| 3               | QPSK  | 1  | 8  | 16.01  | 16.33 | 16.14  |                        |             |
| 3               | QPSK  | 1  | 14 | 15.99  | 16.19 | 16.12  |                        |             |
| 3               | QPSK  | 8  | 0  | 16.02  | 16.31 | 16.18  | 16.5                   | 0           |
| 3               | QPSK  | 8  | 4  | 16.01  | 16.35 | 16.13  |                        |             |
| 3               | QPSK  | 8  | 7  | 15.95  | 16.29 | 16.13  |                        |             |
| 3               | QPSK  | 15 | 0  | 16.00  | 16.32 | 16.15  |                        |             |
| 3               | 16QAM | 1  | 0  | 16.29  | 16.21 | 16.48  | 16.5                   | 0           |
| 3               | 16QAM | 1  | 8  | 16.35  | 16.44 | 16.35  |                        |             |
| 3               | 16QAM | 1  | 14 | 16.27  | 16.40 | 16.35  |                        |             |
| 3               | 16QAM | 8  | 0  | 15.05  | 15.31 | 15.20  | 16.5                   | 0           |
| 3               | 16QAM | 8  | 4  | 15.07  | 15.36 | 15.19  |                        |             |
| 3               | 16QAM | 8  | 7  | 15.02  | 15.33 | 15.16  |                        |             |
| 3               | 16QAM | 15 | 0  | 15.00  | 15.37 | 15.17  |                        |             |
| 3               | 64QAM | 1  | 0  | 15.23  | 15.53 | 15.21  | 16.5                   | 0           |
| 3               | 64QAM | 1  | 8  | 15.29  | 15.36 | 15.56  |                        |             |
| 3               | 64QAM | 1  | 14 | 15.05  | 15.18 | 15.05  |                        |             |
| 3               | 64QAM | 8  | 0  | 14.01  | 14.26 | 14.35  | 14.5                   | 2           |
| 3               | 64QAM | 8  | 4  | 14.26  | 14.46 | 14.50  |                        |             |
| 3               | 64QAM | 8  | 7  | 14.01  | 14.23 | 14.08  |                        |             |
| 3               | 64QAM | 15 | 0  | 14.19  | 14.42 | 14.15  |                        |             |
| Channel         |       |    |    | 18607  | 18900 | 19193  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1850.7 | 1880  | 1909.3 |                        |             |
| 1.4             | QPSK  | 1  | 0  | 15.96  | 16.30 | 16.05  | 16.5                   | 0           |
| 1.4             | QPSK  | 1  | 3  | 16.00  | 16.23 | 16.03  |                        |             |
| 1.4             | QPSK  | 1  | 5  | 15.95  | 16.22 | 16.09  |                        |             |
| 1.4             | QPSK  | 3  | 0  | 15.97  | 16.26 | 16.06  |                        |             |
| 1.4             | QPSK  | 3  | 1  | 16.00  | 16.29 | 16.12  |                        |             |
| 1.4             | QPSK  | 3  | 3  | 15.99  | 16.28 | 16.08  |                        |             |
| 1.4             | QPSK  | 6  | 0  | 15.95  | 16.27 | 16.05  | 16.5                   | 0           |
| 1.4             | 16QAM | 1  | 0  | 16.30  | 16.42 | 16.30  | 16.5                   | 0           |
| 1.4             | 16QAM | 1  | 3  | 16.32  | 16.31 | 16.34  |                        |             |
| 1.4             | 16QAM | 1  | 5  | 16.21  | 16.46 | 16.29  |                        |             |
| 1.4             | 16QAM | 3  | 0  | 15.99  | 16.30 | 16.12  |                        |             |
| 1.4             | 16QAM | 3  | 1  | 16.05  | 16.32 | 16.12  |                        |             |
| 1.4             | 16QAM | 3  | 3  | 15.95  | 16.24 | 16.10  |                        |             |
| 1.4             | 16QAM | 6  | 0  | 15.09  | 15.42 | 15.20  | 16.5                   | 0           |
| 1.4             | 64QAM | 1  | 0  | 15.42  | 15.73 | 15.43  | 16.5                   | 0           |
| 1.4             | 64QAM | 1  | 3  | 14.89  | 15.28 | 15.29  |                        |             |
| 1.4             | 64QAM | 1  | 5  | 14.90  | 14.83 | 14.84  |                        |             |
| 1.4             | 64QAM | 3  | 0  | 14.50  | 14.61 | 14.75  |                        |             |
| 1.4             | 64QAM | 3  | 1  | 14.54  | 14.57 | 14.69  |                        |             |
| 1.4             | 64QAM | 3  | 3  | 14.53  | 14.64 | 14.55  |                        |             |
| 1.4             | 64QAM | 6  | 0  | 14.02  | 14.15 | 14.35  | 14.5                   | 2           |



**<LTE Band 4>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|--------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 20050                 | 20175                    | 20300                  |                     |          |
| Frequency (MHz) |            |         |           | 1720                  | 1732.5                   | 1745                   |                     |          |
| 20              | QPSK       | 1       | 0         | 15.62                 | 15.70                    | 15.88                  | 16.5                | 0        |
| 20              | QPSK       | 1       | 49        | 15.65                 | 15.74                    | 15.91                  |                     |          |
| 20              | QPSK       | 1       | 99        | 15.59                 | 15.79                    | 16.00                  |                     |          |
| 20              | QPSK       | 50      | 0         | 15.76                 | 15.81                    | 15.88                  | 16.5                | 0        |
| 20              | QPSK       | 50      | 24        | 15.77                 | 15.68                    | 16.01                  |                     |          |
| 20              | QPSK       | 50      | 50        | 15.63                 | 15.67                    | 16.01                  |                     |          |
| 20              | QPSK       | 100     | 0         | 15.64                 | 15.76                    | 15.91                  | 16.5                | 0        |
| 20              | 16QAM      | 1       | 0         | 15.88                 | 15.87                    | 15.97                  |                     |          |
| 20              | 16QAM      | 1       | 49        | 15.79                 | 15.89                    | 16.08                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 15.91                 | 16.06                    | 16.21                  | 16.5                | 0        |
| 20              | 16QAM      | 50      | 0         | 15.26                 | 15.33                    | 15.38                  |                     |          |
| 20              | 16QAM      | 50      | 24        | 15.27                 | 15.20                    | 15.49                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 15.14                 | 15.20                    | 15.55                  | 16.5                | 0        |
| 20              | 16QAM      | 100     | 0         | 15.14                 | 15.26                    | 15.45                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 15.34                 | 15.39                    | 15.41                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 15.30                 | 15.34                    | 15.66                  | 16.5                | 0        |
| 20              | 64QAM      | 1       | 99        | 15.31                 | 15.49                    | 15.68                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 14.31                 | 14.34                    | 14.43                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 14.31                 | 14.27                    | 14.50                  | 14.5                | 2        |
| 20              | 64QAM      | 50      | 50        | 14.21                 | 14.27                    | 14.48                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 14.22                 | 14.27                    | 14.47                  |                     |          |
| Channel         |            |         |           | 20025                 | 20175                    | 20325                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 1717.5                | 1732.5                   | 1747.5                 |                     |          |
| 15              | QPSK       | 1       | 0         | 15.87                 | 15.94                    | 16.09                  | 16.5                | 0        |
| 15              | QPSK       | 1       | 37        | 15.77                 | 15.90                    | 15.83                  |                     |          |
| 15              | QPSK       | 1       | 74        | 15.64                 | 15.68                    | 16.04                  |                     |          |
| 15              | QPSK       | 36      | 0         | 15.76                 | 15.85                    | 16.03                  | 16.5                | 0        |
| 15              | QPSK       | 36      | 20        | 15.75                 | 15.84                    | 16.11                  |                     |          |
| 15              | QPSK       | 36      | 39        | 15.72                 | 15.79                    | 15.99                  |                     |          |
| 15              | QPSK       | 75      | 0         | 15.75                 | 15.79                    | 16.06                  | 16.5                | 0        |
| 15              | 16QAM      | 1       | 0         | 15.99                 | 16.11                    | 16.31                  |                     |          |
| 15              | 16QAM      | 1       | 37        | 15.85                 | 15.80                    | 16.18                  |                     |          |
| 15              | 16QAM      | 1       | 74        | 15.94                 | 16.00                    | 16.29                  | 16.5                | 0        |
| 15              | 16QAM      | 36      | 0         | 15.28                 | 15.35                    | 15.56                  |                     |          |
| 15              | 16QAM      | 36      | 20        | 15.25                 | 15.35                    | 15.64                  |                     |          |
| 15              | 16QAM      | 36      | 39        | 15.24                 | 15.24                    | 15.48                  | 16.5                | 0        |
| 15              | 16QAM      | 75      | 0         | 15.26                 | 15.29                    | 15.53                  |                     |          |
| 15              | 64QAM      | 1       | 0         | 15.38                 | 15.43                    | 15.51                  |                     |          |
| 15              | 64QAM      | 1       | 37        | 15.26                 | 15.54                    | 15.82                  | 16.5                | 0        |
| 15              | 64QAM      | 1       | 74        | 15.18                 | 15.32                    | 15.55                  |                     |          |
| 15              | 64QAM      | 36      | 0         | 14.21                 | 14.47                    | 14.44                  |                     |          |
| 15              | 64QAM      | 36      | 20        | 14.44                 | 14.44                    | 14.42                  | 14.5                | 2        |
| 15              | 64QAM      | 36      | 39        | 14.12                 | 14.14                    | 14.41                  |                     |          |
| 15              | 64QAM      | 75      | 0         | 14.10                 | 14.16                    | 14.34                  |                     |          |



# FCC SAR Test Report

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| Channel         |       |    |    | 20000  | 20175  | 20350  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|--------|--------|------------------------|-------------|
| Frequency (MHz) |       |    |    | 1715   | 1732.5 | 1750   |                        |             |
| 10              | QPSK  | 1  | 0  | 16.06  | 16.12  | 16.29  | 16.5                   | 0           |
| 10              | QPSK  | 1  | 25 | 15.79  | 15.81  | 16.06  |                        |             |
| 10              | QPSK  | 1  | 49 | 16.14  | 16.21  | 16.34  |                        |             |
| 10              | QPSK  | 25 | 0  | 15.88  | 15.90  | 15.99  | 16.5                   | 0           |
| 10              | QPSK  | 25 | 12 | 15.80  | 15.80  | 16.14  |                        |             |
| 10              | QPSK  | 25 | 25 | 15.87  | 15.90  | 16.21  |                        |             |
| 10              | QPSK  | 50 | 0  | 15.88  | 15.83  | 16.17  |                        |             |
| 10              | 16QAM | 1  | 0  | 16.31  | 16.35  | 16.44  | 16.5                   | 0           |
| 10              | 16QAM | 1  | 25 | 16.01  | 16.09  | 16.32  |                        |             |
| 10              | 16QAM | 1  | 49 | 16.43  | 16.50  | 16.42  |                        |             |
| 10              | 16QAM | 25 | 0  | 15.41  | 15.41  | 15.56  | 16.5                   | 0           |
| 10              | 16QAM | 25 | 12 | 15.36  | 15.29  | 15.65  |                        |             |
| 10              | 16QAM | 25 | 25 | 15.38  | 15.40  | 15.74  |                        |             |
| 10              | 16QAM | 50 | 0  | 15.41  | 15.35  | 15.69  |                        |             |
| 10              | 64QAM | 1  | 0  | 15.32  | 15.36  | 15.30  | 16.5                   | 0           |
| 10              | 64QAM | 1  | 25 | 15.35  | 15.30  | 15.57  |                        |             |
| 10              | 64QAM | 1  | 49 | 15.40  | 15.55  | 15.61  |                        |             |
| 10              | 64QAM | 25 | 0  | 14.49  | 14.48  | 14.46  | 14.5                   | 2           |
| 10              | 64QAM | 25 | 12 | 14.45  | 14.22  | 14.45  |                        |             |
| 10              | 64QAM | 25 | 25 | 14.17  | 14.33  | 14.43  |                        |             |
| 10              | 64QAM | 50 | 0  | 14.05  | 14.19  | 14.50  |                        |             |
| Channel         |       |    |    | 19975  | 20175  | 20375  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1712.5 | 1732.5 | 1752.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 15.86  | 15.97  | 16.20  | 16.5                   | 0           |
| 5               | QPSK  | 1  | 12 | 15.86  | 15.88  | 16.02  |                        |             |
| 5               | QPSK  | 1  | 24 | 15.77  | 15.79  | 16.07  |                        |             |
| 5               | QPSK  | 12 | 0  | 15.79  | 15.89  | 16.21  | 16.5                   | 0           |
| 5               | QPSK  | 12 | 7  | 15.84  | 15.89  | 16.20  |                        |             |
| 5               | QPSK  | 12 | 13 | 15.84  | 15.81  | 16.09  |                        |             |
| 5               | QPSK  | 25 | 0  | 15.88  | 15.91  | 16.15  |                        |             |
| 5               | 16QAM | 1  | 0  | 16.12  | 16.22  | 16.44  | 16.5                   | 0           |
| 5               | 16QAM | 1  | 12 | 16.09  | 16.09  | 16.31  |                        |             |
| 5               | 16QAM | 1  | 24 | 16.06  | 16.03  | 16.30  |                        |             |
| 5               | 16QAM | 12 | 0  | 15.32  | 15.41  | 15.77  | 16.5                   | 0           |
| 5               | 16QAM | 12 | 7  | 15.39  | 15.41  | 15.72  |                        |             |
| 5               | 16QAM | 12 | 13 | 15.36  | 15.36  | 15.64  |                        |             |
| 5               | 16QAM | 25 | 0  | 15.41  | 15.39  | 15.68  |                        |             |
| 5               | 64QAM | 1  | 0  | 15.30  | 15.54  | 15.41  | 16.5                   | 0           |
| 5               | 64QAM | 1  | 12 | 15.12  | 15.42  | 15.59  |                        |             |
| 5               | 64QAM | 1  | 24 | 15.39  | 15.38  | 15.72  |                        |             |
| 5               | 64QAM | 12 | 0  | 14.42  | 14.48  | 14.37  | 14.5                   | 2           |
| 5               | 64QAM | 12 | 7  | 14.47  | 14.42  | 14.37  |                        |             |
| 5               | 64QAM | 12 | 13 | 14.40  | 14.37  | 14.44  |                        |             |
| 5               | 64QAM | 25 | 0  | 14.39  | 14.20  | 14.43  |                        |             |



# FCC SAR Test Report

Report No. : FA7D2018

| Channel         |       |    |    | 19965  | 20175  | 20385  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|--------|--------|------------------------|-------------|
| Frequency (MHz) |       |    |    | 1711.5 | 1732.5 | 1753.5 |                        |             |
| 3               | QPSK  | 1  | 0  | 15.70  | 15.89  | 16.17  | 16.5                   | 0           |
| 3               | QPSK  | 1  | 8  | 15.81  | 15.86  | 16.10  |                        |             |
| 3               | QPSK  | 1  | 14 | 15.76  | 15.75  | 16.02  |                        |             |
| 3               | QPSK  | 8  | 0  | 15.78  | 15.81  | 16.12  | 16.5                   | 0           |
| 3               | QPSK  | 8  | 4  | 15.82  | 15.86  | 16.08  |                        |             |
| 3               | QPSK  | 8  | 7  | 15.81  | 15.82  | 16.12  |                        |             |
| 3               | QPSK  | 15 | 0  | 15.79  | 15.89  | 16.04  |                        |             |
| 3               | 16QAM | 1  | 0  | 16.06  | 16.12  | 16.44  | 16.5                   | 0           |
| 3               | 16QAM | 1  | 8  | 16.02  | 16.17  | 16.33  |                        |             |
| 3               | 16QAM | 1  | 14 | 16.00  | 16.01  | 16.32  |                        |             |
| 3               | 16QAM | 8  | 0  | 15.35  | 15.36  | 15.70  | 16.5                   | 0           |
| 3               | 16QAM | 8  | 4  | 15.41  | 15.44  | 15.65  |                        |             |
| 3               | 16QAM | 8  | 7  | 15.37  | 15.36  | 15.68  |                        |             |
| 3               | 16QAM | 15 | 0  | 15.36  | 15.42  | 15.62  |                        |             |
| 3               | 64QAM | 1  | 0  | 15.49  | 15.20  | 15.54  | 16.5                   | 0           |
| 3               | 64QAM | 1  | 8  | 15.18  | 15.43  | 15.81  |                        |             |
| 3               | 64QAM | 1  | 14 | 15.21  | 15.59  | 15.66  |                        |             |
| 3               | 64QAM | 8  | 0  | 14.20  | 14.31  | 14.42  | 14.5                   | 2           |
| 3               | 64QAM | 8  | 4  | 14.31  | 14.22  | 14.43  |                        |             |
| 3               | 64QAM | 8  | 7  | 14.01  | 14.14  | 14.44  |                        |             |
| 3               | 64QAM | 15 | 0  | 14.28  | 14.44  | 14.45  |                        |             |
| Channel         |       |    |    | 19957  | 20175  | 20393  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1710.7 | 1732.5 | 1754.3 |                        |             |
| 1.4             | QPSK  | 1  | 0  | 15.72  | 15.76  | 16.05  | 16.5                   | 0           |
| 1.4             | QPSK  | 1  | 3  | 15.70  | 15.82  | 16.15  |                        |             |
| 1.4             | QPSK  | 1  | 5  | 15.65  | 15.80  | 16.01  |                        |             |
| 1.4             | QPSK  | 3  | 0  | 15.68  | 15.77  | 16.11  |                        |             |
| 1.4             | QPSK  | 3  | 1  | 15.73  | 15.77  | 16.14  |                        |             |
| 1.4             | QPSK  | 3  | 3  | 15.70  | 15.82  | 16.05  |                        |             |
| 1.4             | QPSK  | 6  | 0  | 15.69  | 15.72  | 16.11  | 16.5                   | 0           |
| 1.4             | 16QAM | 1  | 0  | 15.98  | 15.97  | 16.35  | 16.5                   | 0           |
| 1.4             | 16QAM | 1  | 3  | 16.00  | 16.09  | 16.42  |                        |             |
| 1.4             | 16QAM | 1  | 5  | 15.96  | 16.08  | 16.25  |                        |             |
| 1.4             | 16QAM | 3  | 0  | 15.73  | 15.78  | 16.10  |                        |             |
| 1.4             | 16QAM | 3  | 1  | 15.77  | 15.76  | 16.16  |                        |             |
| 1.4             | 16QAM | 3  | 3  | 15.72  | 15.82  | 16.02  |                        |             |
| 1.4             | 16QAM | 6  | 0  | 15.33  | 15.35  | 15.75  | 16.5                   | 0           |
| 1.4             | 64QAM | 1  | 0  | 15.24  | 15.38  | 15.34  | 16.5                   | 0           |
| 1.4             | 64QAM | 1  | 3  | 15.43  | 15.34  | 15.67  |                        |             |
| 1.4             | 64QAM | 1  | 5  | 15.26  | 15.29  | 15.81  |                        |             |
| 1.4             | 64QAM | 3  | 0  | 14.51  | 14.56  | 14.66  |                        |             |
| 1.4             | 64QAM | 3  | 1  | 14.55  | 14.56  | 14.67  |                        |             |
| 1.4             | 64QAM | 3  | 3  | 14.53  | 14.59  | 14.68  |                        |             |
| 1.4             | 64QAM | 6  | 0  | 14.08  | 14.26  | 14.50  | 14.5                   | 2           |



**<LTE Band 5>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|--------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 20450                 | 20525                    | 20600                  |                     |          |
| Frequency (MHz) |            |         |           | 829                   | 836.5                    | 844                    |                     |          |
| 10              | QPSK       | 1       | 0         | 21.42                 | 21.45                    | 21.48                  | 23                  | 0        |
| 10              | QPSK       | 1       | 25        | 21.51                 | 21.61                    | 21.59                  |                     |          |
| 10              | QPSK       | 1       | 49        | 22.06                 | 21.95                    | 22.12                  |                     |          |
| 10              | QPSK       | 25      | 0         | 21.52                 | 21.61                    | 21.67                  | 23                  | 0        |
| 10              | QPSK       | 25      | 12        | 21.60                 | 21.64                    | 21.66                  |                     |          |
| 10              | QPSK       | 25      | 25        | 21.75                 | 21.76                    | 21.78                  |                     |          |
| 10              | QPSK       | 50      | 0         | 21.58                 | 21.74                    | 21.70                  | 23                  | 0        |
| 10              | 16QAM      | 1       | 0         | 21.93                 | 21.93                    | 21.82                  |                     |          |
| 10              | 16QAM      | 1       | 25        | 21.80                 | 21.78                    | 21.86                  |                     |          |
| 10              | 16QAM      | 1       | 49        | 21.84                 | 21.90                    | 21.90                  | 22                  | 1        |
| 10              | 16QAM      | 25      | 0         | 20.52                 | 20.64                    | 20.65                  |                     |          |
| 10              | 16QAM      | 25      | 12        | 20.58                 | 20.68                    | 20.71                  |                     |          |
| 10              | 16QAM      | 25      | 25        | 20.71                 | 20.73                    | 20.79                  | 22                  | 1        |
| 10              | 16QAM      | 50      | 0         | 20.59                 | 20.75                    | 20.74                  |                     |          |
| 10              | 64QAM      | 1       | 0         | 21.83                 | 21.78                    | 21.85                  |                     |          |
| 10              | 64QAM      | 1       | 25        | 21.75                 | 21.76                    | 21.92                  | 22                  | 1        |
| 10              | 64QAM      | 1       | 49        | 21.76                 | 21.82                    | 21.88                  |                     |          |
| 10              | 64QAM      | 25      | 0         | 21.55                 | 21.76                    | 21.75                  |                     |          |
| 10              | 64QAM      | 25      | 12        | 21.66                 | 21.84                    | 21.84                  | 22                  | 1        |
| 10              | 64QAM      | 25      | 25        | 21.63                 | 21.62                    | 21.81                  |                     |          |
| 10              | 64QAM      | 50      | 0         | 21.48                 | 21.88                    | 21.56                  |                     |          |
| Channel         |            |         |           | 20425                 | 20525                    | 20625                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 826.5                 | 836.5                    | 846.5                  |                     |          |
| 5               | QPSK       | 1       | 0         | 21.32                 | 21.33                    | 21.27                  | 23                  | 0        |
| 5               | QPSK       | 1       | 12        | 21.58                 | 21.66                    | 21.63                  |                     |          |
| 5               | QPSK       | 1       | 24        | 21.62                 | 21.63                    | 21.70                  |                     |          |
| 5               | QPSK       | 12      | 0         | 21.57                 | 21.66                    | 21.72                  | 23                  | 0        |
| 5               | QPSK       | 12      | 7         | 21.59                 | 21.68                    | 21.75                  |                     |          |
| 5               | QPSK       | 12      | 13        | 21.55                 | 21.61                    | 21.72                  |                     |          |
| 5               | QPSK       | 25      | 0         | 21.60                 | 21.72                    | 21.77                  | 23                  | 0        |
| 5               | 16QAM      | 1       | 0         | 21.95                 | 21.81                    | 21.97                  |                     |          |
| 5               | 16QAM      | 1       | 12        | 21.84                 | 21.87                    | 21.82                  |                     |          |
| 5               | 16QAM      | 1       | 24        | 21.87                 | 21.91                    | 21.98                  | 22                  | 1        |
| 5               | 16QAM      | 12      | 0         | 20.57                 | 20.75                    | 20.75                  |                     |          |
| 5               | 16QAM      | 12      | 7         | 20.59                 | 20.72                    | 20.76                  |                     |          |
| 5               | 16QAM      | 12      | 13        | 20.59                 | 20.63                    | 20.73                  | 22                  | 1        |
| 5               | 16QAM      | 25      | 0         | 20.60                 | 20.73                    | 20.83                  |                     |          |
| 5               | 64QAM      | 1       | 0         | 21.83                 | 21.78                    | 21.85                  |                     |          |
| 5               | 64QAM      | 1       | 12        | 21.75                 | 21.83                    | 21.82                  | 22                  | 1        |
| 5               | 64QAM      | 1       | 24        | 21.76                 | 21.82                    | 21.92                  |                     |          |
| 5               | 64QAM      | 12      | 0         | 21.63                 | 21.76                    | 21.75                  |                     |          |
| 5               | 64QAM      | 12      | 7         | 21.68                 | 21.76                    | 21.81                  | 22                  | 1        |
| 5               | 64QAM      | 12      | 13        | 21.63                 | 21.67                    | 21.81                  |                     |          |
| 5               | 64QAM      | 25      | 0         | 21.59                 | 21.74                    | 21.79                  |                     |          |



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| Channel         |       |    |    | 20415 | 20525 | 20635 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|-------|-------|-------|------------------------|-------------|
| Frequency (MHz) |       |    |    | 825.5 | 836.5 | 847.5 |                        |             |
| 3               | QPSK  | 1  | 0  | 21.65 | 21.29 | 21.31 | 23                     | 0           |
| 3               | QPSK  | 1  | 8  | 21.57 | 21.69 | 21.76 |                        |             |
| 3               | QPSK  | 1  | 14 | 21.60 | 21.69 | 21.72 |                        |             |
| 3               | QPSK  | 8  | 0  | 21.61 | 21.65 | 21.68 | 23                     | 0           |
| 3               | QPSK  | 8  | 4  | 21.60 | 21.70 | 21.78 |                        |             |
| 3               | QPSK  | 8  | 7  | 21.61 | 21.62 | 21.75 |                        |             |
| 3               | QPSK  | 15 | 0  | 21.54 | 21.68 | 21.82 |                        |             |
| 3               | 16QAM | 1  | 0  | 21.88 | 21.91 | 21.92 | 23                     | 0           |
| 3               | 16QAM | 1  | 8  | 21.90 | 21.98 | 21.82 |                        |             |
| 3               | 16QAM | 1  | 14 | 21.89 | 21.96 | 21.85 |                        |             |
| 3               | 16QAM | 8  | 0  | 20.68 | 20.71 | 20.76 | 22                     | 1           |
| 3               | 16QAM | 8  | 4  | 20.66 | 20.75 | 20.84 |                        |             |
| 3               | 16QAM | 8  | 7  | 20.64 | 20.71 | 20.84 |                        |             |
| 3               | 16QAM | 15 | 0  | 20.57 | 20.72 | 20.82 |                        |             |
| 3               | 64QAM | 1  | 0  | 21.79 | 21.86 | 21.86 | 22                     | 1           |
| 3               | 64QAM | 1  | 8  | 21.75 | 21.84 | 21.90 |                        |             |
| 3               | 64QAM | 1  | 14 | 21.68 | 21.81 | 21.86 |                        |             |
| 3               | 64QAM | 8  | 0  | 21.73 | 21.70 | 21.71 | 22                     | 1           |
| 3               | 64QAM | 8  | 4  | 21.65 | 21.74 | 21.80 |                        |             |
| 3               | 64QAM | 8  | 7  | 21.63 | 21.70 | 21.78 |                        |             |
| 3               | 64QAM | 15 | 0  | 21.57 | 21.70 | 21.80 |                        |             |
| Channel         |       |    |    | 20407 | 20525 | 20643 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 824.7 | 836.5 | 848.3 |                        |             |
| 1.4             | QPSK  | 1  | 0  | 21.31 | 21.28 | 21.34 | 23                     | 0           |
| 1.4             | QPSK  | 1  | 3  | 21.58 | 21.66 | 21.75 |                        |             |
| 1.4             | QPSK  | 1  | 5  | 21.56 | 21.58 | 21.71 |                        |             |
| 1.4             | QPSK  | 3  | 0  | 21.54 | 21.69 | 21.71 |                        |             |
| 1.4             | QPSK  | 3  | 1  | 21.57 | 21.66 | 21.73 |                        |             |
| 1.4             | QPSK  | 3  | 3  | 21.56 | 21.63 | 21.70 |                        |             |
| 1.4             | QPSK  | 6  | 0  | 21.55 | 21.63 | 21.73 | 23                     | 0           |
| 1.4             | 16QAM | 1  | 0  | 21.84 | 21.98 | 21.94 | 23                     | 0           |
| 1.4             | 16QAM | 1  | 3  | 21.91 | 21.90 | 21.93 |                        |             |
| 1.4             | 16QAM | 1  | 5  | 21.82 | 21.87 | 21.94 |                        |             |
| 1.4             | 16QAM | 3  | 0  | 21.56 | 21.70 | 21.75 |                        |             |
| 1.4             | 16QAM | 3  | 1  | 21.59 | 21.69 | 21.77 |                        |             |
| 1.4             | 16QAM | 3  | 3  | 21.58 | 21.61 | 21.71 |                        |             |
| 1.4             | 16QAM | 6  | 0  | 20.64 | 20.73 | 20.81 | 22                     | 1           |
| 1.4             | 64QAM | 1  | 0  | 21.76 | 21.81 | 21.91 | 22                     | 1           |
| 1.4             | 64QAM | 1  | 3  | 21.76 | 21.84 | 21.95 |                        |             |
| 1.4             | 64QAM | 1  | 5  | 21.72 | 21.76 | 21.86 |                        |             |
| 1.4             | 64QAM | 3  | 0  | 21.62 | 21.75 | 21.83 |                        |             |
| 1.4             | 64QAM | 3  | 1  | 21.71 | 21.80 | 21.91 |                        |             |
| 1.4             | 64QAM | 3  | 3  | 21.69 | 21.75 | 21.84 |                        |             |
| 1.4             | 64QAM | 6  | 0  | 21.56 | 21.64 | 21.71 | 22                     | 1           |



**<LTE Band 7>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|--------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 20850                 | 21100                    | 21350                  |                     |          |
| Frequency (MHz) |            |         |           | 2510                  | 2535                     | 2560                   |                     |          |
| 20              | QPSK       | 1       | 0         | 17.78                 | 17.62                    | 17.55                  | 18.5                | 0        |
| 20              | QPSK       | 1       | 49        | 17.86                 | 17.71                    | 17.62                  |                     |          |
| 20              | QPSK       | 1       | 99        | 17.72                 | 17.64                    | 17.58                  |                     |          |
| 20              | QPSK       | 50      | 0         | 17.69                 | 17.69                    | 17.74                  | 18.5                | 0        |
| 20              | QPSK       | 50      | 24        | 17.77                 | 17.65                    | 17.79                  |                     |          |
| 20              | QPSK       | 50      | 50        | 17.71                 | 17.62                    | 17.85                  |                     |          |
| 20              | QPSK       | 100     | 0         | 17.82                 | 17.65                    | 17.80                  | 18.5                | 0        |
| 20              | 16QAM      | 1       | 0         | 17.84                 | 17.88                    | 17.96                  |                     |          |
| 20              | 16QAM      | 1       | 49        | 17.80                 | 17.89                    | 17.89                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 17.91                 | 17.95                    | 18.11                  | 18.5                | 0        |
| 20              | 16QAM      | 50      | 0         | 17.68                 | 17.72                    | 17.75                  |                     |          |
| 20              | 16QAM      | 50      | 24        | 17.75                 | 17.62                    | 17.73                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 17.73                 | 17.65                    | 17.91                  | 18.5                | 0        |
| 20              | 16QAM      | 100     | 0         | 17.80                 | 17.64                    | 17.74                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 17.93                 | 17.84                    | 17.95                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 17.93                 | 17.79                    | 17.88                  | 18.5                | 0        |
| 20              | 64QAM      | 1       | 99        | 17.83                 | 17.85                    | 18.08                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 17.69                 | 17.68                    | 17.77                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 17.76                 | 17.65                    | 17.77                  | 18.5                | 0        |
| 20              | 64QAM      | 50      | 50        | 17.70                 | 17.67                    | 17.87                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 17.71                 | 17.61                    | 17.77                  |                     |          |
| Channel         |            |         |           | 20825                 | 21100                    | 21375                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 2507.5                | 2535                     | 2562.5                 |                     |          |
| 15              | QPSK       | 1       | 0         | 17.81                 | 17.63                    | 17.79                  | 18.5                | 0        |
| 15              | QPSK       | 1       | 37        | 17.35                 | 17.46                    | 17.71                  |                     |          |
| 15              | QPSK       | 1       | 74        | 17.64                 | 17.67                    | 17.72                  |                     |          |
| 15              | QPSK       | 36      | 0         | 17.70                 | 17.67                    | 17.77                  | 18.5                | 0        |
| 15              | QPSK       | 36      | 20        | 17.68                 | 17.65                    | 17.79                  |                     |          |
| 15              | QPSK       | 36      | 39        | 17.75                 | 17.65                    | 17.87                  |                     |          |
| 15              | QPSK       | 75      | 0         | 17.64                 | 17.61                    | 17.78                  | 18.5                | 0        |
| 15              | 16QAM      | 1       | 0         | 17.87                 | 17.89                    | 17.91                  |                     |          |
| 15              | 16QAM      | 1       | 37        | 17.70                 | 17.69                    | 17.86                  |                     |          |
| 15              | 16QAM      | 1       | 74        | 17.91                 | 17.94                    | 18.04                  | 18.5                | 0        |
| 15              | 16QAM      | 36      | 0         | 16.68                 | 16.64                    | 16.75                  |                     |          |
| 15              | 16QAM      | 36      | 20        | 16.63                 | 16.61                    | 16.79                  |                     |          |
| 15              | 16QAM      | 36      | 39        | 16.72                 | 16.61                    | 16.82                  | 18.5                | 0        |
| 15              | 16QAM      | 75      | 0         | 16.67                 | 16.61                    | 16.80                  |                     |          |
| 15              | 64QAM      | 1       | 0         | 16.79                 | 16.85                    | 16.86                  |                     |          |
| 15              | 64QAM      | 1       | 37        | 16.65                 | 16.53                    | 16.84                  | 18.5                | 0        |
| 15              | 64QAM      | 1       | 74        | 16.78                 | 16.86                    | 16.92                  |                     |          |
| 15              | 64QAM      | 36      | 0         | 17.69                 | 17.64                    | 17.79                  |                     |          |
| 15              | 64QAM      | 36      | 20        | 17.56                 | 17.45                    | 17.62                  | 18.5                | 0        |
| 15              | 64QAM      | 36      | 39        | 17.70                 | 17.62                    | 17.87                  |                     |          |
| 15              | 64QAM      | 75      | 0         | 17.77                 | 17.66                    | 17.78                  |                     |          |



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| Channel         |       |    |    | 20800  | 21100 | 21400  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| Frequency (MHz) |       |    |    | 2505   | 2535  | 2565   |                        |             |
| 10              | QPSK  | 1  | 0  | 18.08  | 17.96 | 18.13  | 18.5                   | 0           |
| 10              | QPSK  | 1  | 25 | 17.68  | 17.65 | 17.87  |                        |             |
| 10              | QPSK  | 1  | 49 | 17.95  | 17.90 | 18.02  |                        |             |
| 10              | QPSK  | 25 | 0  | 17.78  | 17.72 | 17.82  | 18.5                   | 0           |
| 10              | QPSK  | 25 | 12 | 17.68  | 17.63 | 17.82  |                        |             |
| 10              | QPSK  | 25 | 25 | 17.76  | 17.75 | 17.85  |                        |             |
| 10              | QPSK  | 50 | 0  | 17.78  | 17.71 | 17.85  | 18.5                   | 0           |
| 10              | 16QAM | 1  | 0  | 18.18  | 18.18 | 18.34  |                        |             |
| 10              | 16QAM | 1  | 25 | 17.87  | 17.88 | 18.00  |                        |             |
| 10              | 16QAM | 1  | 49 | 18.13  | 18.05 | 18.24  | 18.5                   | 0           |
| 10              | 16QAM | 25 | 0  | 16.81  | 16.73 | 16.85  |                        |             |
| 10              | 16QAM | 25 | 12 | 16.70  | 16.65 | 16.86  |                        |             |
| 10              | 16QAM | 25 | 25 | 16.67  | 16.71 | 16.81  | 18.5                   | 0           |
| 10              | 16QAM | 50 | 0  | 16.74  | 16.68 | 16.88  |                        |             |
| 10              | 64QAM | 1  | 0  | 17.18  | 17.09 | 17.24  |                        |             |
| 10              | 64QAM | 1  | 25 | 16.83  | 16.79 | 17.04  | 18.5                   | 0           |
| 10              | 64QAM | 1  | 49 | 17.08  | 16.96 | 17.13  |                        |             |
| 10              | 64QAM | 25 | 0  | 17.86  | 17.49 | 17.81  |                        |             |
| 10              | 64QAM | 25 | 12 | 17.66  | 17.63 | 17.77  | 18.5                   | 0           |
| 10              | 64QAM | 25 | 25 | 17.83  | 17.65 | 17.80  |                        |             |
| 10              | 64QAM | 50 | 0  | 17.57  | 17.66 | 17.64  |                        |             |
| Channel         |       |    |    | 20775  | 21100 | 21425  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 2502.5 | 2535  | 2567.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 17.88  | 17.74 | 17.94  | 18.5                   | 0           |
| 5               | QPSK  | 1  | 12 | 17.77  | 17.62 | 17.79  |                        |             |
| 5               | QPSK  | 1  | 24 | 17.75  | 17.68 | 17.81  |                        |             |
| 5               | QPSK  | 12 | 0  | 17.75  | 17.68 | 17.79  | 18.5                   | 0           |
| 5               | QPSK  | 12 | 7  | 17.72  | 17.63 | 17.79  |                        |             |
| 5               | QPSK  | 12 | 13 | 17.71  | 17.64 | 17.78  |                        |             |
| 5               | QPSK  | 25 | 0  | 17.74  | 17.67 | 17.86  | 18.5                   | 0           |
| 5               | 16QAM | 1  | 0  | 17.96  | 18.00 | 18.14  |                        |             |
| 5               | 16QAM | 1  | 12 | 17.85  | 17.82 | 17.97  |                        |             |
| 5               | 16QAM | 1  | 24 | 17.84  | 17.89 | 18.14  | 18.5                   | 0           |
| 5               | 16QAM | 12 | 0  | 16.80  | 16.73 | 16.84  |                        |             |
| 5               | 16QAM | 12 | 7  | 16.74  | 16.66 | 16.84  |                        |             |
| 5               | 16QAM | 12 | 13 | 16.69  | 16.65 | 16.80  | 18.5                   | 0           |
| 5               | 16QAM | 25 | 0  | 16.77  | 16.65 | 16.78  |                        |             |
| 5               | 64QAM | 1  | 0  | 16.95  | 16.89 | 17.02  |                        |             |
| 5               | 64QAM | 1  | 12 | 16.97  | 16.72 | 16.87  | 18.5                   | 0           |
| 5               | 64QAM | 1  | 24 | 16.86  | 16.87 | 16.94  |                        |             |
| 5               | 64QAM | 12 | 0  | 17.59  | 17.54 | 17.72  |                        |             |
| 5               | 64QAM | 12 | 7  | 17.48  | 17.46 | 17.55  | 18.5                   | 0           |
| 5               | 64QAM | 12 | 13 | 17.55  | 17.81 | 17.78  |                        |             |
| 5               | 64QAM | 25 | 0  | 17.86  | 17.84 | 17.82  |                        |             |



**<LTE Band 25>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|--------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 26140                 | 26340                    | 26590                  |                     |          |
| Frequency (MHz) |            |         |           | 1860                  | 1880                     | 1905                   |                     |          |
| 20              | QPSK       | 1       | 0         | 16.91                 | 17.03                    | 17.01                  | 17.5                | 0        |
| 20              | QPSK       | 1       | 49        | 16.66                 | 16.99                    | 16.95                  |                     |          |
| 20              | QPSK       | 1       | 99        | 16.63                 | 16.63                    | 16.63                  |                     |          |
| 20              | QPSK       | 50      | 0         | 16.76                 | 17.01                    | 16.99                  | 17.5                | 0        |
| 20              | QPSK       | 50      | 24        | 16.71                 | 16.97                    | 16.91                  |                     |          |
| 20              | QPSK       | 50      | 50        | 16.85                 | 16.95                    | 16.88                  |                     |          |
| 20              | QPSK       | 100     | 0         | 16.84                 | 16.96                    | 16.91                  | 17.5                | 0        |
| 20              | 16QAM      | 1       | 0         | 17.21                 | 17.35                    | 17.48                  |                     |          |
| 20              | 16QAM      | 1       | 49        | 16.98                 | 17.17                    | 16.91                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 16.92                 | 16.83                    | 16.91                  | 17.5                | 0        |
| 20              | 16QAM      | 50      | 0         | 16.78                 | 17.04                    | 17.02                  |                     |          |
| 20              | 16QAM      | 50      | 24        | 16.73                 | 17.08                    | 16.90                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 16.86                 | 16.98                    | 16.90                  | 17.5                | 0        |
| 20              | 16QAM      | 100     | 0         | 16.83                 | 17.02                    | 16.94                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 17.09                 | 17.24                    | 17.32                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 16.84                 | 17.14                    | 17.07                  | 17.5                | 0        |
| 20              | 64QAM      | 1       | 99        | 16.83                 | 16.78                    | 16.77                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 15.78                 | 16.07                    | 16.10                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 15.78                 | 16.03                    | 15.92                  | 16.5                | 1        |
| 20              | 64QAM      | 50      | 50        | 15.83                 | 16.03                    | 15.89                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 15.84                 | 16.05                    | 16.00                  |                     |          |
| Channel         |            |         |           | 26115                 | 26340                    | 26615                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 1857.5                | 1880                     | 1907.5                 |                     |          |
| 15              | QPSK       | 1       | 0         | 16.94                 | 17.06                    | 17.19                  | 17.5                | 0        |
| 15              | QPSK       | 1       | 37        | 16.53                 | 16.82                    | 16.96                  |                     |          |
| 15              | QPSK       | 1       | 74        | 16.85                 | 17.01                    | 16.95                  |                     |          |
| 15              | QPSK       | 36      | 0         | 16.78                 | 17.02                    | 17.06                  | 17.5                | 0        |
| 15              | QPSK       | 36      | 20        | 16.76                 | 17.12                    | 16.96                  |                     |          |
| 15              | QPSK       | 36      | 39        | 16.85                 | 17.10                    | 17.09                  |                     |          |
| 15              | QPSK       | 75      | 0         | 16.85                 | 17.13                    | 16.99                  | 17.5                | 0        |
| 15              | 16QAM      | 1       | 0         | 17.10                 | 17.28                    | 17.31                  |                     |          |
| 15              | 16QAM      | 1       | 37        | 16.91                 | 17.01                    | 17.21                  |                     |          |
| 15              | 16QAM      | 1       | 74        | 17.12                 | 17.21                    | 17.31                  | 17.5                | 0        |
| 15              | 16QAM      | 36      | 0         | 16.81                 | 17.14                    | 17.02                  |                     |          |
| 15              | 16QAM      | 36      | 20        | 16.78                 | 17.15                    | 17.02                  |                     |          |
| 15              | 16QAM      | 36      | 39        | 16.81                 | 17.09                    | 17.07                  | 17.5                | 0        |
| 15              | 16QAM      | 75      | 0         | 16.86                 | 17.10                    | 17.02                  |                     |          |
| 15              | 64QAM      | 1       | 0         | 17.01                 | 17.21                    | 17.24                  |                     |          |
| 15              | 64QAM      | 1       | 37        | 17.40                 | 16.83                    | 16.48                  | 17.5                | 0        |
| 15              | 64QAM      | 1       | 74        | 17.03                 | 17.15                    | 17.04                  |                     |          |
| 15              | 64QAM      | 36      | 0         | 15.87                 | 16.09                    | 16.11                  |                     |          |
| 15              | 64QAM      | 36      | 20        | 15.84                 | 16.14                    | 16.04                  | 16.5                | 1        |
| 15              | 64QAM      | 36      | 39        | 15.89                 | 16.13                    | 16.04                  |                     |          |
| 15              | 64QAM      | 75      | 0         | 15.91                 | 16.16                    | 16.06                  |                     |          |



# FCC SAR Test Report

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| Channel         |       |    |    | 26090  | 26340 | 26640  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| Frequency (MHz) |       |    |    | 1855   | 1880  | 1910   |                        |             |
| 10              | QPSK  | 1  | 0  | 17.11  | 17.34 | 17.25  | 17.5                   | 0           |
| 10              | QPSK  | 1  | 25 | 16.84  | 17.13 | 16.95  |                        |             |
| 10              | QPSK  | 1  | 49 | 17.02  | 17.24 | 17.12  |                        |             |
| 10              | QPSK  | 25 | 0  | 16.87  | 17.10 | 16.93  | 17.5                   | 0           |
| 10              | QPSK  | 25 | 12 | 16.83  | 17.02 | 16.93  |                        |             |
| 10              | QPSK  | 25 | 25 | 16.69  | 17.07 | 17.04  |                        |             |
| 10              | QPSK  | 50 | 0  | 16.83  | 17.11 | 16.97  |                        |             |
| 10              | 16QAM | 1  | 0  | 17.34  | 17.50 | 17.39  | 17.5                   | 0           |
| 10              | 16QAM | 1  | 25 | 17.04  | 17.32 | 17.09  |                        |             |
| 10              | 16QAM | 1  | 49 | 17.22  | 17.44 | 17.37  |                        |             |
| 10              | 16QAM | 25 | 0  | 16.88  | 17.12 | 16.95  | 17.5                   | 0           |
| 10              | 16QAM | 25 | 12 | 16.84  | 17.05 | 16.88  |                        |             |
| 10              | 16QAM | 25 | 25 | 16.73  | 17.06 | 17.05  |                        |             |
| 10              | 16QAM | 50 | 0  | 16.85  | 17.13 | 16.88  |                        |             |
| 10              | 64QAM | 1  | 0  | 17.16  | 17.45 | 17.18  | 17.5                   | 0           |
| 10              | 64QAM | 1  | 25 | 16.92  | 17.30 | 17.13  |                        |             |
| 10              | 64QAM | 1  | 49 | 17.06  | 17.36 | 17.27  |                        |             |
| 10              | 64QAM | 25 | 0  | 15.85  | 16.18 | 15.95  | 16.5                   | 1           |
| 10              | 64QAM | 25 | 12 | 15.83  | 16.09 | 15.97  |                        |             |
| 10              | 64QAM | 25 | 25 | 15.77  | 16.10 | 16.07  |                        |             |
| 10              | 64QAM | 50 | 0  | 15.84  | 16.10 | 15.97  |                        |             |
| Channel         |       |    |    | 26065  | 26340 | 26665  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1852.5 | 1880  | 1912.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 16.98  | 17.23 | 17.12  | 17.5                   | 0           |
| 5               | QPSK  | 1  | 12 | 16.82  | 17.03 | 16.88  |                        |             |
| 5               | QPSK  | 1  | 24 | 16.75  | 16.97 | 16.89  |                        |             |
| 5               | QPSK  | 12 | 0  | 16.83  | 17.06 | 17.05  | 17.5                   | 0           |
| 5               | QPSK  | 12 | 7  | 16.79  | 17.08 | 16.94  |                        |             |
| 5               | QPSK  | 12 | 13 | 16.79  | 17.02 | 16.92  |                        |             |
| 5               | QPSK  | 25 | 0  | 16.83  | 17.01 | 16.97  |                        |             |
| 5               | 16QAM | 1  | 0  | 17.16  | 17.41 | 17.30  | 17.5                   | 0           |
| 5               | 16QAM | 1  | 12 | 17.00  | 17.35 | 17.05  |                        |             |
| 5               | 16QAM | 1  | 24 | 16.99  | 17.15 | 17.18  |                        |             |
| 5               | 16QAM | 12 | 0  | 16.88  | 17.10 | 17.00  | 17.5                   | 0           |
| 5               | 16QAM | 12 | 7  | 16.83  | 17.12 | 16.95  |                        |             |
| 5               | 16QAM | 12 | 13 | 16.78  | 17.06 | 16.92  |                        |             |
| 5               | 16QAM | 25 | 0  | 16.80  | 17.01 | 16.93  |                        |             |
| 5               | 64QAM | 1  | 0  | 17.10  | 17.36 | 17.24  | 17.5                   | 0           |
| 5               | 64QAM | 1  | 12 | 16.99  | 17.20 | 17.08  |                        |             |
| 5               | 64QAM | 1  | 24 | 16.93  | 17.13 | 17.06  |                        |             |
| 5               | 64QAM | 12 | 0  | 15.94  | 16.16 | 16.08  | 16.5                   | 1           |
| 5               | 64QAM | 12 | 7  | 15.88  | 16.17 | 15.94  |                        |             |
| 5               | 64QAM | 12 | 13 | 15.86  | 16.12 | 15.92  |                        |             |
| 5               | 64QAM | 25 | 0  | 15.81  | 16.05 | 15.94  |                        |             |



# FCC SAR Test Report

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| Channel         |       |    |    | 26055  | 26340 | 26675  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 1851.5 | 1880  | 1913.5 |                     |          |
| 3               | QPSK  | 1  | 0  | 16.86  | 17.14 | 16.61  | 17.5                | 0        |
| 3               | QPSK  | 1  | 8  | 16.84  | 17.10 | 16.90  |                     |          |
| 3               | QPSK  | 1  | 14 | 16.68  | 16.99 | 16.84  |                     |          |
| 3               | QPSK  | 8  | 0  | 16.78  | 17.06 | 16.92  | 17.5                | 0        |
| 3               | QPSK  | 8  | 4  | 16.76  | 17.09 | 16.87  |                     |          |
| 3               | QPSK  | 8  | 7  | 16.79  | 16.98 | 16.88  |                     |          |
| 3               | QPSK  | 15 | 0  | 16.76  | 17.07 | 16.90  |                     |          |
| 3               | 16QAM | 1  | 0  | 17.07  | 17.29 | 17.15  | 17.5                | 0        |
| 3               | 16QAM | 1  | 8  | 17.11  | 17.41 | 17.13  |                     |          |
| 3               | 16QAM | 1  | 14 | 16.97  | 17.22 | 16.98  |                     |          |
| 3               | 16QAM | 8  | 0  | 16.87  | 17.10 | 16.97  | 17.5                | 0        |
| 3               | 16QAM | 8  | 4  | 16.86  | 17.13 | 16.94  |                     |          |
| 3               | 16QAM | 8  | 7  | 16.78  | 17.08 | 16.95  |                     |          |
| 3               | 16QAM | 15 | 0  | 16.79  | 17.10 | 16.90  |                     |          |
| 3               | 64QAM | 1  | 0  | 17.00  | 17.28 | 17.07  | 17.5                | 0        |
| 3               | 64QAM | 1  | 8  | 16.97  | 17.27 | 17.07  |                     |          |
| 3               | 64QAM | 1  | 14 | 16.90  | 17.15 | 17.03  |                     |          |
| 3               | 64QAM | 8  | 0  | 15.87  | 16.14 | 15.91  | 16.5                | 1        |
| 3               | 64QAM | 8  | 4  | 15.85  | 16.18 | 15.92  |                     |          |
| 3               | 64QAM | 8  | 7  | 15.82  | 16.06 | 15.91  |                     |          |
| 3               | 64QAM | 15 | 0  | 15.83  | 16.12 | 15.89  |                     |          |
| Channel         |       |    |    | 26047  | 26340 | 26683  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1850.7 | 1880  | 1914.3 |                     |          |
| 1.4             | QPSK  | 1  | 0  | 16.80  | 17.05 | 16.95  | 17.5                | 0        |
| 1.4             | QPSK  | 1  | 3  | 16.76  | 17.02 | 16.87  |                     |          |
| 1.4             | QPSK  | 1  | 5  | 16.70  | 16.96 | 16.82  |                     |          |
| 1.4             | QPSK  | 3  | 0  | 16.74  | 17.02 | 16.86  |                     |          |
| 1.4             | QPSK  | 3  | 1  | 16.77  | 17.05 | 16.88  |                     |          |
| 1.4             | QPSK  | 3  | 3  | 16.76  | 16.97 | 16.84  |                     |          |
| 1.4             | QPSK  | 6  | 0  | 16.72  | 17.04 | 16.86  | 17.5                | 0        |
| 1.4             | 16QAM | 1  | 0  | 16.99  | 17.28 | 17.07  | 17.5                | 0        |
| 1.4             | 16QAM | 1  | 3  | 17.01  | 17.34 | 17.10  |                     |          |
| 1.4             | 16QAM | 1  | 5  | 16.94  | 17.17 | 17.10  |                     |          |
| 1.4             | 16QAM | 3  | 0  | 16.77  | 17.03 | 16.89  |                     |          |
| 1.4             | 16QAM | 3  | 1  | 16.80  | 17.08 | 16.95  |                     |          |
| 1.4             | 16QAM | 3  | 3  | 16.73  | 16.93 | 16.89  |                     |          |
| 1.4             | 16QAM | 6  | 0  | 16.83  | 17.20 | 16.94  | 17.5                | 0        |
| 1.4             | 64QAM | 1  | 0  | 16.93  | 17.20 | 17.04  | 17.5                | 0        |
| 1.4             | 64QAM | 1  | 3  | 16.96  | 17.30 | 17.07  |                     |          |
| 1.4             | 64QAM | 1  | 5  | 16.87  | 17.08 | 16.99  |                     |          |
| 1.4             | 64QAM | 3  | 0  | 16.82  | 17.16 | 16.96  |                     |          |
| 1.4             | 64QAM | 3  | 1  | 16.92  | 17.22 | 17.03  |                     |          |
| 1.4             | 64QAM | 3  | 3  | 16.84  | 17.07 | 16.98  |                     |          |
| 1.4             | 64QAM | 6  | 0  | 15.75  | 16.06 | 15.84  | 15.5                | 2        |



**<LTE Band 66>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|--------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 132072                | 132322                   | 132572                 |                     |          |
| Frequency (MHz) |            |         |           | 1720                  | 1745                     | 1770                   |                     |          |
| 20              | QPSK       | 1       | 0         | 15.63                 | 15.73                    | 15.80                  | 17                  | 0        |
| 20              | QPSK       | 1       | 49        | 15.68                 | 15.60                    | 15.84                  |                     |          |
| 20              | QPSK       | 1       | 99        | 16.21                 | 16.32                    | 16.31                  |                     |          |
| 20              | QPSK       | 50      | 0         | 15.78                 | 15.72                    | 15.76                  | 17                  | 0        |
| 20              | QPSK       | 50      | 24        | 15.75                 | 15.80                    | 15.84                  |                     |          |
| 20              | QPSK       | 50      | 50        | 15.82                 | 15.75                    | 15.89                  |                     |          |
| 20              | QPSK       | 100     | 0         | 15.73                 | 15.79                    | 15.83                  | 17                  | 0        |
| 20              | 16QAM      | 1       | 0         | 15.90                 | 16.00                    | 16.02                  |                     |          |
| 20              | 16QAM      | 1       | 49        | 15.91                 | 15.90                    | 16.06                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 16.37                 | 16.34                    | 16.40                  | 16                  | 1        |
| 20              | 16QAM      | 50      | 0         | 14.80                 | 14.77                    | 14.78                  |                     |          |
| 20              | 16QAM      | 50      | 24        | 14.72                 | 14.81                    | 14.88                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 14.80                 | 14.79                    | 14.87                  | 16                  | 1        |
| 20              | 16QAM      | 100     | 0         | 14.77                 | 14.80                    | 14.86                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 14.97                 | 14.99                    | 14.96                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 14.81                 | 14.88                    | 14.91                  | 16                  | 1        |
| 20              | 64QAM      | 1       | 99        | 15.26                 | 15.38                    | 15.41                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 13.83                 | 13.74                    | 13.85                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 13.71                 | 13.79                    | 13.89                  | 15                  | 2        |
| 20              | 64QAM      | 50      | 50        | 13.80                 | 13.76                    | 13.92                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 13.72                 | 13.78                    | 13.89                  |                     |          |
| Channel         |            |         |           | 132047                | 132322                   | 132597                 | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 1717.5                | 1745                     | 1772.5                 |                     |          |
| 15              | QPSK       | 1       | 0         | 15.76                 | 15.76                    | 15.74                  | 17                  | 0        |
| 15              | QPSK       | 1       | 37        | 15.37                 | 15.45                    | 15.89                  |                     |          |
| 15              | QPSK       | 1       | 74        | 15.84                 | 15.95                    | 15.92                  |                     |          |
| 15              | QPSK       | 36      | 0         | 15.83                 | 15.87                    | 15.92                  | 17                  | 0        |
| 15              | QPSK       | 36      | 20        | 15.73                 | 15.78                    | 15.79                  |                     |          |
| 15              | QPSK       | 36      | 39        | 15.64                 | 15.72                    | 15.79                  |                     |          |
| 15              | QPSK       | 75      | 0         | 15.66                 | 15.79                    | 15.83                  | 17                  | 0        |
| 15              | 16QAM      | 1       | 0         | 16.26                 | 16.31                    | 16.36                  |                     |          |
| 15              | 16QAM      | 1       | 37        | 15.80                 | 16.00                    | 15.89                  |                     |          |
| 15              | 16QAM      | 1       | 74        | 16.12                 | 16.12                    | 16.14                  | 16                  | 1        |
| 15              | 16QAM      | 36      | 0         | 14.80                 | 14.84                    | 14.95                  |                     |          |
| 15              | 16QAM      | 36      | 20        | 14.75                 | 14.80                    | 14.77                  |                     |          |
| 15              | 16QAM      | 36      | 39        | 14.60                 | 14.68                    | 14.77                  | 16                  | 1        |
| 15              | 16QAM      | 75      | 0         | 14.63                 | 14.82                    | 14.78                  |                     |          |
| 15              | 64QAM      | 1       | 0         | 14.88                 | 15.09                    | 14.77                  |                     |          |
| 15              | 64QAM      | 1       | 37        | 15.01                 | 14.68                    | 14.74                  | 16                  | 1        |
| 15              | 64QAM      | 1       | 74        | 15.14                 | 15.40                    | 15.35                  |                     |          |
| 15              | 64QAM      | 36      | 0         | 13.78                 | 13.75                    | 13.65                  |                     |          |
| 15              | 64QAM      | 36      | 20        | 13.51                 | 13.72                    | 13.71                  | 15                  | 2        |
| 15              | 64QAM      | 36      | 39        | 13.78                 | 13.64                    | 13.90                  |                     |          |
| 15              | 64QAM      | 75      | 0         | 13.90                 | 13.82                    | 13.85                  |                     |          |



| Channel         |       |    |    | 132022 | 132322 | 132622 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|--------|--------|------------------------|-------------|
| Frequency (MHz) |       |    |    | 1715   | 1745   | 1775   |                        |             |
| 10              | QPSK  | 1  | 0  | 16.84  | 16.89  | 16.99  | 17                     | 0           |
| 10              | QPSK  | 1  | 25 | 15.77  | 15.74  | 15.84  |                        |             |
| 10              | QPSK  | 1  | 49 | 16.12  | 16.18  | 16.21  |                        |             |
| 10              | QPSK  | 25 | 0  | 15.67  | 15.76  | 15.73  | 17                     | 0           |
| 10              | QPSK  | 25 | 12 | 15.82  | 15.83  | 15.95  |                        |             |
| 10              | QPSK  | 25 | 25 | 15.81  | 15.85  | 15.91  |                        |             |
| 10              | QPSK  | 50 | 0  | 15.80  | 15.81  | 15.90  |                        |             |
| 10              | 16QAM | 1  | 0  | 15.36  | 15.49  | 15.52  | 17                     | 0           |
| 10              | 16QAM | 1  | 25 | 16.01  | 15.97  | 16.03  |                        |             |
| 10              | 16QAM | 1  | 49 | 16.45  | 16.45  | 16.47  |                        |             |
| 10              | 16QAM | 25 | 0  | 14.71  | 14.80  | 14.79  | 16                     | 1           |
| 10              | 16QAM | 25 | 12 | 14.86  | 14.83  | 14.91  |                        |             |
| 10              | 16QAM | 25 | 25 | 14.85  | 14.87  | 14.88  |                        |             |
| 10              | 16QAM | 50 | 0  | 14.83  | 14.85  | 14.91  |                        |             |
| 10              | 64QAM | 1  | 0  | 14.88  | 15.09  | 14.77  | 16                     | 1           |
| 10              | 64QAM | 1  | 25 | 15.01  | 14.68  | 14.74  |                        |             |
| 10              | 64QAM | 1  | 49 | 15.14  | 15.40  | 15.35  |                        |             |
| 10              | 64QAM | 25 | 0  | 13.78  | 13.75  | 13.65  | 15                     | 2           |
| 10              | 64QAM | 25 | 12 | 13.51  | 13.72  | 13.71  |                        |             |
| 10              | 64QAM | 25 | 25 | 13.78  | 13.64  | 13.90  |                        |             |
| 10              | 64QAM | 50 | 0  | 13.90  | 13.82  | 13.85  |                        |             |
| Channel         |       |    |    | 131997 | 132322 | 132647 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1712.5 | 1745   | 1777.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 16.82  | 16.73  | 16.83  | 17                     | 0           |
| 5               | QPSK  | 1  | 12 | 15.60  | 15.74  | 15.75  |                        |             |
| 5               | QPSK  | 1  | 24 | 15.73  | 15.73  | 15.79  |                        |             |
| 5               | QPSK  | 12 | 0  | 15.80  | 15.86  | 15.86  | 17                     | 0           |
| 5               | QPSK  | 12 | 7  | 15.68  | 15.80  | 15.84  |                        |             |
| 5               | QPSK  | 12 | 13 | 15.70  | 15.76  | 15.79  |                        |             |
| 5               | QPSK  | 25 | 0  | 15.70  | 15.83  | 15.86  |                        |             |
| 5               | 16QAM | 1  | 0  | 16.12  | 16.21  | 16.24  | 17                     | 0           |
| 5               | 16QAM | 1  | 12 | 15.89  | 15.98  | 16.04  |                        |             |
| 5               | 16QAM | 1  | 24 | 15.99  | 15.96  | 16.01  |                        |             |
| 5               | 16QAM | 12 | 0  | 14.80  | 14.89  | 14.94  | 16                     | 1           |
| 5               | 16QAM | 12 | 7  | 14.70  | 14.85  | 14.85  |                        |             |
| 5               | 16QAM | 12 | 13 | 14.73  | 14.78  | 14.80  |                        |             |
| 5               | 16QAM | 25 | 0  | 14.75  | 14.84  | 14.85  |                        |             |
| 5               | 64QAM | 1  | 0  | 14.88  | 15.09  | 14.77  | 16                     | 1           |
| 5               | 64QAM | 1  | 12 | 15.01  | 14.68  | 14.74  |                        |             |
| 5               | 64QAM | 1  | 24 | 15.14  | 15.40  | 15.35  |                        |             |
| 5               | 64QAM | 12 | 0  | 13.78  | 13.75  | 13.65  | 15                     | 2           |
| 5               | 64QAM | 12 | 7  | 13.51  | 13.72  | 13.71  |                        |             |
| 5               | 64QAM | 12 | 13 | 13.78  | 13.64  | 13.90  |                        |             |
| 5               | 64QAM | 25 | 0  | 13.90  | 13.82  | 13.85  |                        |             |



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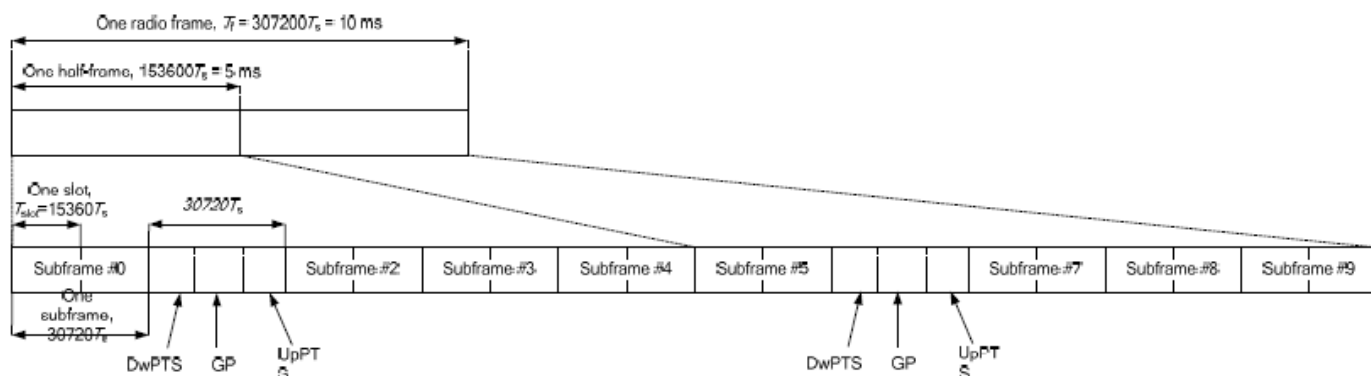
| Channel         |       |    |    | 131987 | 132322 | 132657 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|--------|--------|------------------------|-------------|
| Frequency (MHz) |       |    |    | 1711.5 | 1745   | 1778.5 |                        |             |
| 3               | QPSK  | 1  | 0  | 16.79  | 16.59  | 16.75  | 17                     | 0           |
| 3               | QPSK  | 1  | 8  | 15.78  | 15.81  | 15.61  |                        |             |
| 3               | QPSK  | 1  | 14 | 15.77  | 15.75  | 15.92  |                        |             |
| 3               | QPSK  | 8  | 0  | 15.98  | 15.81  | 15.68  | 17                     | 0           |
| 3               | QPSK  | 8  | 4  | 15.55  | 15.78  | 16.00  |                        |             |
| 3               | QPSK  | 8  | 7  | 15.67  | 15.57  | 15.69  |                        |             |
| 3               | QPSK  | 15 | 0  | 15.50  | 15.83  | 15.69  |                        |             |
| 3               | 16QAM | 1  | 0  | 15.96  | 16.01  | 16.07  | 17                     | 0           |
| 3               | 16QAM | 1  | 8  | 15.88  | 15.95  | 15.94  |                        |             |
| 3               | 16QAM | 1  | 14 | 16.09  | 16.03  | 15.85  |                        |             |
| 3               | 16QAM | 8  | 0  | 14.67  | 14.79  | 15.02  | 16                     | 1           |
| 3               | 16QAM | 8  | 4  | 14.61  | 14.87  | 14.79  |                        |             |
| 3               | 16QAM | 8  | 7  | 14.88  | 14.77  | 14.66  |                        |             |
| 3               | 16QAM | 15 | 0  | 14.74  | 14.78  | 14.77  |                        |             |
| 3               | 64QAM | 1  | 0  | 14.84  | 15.09  | 14.89  | 16                     | 1           |
| 3               | 64QAM | 1  | 8  | 14.91  | 14.54  | 14.83  |                        |             |
| 3               | 64QAM | 1  | 14 | 15.08  | 15.25  | 15.32  |                        |             |
| 3               | 64QAM | 8  | 0  | 13.70  | 13.72  | 13.81  | 15                     | 2           |
| 3               | 64QAM | 8  | 4  | 13.38  | 13.67  | 13.76  |                        |             |
| 3               | 64QAM | 8  | 7  | 13.81  | 13.72  | 14.01  |                        |             |
| 3               | 64QAM | 15 | 0  | 13.82  | 13.98  | 14.04  |                        |             |
| Channel         |       |    |    | 131979 | 132322 | 132665 | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1710.7 | 1745   | 1779.3 |                        |             |
| 1.4             | QPSK  | 1  | 0  | 16.88  | 16.64  | 16.78  | 17                     | 0           |
| 1.4             | QPSK  | 1  | 3  | 15.63  | 15.61  | 15.79  |                        |             |
| 1.4             | QPSK  | 1  | 5  | 15.82  | 15.83  | 15.79  |                        |             |
| 1.4             | QPSK  | 3  | 0  | 15.80  | 15.85  | 15.71  |                        |             |
| 1.4             | QPSK  | 3  | 1  | 15.56  | 15.85  | 15.66  |                        |             |
| 1.4             | QPSK  | 3  | 3  | 15.79  | 15.80  | 15.73  |                        |             |
| 1.4             | QPSK  | 6  | 0  | 15.87  | 15.76  | 16.02  | 17                     | 0           |
| 1.4             | 16QAM | 1  | 0  | 16.20  | 16.18  | 16.28  | 17                     | 0           |
| 1.4             | 16QAM | 1  | 3  | 16.09  | 15.78  | 16.13  |                        |             |
| 1.4             | 16QAM | 1  | 5  | 16.10  | 16.15  | 16.16  |                        |             |
| 1.4             | 16QAM | 3  | 0  | 15.88  | 15.77  | 15.85  |                        |             |
| 1.4             | 16QAM | 3  | 1  | 15.80  | 16.00  | 15.86  |                        |             |
| 1.4             | 16QAM | 3  | 3  | 15.48  | 15.77  | 15.78  |                        |             |
| 1.4             | 16QAM | 6  | 0  | 14.95  | 15.01  | 14.82  | 16                     | 1           |
| 1.4             | 64QAM | 1  | 0  | 14.80  | 15.14  | 14.70  | 16                     | 1           |
| 1.4             | 64QAM | 1  | 3  | 14.91  | 14.87  | 14.61  |                        |             |
| 1.4             | 64QAM | 1  | 5  | 15.05  | 15.30  | 15.49  |                        |             |
| 1.4             | 64QAM | 3  | 0  | 14.03  | 14.06  | 14.05  |                        |             |
| 1.4             | 64QAM | 3  | 1  | 14.03  | 14.03  | 14.04  |                        |             |
| 1.4             | 64QAM | 3  | 3  | 14.04  | 14.11  | 14.02  |                        |             |
| 1.4             | 64QAM | 6  | 0  | 13.71  | 13.90  | 13.71  | 15                     | 2           |

**<TDD LTE SAR Measurement>**

TDD LTE configuration setup for SAR measurement

SAR was tested with a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by 3GPP.

- 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations
- "special subframe S" contains both uplink and downlink transmissions, it has been taken into consideration to determine the transmission duty factor according to the worst case uplink and downlink cyclic prefix requirements for UpPTS
- Establishing connections with base station simulators ensure a consistent means for testing SAR and recommended for evaluating SAR. The Anritsu MT8820C (firmware: #22.52#004) was used for LTE output power measurements and SAR testing.



**Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).**

**Table 4.2-2: Uplink-downlink configurations.**

| Uplink-downlink configuration | Downlink-to-Uplink Switch-point periodicity | Subframe number |   |   |   |   |   |   |   |   |   |
|-------------------------------|---------------------------------------------|-----------------|---|---|---|---|---|---|---|---|---|
|                               |                                             | 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 0                             | 5 ms                                        | D               | S | U | U | U | D | S | U | U | U |
| 1                             | 5 ms                                        | D               | S | U | U | D | D | S | U | U | D |
| 2                             | 5 ms                                        | D               | S | U | D | D | D | S | U | D | D |
| 3                             | 10 ms                                       | D               | S | U | U | U | D | D | D | D | D |
| 4                             | 10 ms                                       | D               | S | U | U | D | D | D | D | D | D |
| 5                             | 10 ms                                       | D               | S | U | D | D | D | D | D | D | D |
| 6                             | 5 ms                                        | D               | S | U | U | U | D | S | U | U | D |

**Table 4.2-1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS).**

| Special subframe configuration | Normal cyclic prefix in downlink |                                |                                  | Extended cyclic prefix in downlink |                                |                                  |
|--------------------------------|----------------------------------|--------------------------------|----------------------------------|------------------------------------|--------------------------------|----------------------------------|
|                                | DwPTS                            | UpPTS                          |                                  | DwPTS                              | UpPTS                          |                                  |
|                                |                                  | Normal cyclic prefix in uplink | Extended cyclic prefix in uplink |                                    | Normal cyclic prefix in uplink | Extended cyclic prefix in uplink |
| 0                              | $6592 \cdot T_s$                 | $2192 \cdot T_s$               | $2560 \cdot T_s$                 | $7680 \cdot T_s$                   | $2192 \cdot T_s$               | $2560 \cdot T_s$                 |
| 1                              | $19760 \cdot T_s$                |                                |                                  | $20480 \cdot T_s$                  |                                |                                  |
| 2                              | $21952 \cdot T_s$                |                                |                                  | $23040 \cdot T_s$                  |                                |                                  |
| 3                              | $24144 \cdot T_s$                |                                |                                  | $25600 \cdot T_s$                  |                                |                                  |
| 4                              | $26336 \cdot T_s$                | $4384 \cdot T_s$               | $5120 \cdot T_s$                 | $7680 \cdot T_s$                   | $4384 \cdot T_s$               | $5120 \cdot T_s$                 |
| 5                              | $6592 \cdot T_s$                 |                                |                                  | $20480 \cdot T_s$                  |                                |                                  |
| 6                              | $19760 \cdot T_s$                |                                |                                  | $23040 \cdot T_s$                  |                                |                                  |
| 7                              | $21952 \cdot T_s$                |                                |                                  | $12800 \cdot T_s$                  | -                              | -                                |
| 8                              | $24144 \cdot T_s$                |                                |                                  | -                                  |                                |                                  |
| 9                              | $13168 \cdot T_s$                |                                |                                  | -                                  |                                |                                  |

| Special subframe (30720·T <sub>s</sub> ): Normal cyclic prefix in downlink (UpPTS) |                                |                                |                                  |
|------------------------------------------------------------------------------------|--------------------------------|--------------------------------|----------------------------------|
|                                                                                    | Special subframe configuration | Normal cyclic prefix in uplink | Extended cyclic prefix in uplink |
| Uplink duty factor in one special subframe                                         | 0~4                            | 7.13%                          | 8.33%                            |
|                                                                                    | 5~9                            | 14.3%                          | 16.7%                            |

| Special subframe(30720·T <sub>s</sub> ): Extended cyclic prefix in downlink (UpPTS) |                                |                                |                                  |
|-------------------------------------------------------------------------------------|--------------------------------|--------------------------------|----------------------------------|
|                                                                                     | Special subframe configuration | Normal cyclic prefix in uplink | Extended cyclic prefix in uplink |
| Uplink duty factor in one special subframe                                          | 0~3                            | 7.13%                          | 8.33%                            |
|                                                                                     | 4~7                            | 14.3%                          | 16.7%                            |

- i. The device supports Power Class 2 uplink-downlink configurations 0 and 6, and Power Class 3 uplink-downlink configurations 1 to 5 operations for LTE Band 41.
- ii. The highest available duty cycle for Power Class 2 operation is 43.3% using UL-DL configuration 1, for Power Class 3 operation is 63.3% using UL-DL configuration 0. Per FCC Guidance, all SAR tests were performed using Power Class 3. SAR with Power Class 2 at the available duty factor was additionally performed for the Power Class 3 configuration with the highest SAR among all exposure condition. Please see Section 14.5 for linearity results.



**<Default Power Mode>**

**<LTE Band 38>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 37850                    | 38000                       | 38150                     |                        |             |
| Frequency (MHz) |            |         |           | 2580                     | 2595                        | 2610                      |                        |             |
| 20              | QPSK       | 1       | 0         | 22.86                    | 23.04                       | 22.95                     | 24                     | 0           |
| 20              | QPSK       | 1       | 49        | 23.31                    | 23.84                       | 23.45                     |                        |             |
| 20              | QPSK       | 1       | 99        | 23.42                    | 23.22                       | 23.52                     |                        |             |
| 20              | QPSK       | 50      | 0         | 21.85                    | 21.76                       | 21.98                     | 23                     | 1           |
| 20              | QPSK       | 50      | 24        | 21.78                    | 21.68                       | 21.96                     |                        |             |
| 20              | QPSK       | 50      | 50        | 21.77                    | 21.73                       | 21.98                     |                        |             |
| 20              | QPSK       | 100     | 0         | 21.85                    | 21.86                       | 22.00                     | 23                     | 1           |
| 20              | 16QAM      | 1       | 0         | 22.27                    | 22.17                       | 21.96                     |                        |             |
| 20              | 16QAM      | 1       | 49        | 22.32                    | 22.11                       | 21.91                     |                        |             |
| 20              | 16QAM      | 1       | 99        | 22.08                    | 21.82                       | 21.96                     | 22                     | 2           |
| 20              | 16QAM      | 50      | 0         | 20.85                    | 20.75                       | 20.96                     |                        |             |
| 20              | 16QAM      | 50      | 24        | 20.83                    | 20.75                       | 21.04                     |                        |             |
| 20              | 16QAM      | 50      | 50        | 20.84                    | 20.72                       | 21.06                     | 22                     | 2           |
| 20              | 16QAM      | 100     | 0         | 20.95                    | 20.81                       | 21.08                     |                        |             |
| 20              | 64QAM      | 1       | 0         | 21.63                    | 21.58                       | 21.61                     |                        |             |
| 20              | 64QAM      | 1       | 49        | 21.38                    | 21.30                       | 21.38                     | 22                     | 2           |
| 20              | 64QAM      | 1       | 99        | 21.60                    | 21.52                       | 21.53                     |                        |             |
| 20              | 64QAM      | 50      | 0         | 20.34                    | 20.41                       | 20.47                     |                        |             |
| 20              | 64QAM      | 50      | 24        | 20.41                    | 20.49                       | 20.47                     | 21                     | 3           |
| 20              | 64QAM      | 50      | 50        | 20.58                    | 20.52                       | 20.52                     |                        |             |
| 20              | 64QAM      | 100     | 0         | 20.65                    | 20.70                       | 20.62                     |                        |             |
| Channel         |            |         |           | 37825                    | 38000                       | 38175                     |                        |             |
| Frequency (MHz) |            |         |           | 2577.5                   | 2595                        | 2612.5                    |                        |             |
| 15              | QPSK       | 1       | 0         | 23.07                    | 22.89                       | 23.04                     | 24                     | 0           |
| 15              | QPSK       | 1       | 37        | 23.60                    | 23.18                       | 23.33                     |                        |             |
| 15              | QPSK       | 1       | 74        | 23.61                    | 23.47                       | 23.51                     |                        |             |
| 15              | QPSK       | 36      | 0         | 21.82                    | 21.72                       | 21.91                     | 23                     | 1           |
| 15              | QPSK       | 36      | 20        | 21.80                    | 21.77                       | 22.02                     |                        |             |
| 15              | QPSK       | 36      | 39        | 21.85                    | 21.74                       | 21.93                     |                        |             |
| 15              | QPSK       | 75      | 0         | 21.81                    | 21.79                       | 21.96                     | 23                     | 1           |
| 15              | 16QAM      | 1       | 0         | 22.11                    | 22.23                       | 21.90                     |                        |             |
| 15              | 16QAM      | 1       | 37        | 22.71                    | 21.93                       | 22.38                     |                        |             |
| 15              | 16QAM      | 1       | 74        | 22.16                    | 22.04                       | 21.97                     | 22                     | 2           |
| 15              | 16QAM      | 36      | 0         | 20.81                    | 20.81                       | 20.82                     |                        |             |
| 15              | 16QAM      | 36      | 20        | 20.82                    | 20.82                       | 20.98                     |                        |             |
| 15              | 16QAM      | 36      | 39        | 20.83                    | 20.72                       | 21.01                     | 22                     | 2           |
| 15              | 16QAM      | 75      | 0         | 20.89                    | 20.84                       | 20.85                     |                        |             |
| 15              | 64QAM      | 1       | 0         | 21.57                    | 21.49                       | 21.69                     |                        |             |
| 15              | 64QAM      | 1       | 37        | 21.23                    | 21.32                       | 21.14                     | 22                     | 2           |
| 15              | 64QAM      | 1       | 74        | 21.47                    | 21.54                       | 21.61                     |                        |             |
| 15              | 64QAM      | 36      | 0         | 20.38                    | 20.31                       | 20.37                     |                        |             |
| 15              | 64QAM      | 36      | 20        | 20.69                    | 20.41                       | 20.56                     | 21                     | 3           |
| 15              | 64QAM      | 36      | 39        | 20.64                    | 20.43                       | 20.58                     |                        |             |
| 15              | 64QAM      | 75      | 0         | 20.76                    | 20.62                       | 20.70                     |                        |             |



| Channel         |       |    |    | 37800  | 38000 | 38200  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| Frequency (MHz) |       |    |    | 2575   | 2595  | 2615   |                        |             |
| 10              | QPSK  | 1  | 0  | 23.31  | 23.17 | 23.22  | 24                     | 0           |
| 10              | QPSK  | 1  | 25 | 23.56  | 23.40 | 23.48  |                        |             |
| 10              | QPSK  | 1  | 49 | 23.51  | 23.58 | 23.61  |                        |             |
| 10              | QPSK  | 25 | 0  | 21.97  | 21.82 | 21.99  | 23                     | 1           |
| 10              | QPSK  | 25 | 12 | 21.99  | 21.88 | 21.84  |                        |             |
| 10              | QPSK  | 25 | 25 | 21.99  | 21.82 | 21.91  |                        |             |
| 10              | QPSK  | 50 | 0  | 21.89  | 21.86 | 22.01  |                        |             |
| 10              | 16QAM | 1  | 0  | 22.10  | 22.21 | 22.06  | 23                     | 1           |
| 10              | 16QAM | 1  | 25 | 21.84  | 21.89 | 22.11  |                        |             |
| 10              | 16QAM | 1  | 49 | 21.88  | 22.05 | 22.44  |                        |             |
| 10              | 16QAM | 25 | 0  | 20.96  | 20.82 | 21.05  | 22                     | 2           |
| 10              | 16QAM | 25 | 12 | 20.97  | 20.81 | 20.86  |                        |             |
| 10              | 16QAM | 25 | 25 | 20.93  | 20.61 | 20.96  |                        |             |
| 10              | 16QAM | 50 | 0  | 20.99  | 20.86 | 21.08  |                        |             |
| 10              | 64QAM | 1  | 0  | 21.58  | 21.57 | 21.65  | 22                     | 2           |
| 10              | 64QAM | 1  | 25 | 21.38  | 21.26 | 21.32  |                        |             |
| 10              | 64QAM | 1  | 49 | 21.46  | 21.62 | 21.58  |                        |             |
| 10              | 64QAM | 25 | 0  | 20.46  | 20.38 | 20.35  | 21                     | 3           |
| 10              | 64QAM | 25 | 12 | 20.53  | 20.54 | 20.59  |                        |             |
| 10              | 64QAM | 25 | 25 | 20.35  | 20.57 | 20.58  |                        |             |
| 10              | 64QAM | 50 | 0  | 20.89  | 20.54 | 20.71  |                        |             |
| Channel         |       |    |    | 37775  | 38000 | 38225  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 2572.5 | 2595  | 2617.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 23.22  | 23.01 | 23.22  | 24                     | 0           |
| 5               | QPSK  | 1  | 12 | 23.72  | 23.37 | 23.52  |                        |             |
| 5               | QPSK  | 1  | 24 | 23.58  | 23.31 | 23.54  |                        |             |
| 5               | QPSK  | 12 | 0  | 22.03  | 21.87 | 22.00  | 23                     | 1           |
| 5               | QPSK  | 12 | 7  | 22.04  | 21.88 | 22.04  |                        |             |
| 5               | QPSK  | 12 | 13 | 21.94  | 21.82 | 21.99  |                        |             |
| 5               | QPSK  | 25 | 0  | 22.10  | 21.85 | 21.99  |                        |             |
| 5               | 16QAM | 1  | 0  | 22.29  | 21.93 | 22.35  | 23                     | 1           |
| 5               | 16QAM | 1  | 12 | 22.47  | 21.86 | 22.14  |                        |             |
| 5               | 16QAM | 1  | 24 | 22.39  | 22.03 | 22.05  |                        |             |
| 5               | 16QAM | 12 | 0  | 20.97  | 20.82 | 20.99  | 22                     | 2           |
| 5               | 16QAM | 12 | 7  | 20.96  | 20.82 | 21.00  |                        |             |
| 5               | 16QAM | 12 | 13 | 20.89  | 20.75 | 20.95  |                        |             |
| 5               | 16QAM | 25 | 0  | 20.98  | 20.81 | 21.00  |                        |             |
| 5               | 64QAM | 1  | 0  | 21.65  | 21.62 | 21.57  | 22                     | 2           |
| 5               | 64QAM | 1  | 12 | 21.39  | 21.30 | 21.14  |                        |             |
| 5               | 64QAM | 1  | 24 | 21.40  | 21.51 | 21.43  |                        |             |
| 5               | 64QAM | 12 | 0  | 20.57  | 20.46 | 20.63  | 21                     | 3           |
| 5               | 64QAM | 12 | 7  | 20.66  | 20.63 | 20.48  |                        |             |
| 5               | 64QAM | 12 | 13 | 20.68  | 20.42 | 20.70  |                        |             |
| 5               | 64QAM | 25 | 0  | 20.86  | 20.64 | 20.72  |                        |             |



**<LTE Band 41 (Power Class 2)>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Low Middle Ch. / Freq. | Power Middle Ch. / Freq. | Power High Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|------------------------------|--------------------------|-------------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 39750                 | 40185                        | 40620                    | 41055                         | 41490                  |                     |          |
| Frequency (MHz) |            |         |           | 2506                  | 2549.5                       | 2593                     | 2636.5                        | 2680                   |                     |          |
| 20              | QPSK       | 1       | 0         | 24.04                 | 24.43                        | 24.29                    | 24.33                         | 24.31                  | 25                  | 0        |
| 20              | QPSK       | 1       | 49        | 24.26                 | 24.37                        | 24.23                    | 24.29                         | 24.39                  |                     |          |
| 20              | QPSK       | 1       | 99        | 24.20                 | 23.93                        | 23.67                    | 23.60                         | 23.74                  |                     |          |
| 20              | QPSK       | 50      | 0         | 23.24                 | 23.32                        | 23.29                    | 23.28                         | 23.60                  | 24                  | 1        |
| 20              | QPSK       | 50      | 24        | 23.32                 | 23.31                        | 23.17                    | 23.18                         | 23.53                  |                     |          |
| 20              | QPSK       | 50      | 50        | 23.48                 | 23.51                        | 23.23                    | 23.30                         | 23.05                  |                     |          |
| 20              | QPSK       | 100     | 0         | 23.38                 | 23.41                        | 23.30                    | 23.30                         | 22.95                  | 24                  | 1        |
| 20              | 16QAM      | 1       | 0         | 23.21                 | 23.38                        | 23.31                    | 23.28                         | 22.88                  |                     |          |
| 20              | 16QAM      | 1       | 49        | 23.57                 | 23.44                        | 23.33                    | 23.33                         | 23.23                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 23.56                 | 23.55                        | 23.51                    | 23.43                         | 23.59                  | 23                  | 2        |
| 20              | 16QAM      | 50      | 0         | 22.56                 | 22.35                        | 22.38                    | 22.34                         | 22.44                  |                     |          |
| 20              | 16QAM      | 50      | 24        | 22.51                 | 22.33                        | 22.25                    | 22.53                         | 21.96                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 22.51                 | 22.53                        | 22.25                    | 22.36                         | 22.06                  | 23                  | 2        |
| 20              | 16QAM      | 100     | 0         | 22.49                 | 22.38                        | 22.30                    | 22.50                         | 22.05                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 22.20                 | 22.39                        | 22.31                    | 22.70                         | 22.71                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 22.11                 | 22.07                        | 21.99                    | 22.05                         | 22.01                  | 23                  | 2        |
| 20              | 64QAM      | 1       | 99        | 22.41                 | 22.43                        | 22.11                    | 22.23                         | 22.20                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 21.46                 | 21.26                        | 21.35                    | 21.45                         | 21.29                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 21.41                 | 21.38                        | 21.34                    | 21.35                         | 20.96                  | 22                  | 3        |
| 20              | 64QAM      | 50      | 50        | 21.62                 | 21.49                        | 21.36                    | 21.29                         | 20.96                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 21.57                 | 21.44                        | 21.31                    | 21.47                         | 21.03                  |                     |          |
| Channel         |            |         |           | 39725                 | 40173                        | 40620                    | 41068                         | 41515                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 2503.5                | 2548.3                       | 2593                     | 2637.8                        | 2682.5                 |                     |          |
| 15              | QPSK       | 1       | 0         | 23.90                 | 24.35                        | 24.24                    | 24.25                         | 24.14                  | 25                  | 0        |
| 15              | QPSK       | 1       | 37        | 24.11                 | 24.32                        | 24.10                    | 24.19                         | 24.30                  |                     |          |
| 15              | QPSK       | 1       | 74        | 24.21                 | 23.83                        | 23.65                    | 23.62                         | 23.71                  |                     |          |
| 15              | QPSK       | 36      | 0         | 23.05                 | 23.23                        | 23.21                    | 23.13                         | 23.45                  | 24                  | 1        |
| 15              | QPSK       | 36      | 20        | 23.26                 | 23.18                        | 22.97                    | 23.11                         | 23.45                  |                     |          |
| 15              | QPSK       | 36      | 39        | 23.44                 | 23.33                        | 23.14                    | 23.27                         | 22.92                  |                     |          |
| 15              | QPSK       | 75      | 0         | 23.29                 | 23.36                        | 23.15                    | 23.17                         | 22.78                  | 24                  | 1        |
| 15              | 16QAM      | 1       | 0         | 23.15                 | 23.37                        | 23.15                    | 23.24                         | 22.84                  |                     |          |
| 15              | 16QAM      | 1       | 37        | 23.48                 | 23.44                        | 23.28                    | 23.27                         | 23.21                  |                     |          |
| 15              | 16QAM      | 1       | 74        | 23.41                 | 23.42                        | 23.43                    | 23.36                         | 23.58                  | 23                  | 2        |
| 15              | 16QAM      | 36      | 0         | 22.54                 | 22.17                        | 22.30                    | 22.15                         | 22.34                  |                     |          |
| 15              | 16QAM      | 36      | 20        | 22.36                 | 22.31                        | 22.25                    | 22.41                         | 21.80                  |                     |          |
| 15              | 16QAM      | 36      | 39        | 22.51                 | 22.35                        | 22.08                    | 22.31                         | 21.95                  | 23                  | 2        |
| 15              | 16QAM      | 75      | 0         | 22.49                 | 22.34                        | 22.28                    | 22.45                         | 21.93                  |                     |          |
| 15              | 64QAM      | 1       | 0         | 22.08                 | 22.25                        | 22.29                    | 22.62                         | 22.53                  |                     |          |
| 15              | 64QAM      | 1       | 37        | 22.06                 | 22.04                        | 21.98                    | 21.90                         | 21.89                  | 23                  | 2        |
| 15              | 64QAM      | 1       | 74        | 22.30                 | 22.41                        | 21.96                    | 22.14                         | 22.00                  |                     |          |
| 15              | 64QAM      | 36      | 0         | 21.33                 | 21.17                        | 21.28                    | 21.33                         | 21.25                  |                     |          |
| 15              | 64QAM      | 36      | 20        | 21.28                 | 21.30                        | 21.18                    | 21.17                         | 20.79                  | 22                  | 3        |
| 15              | 64QAM      | 36      | 39        | 21.45                 | 21.35                        | 21.19                    | 21.28                         | 20.85                  |                     |          |
| 15              | 64QAM      | 75      | 0         | 21.48                 | 21.28                        | 21.30                    | 21.42                         | 21.00                  |                     |          |



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| Channel         |       |    |    | 39700  | 40160  | 40620 | 41080   | 41540  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|--------|-------|---------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 2501   | 2547   | 2593  | 2639    | 2685   |                     |          |
| 10              | QPSK  | 1  | 0  | 23.88  | 24.29  | 24.23 | 24.16   | 24.18  | 25                  | 0        |
| 10              | QPSK  | 1  | 25 | 24.15  | 24.25  | 24.07 | 24.27   | 24.35  |                     |          |
| 10              | QPSK  | 1  | 49 | 24.10  | 23.88  | 23.69 | 23.70   | 23.73  |                     |          |
| 10              | QPSK  | 25 | 0  | 23.12  | 23.32  | 23.11 | 23.21   | 23.42  | 24                  | 1        |
| 10              | QPSK  | 25 | 12 | 23.14  | 23.22  | 23.14 | 23.10   | 23.35  |                     |          |
| 10              | QPSK  | 25 | 25 | 23.44  | 23.38  | 23.09 | 23.17   | 23.01  |                     |          |
| 10              | QPSK  | 50 | 0  | 23.35  | 23.40  | 23.28 | 23.13   | 22.81  | 24                  | 1        |
| 10              | 16QAM | 1  | 0  | 23.16  | 23.30  | 23.22 | 23.16   | 22.73  |                     |          |
| 10              | 16QAM | 1  | 25 | 23.45  | 23.35  | 23.33 | 23.14   | 23.05  |                     |          |
| 10              | 16QAM | 1  | 49 | 23.45  | 23.35  | 23.49 | 23.32   | 23.58  | 23                  | 2        |
| 10              | 16QAM | 25 | 0  | 22.38  | 22.33  | 22.26 | 22.23   | 22.31  |                     |          |
| 10              | 16QAM | 25 | 12 | 22.40  | 22.33  | 22.11 | 22.43   | 21.91  |                     |          |
| 10              | 16QAM | 25 | 25 | 22.40  | 22.36  | 22.12 | 22.24   | 21.92  | 23                  | 2        |
| 10              | 16QAM | 50 | 0  | 22.36  | 22.19  | 22.26 | 22.50   | 22.05  |                     |          |
| 10              | 64QAM | 1  | 0  | 22.06  | 22.31  | 22.11 | 22.61   | 22.69  |                     |          |
| 10              | 64QAM | 1  | 25 | 22.00  | 21.92  | 21.90 | 21.95   | 21.82  | 23                  | 2        |
| 10              | 64QAM | 1  | 49 | 22.40  | 22.40  | 21.94 | 22.08   | 22.17  |                     |          |
| 10              | 64QAM | 25 | 0  | 21.40  | 21.09  | 21.27 | 21.26   | 21.13  |                     |          |
| 10              | 64QAM | 25 | 12 | 21.33  | 21.18  | 21.16 | 21.15   | 20.92  | 22                  | 3        |
| 10              | 64QAM | 25 | 25 | 21.51  | 21.41  | 21.35 | 21.19   | 20.91  |                     |          |
| 10              | 64QAM | 50 | 0  | 21.46  | 21.33  | 21.27 | 21.45   | 21.03  |                     |          |
| Channel         |       |    |    | 39675  | 40148  | 40620 | 41093   | 41565  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 2498.5 | 2545.8 | 2593  | 2640.30 | 2687.5 |                     |          |
| 5               | QPSK  | 1  | 0  | 23.92  | 24.26  | 24.12 | 24.20   | 24.13  | 25                  | 0        |
| 5               | QPSK  | 1  | 12 | 24.24  | 24.22  | 24.20 | 24.27   | 24.21  |                     |          |
| 5               | QPSK  | 1  | 24 | 24.12  | 23.74  | 23.67 | 23.64   | 23.66  |                     |          |
| 5               | QPSK  | 12 | 0  | 23.19  | 23.17  | 23.11 | 23.09   | 23.50  | 24                  | 1        |
| 5               | QPSK  | 12 | 7  | 23.14  | 23.19  | 23.03 | 23.04   | 23.39  |                     |          |
| 5               | QPSK  | 12 | 13 | 23.34  | 23.34  | 23.21 | 23.16   | 23.02  |                     |          |
| 5               | QPSK  | 25 | 0  | 23.33  | 23.24  | 23.14 | 23.17   | 22.84  | 24                  | 1        |
| 5               | 16QAM | 1  | 0  | 23.21  | 23.18  | 23.13 | 23.11   | 22.75  |                     |          |
| 5               | 16QAM | 1  | 12 | 23.47  | 23.30  | 23.32 | 23.26   | 23.04  |                     |          |
| 5               | 16QAM | 1  | 24 | 23.54  | 23.49  | 23.43 | 23.37   | 23.44  | 23                  | 2        |
| 5               | 16QAM | 12 | 0  | 22.46  | 22.24  | 22.20 | 22.33   | 22.37  |                     |          |
| 5               | 16QAM | 12 | 7  | 22.48  | 22.19  | 22.16 | 22.49   | 21.82  |                     |          |
| 5               | 16QAM | 12 | 13 | 22.44  | 22.47  | 22.17 | 22.19   | 22.01  | 23                  | 2        |
| 5               | 16QAM | 25 | 0  | 22.42  | 22.35  | 22.26 | 22.32   | 22.01  |                     |          |
| 5               | 64QAM | 1  | 0  | 22.20  | 22.27  | 22.30 | 22.60   | 22.64  |                     |          |
| 5               | 64QAM | 1  | 12 | 22.02  | 21.87  | 21.85 | 22.02   | 21.85  | 23                  | 2        |
| 5               | 64QAM | 1  | 24 | 22.33  | 22.36  | 22.04 | 22.17   | 22.10  |                     |          |
| 5               | 64QAM | 12 | 0  | 21.28  | 21.16  | 21.20 | 21.38   | 21.19  |                     |          |
| 5               | 64QAM | 12 | 7  | 21.37  | 21.30  | 21.18 | 21.33   | 20.88  | 22                  | 3        |
| 5               | 64QAM | 12 | 13 | 21.48  | 21.36  | 21.19 | 21.18   | 20.76  |                     |          |
| 5               | 64QAM | 25 | 0  | 21.52  | 21.26  | 21.15 | 21.31   | 21.00  |                     |          |



**<LTE Band 41 (Power Class 3)>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Low Middle Ch. / Freq. | Power Middle Ch. / Freq. | Power High Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|------------------------------|--------------------------|-------------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 39750                 | 40185                        | 40620                    | 41055                         | 41490                  |                     |          |
| Frequency (MHz) |            |         |           | 2506                  | 2549.5                       | 2593                     | 2636.5                        | 2680                   |                     |          |
| 20              | QPSK       | 1       | 0         | 23.57                 | 23.28                        | 23.36                    | 23.27                         | 23.28                  | 24                  | 0        |
| 20              | QPSK       | 1       | 49        | 23.43                 | 23.22                        | 23.34                    | 23.46                         | 23.19                  |                     |          |
| 20              | QPSK       | 1       | 99        | 23.60                 | 23.32                        | 23.31                    | 23.33                         | 23.11                  |                     |          |
| 20              | QPSK       | 50      | 0         | 22.69                 | 22.38                        | 22.53                    | 22.53                         | 22.25                  | 23                  | 1        |
| 20              | QPSK       | 50      | 24        | 22.66                 | 22.39                        | 22.29                    | 22.53                         | 21.95                  |                     |          |
| 20              | QPSK       | 50      | 50        | 22.77                 | 22.46                        | 22.27                    | 22.52                         | 22.44                  |                     |          |
| 20              | QPSK       | 100     | 0         | 22.77                 | 22.35                        | 22.45                    | 22.58                         | 22.51                  | 23                  | 1        |
| 20              | 16QAM      | 1       | 0         | 21.65                 | 21.66                        | 21.62                    | 21.98                         | 21.71                  |                     |          |
| 20              | 16QAM      | 1       | 49        | 21.92                 | 21.70                        | 21.68                    | 21.93                         | 21.38                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 22.13                 | 21.97                        | 21.60                    | 21.62                         | 21.75                  | 22                  | 2        |
| 20              | 16QAM      | 50      | 0         | 21.09                 | 20.85                        | 20.95                    | 21.02                         | 20.43                  |                     |          |
| 20              | 16QAM      | 50      | 24        | 21.10                 | 20.81                        | 20.79                    | 20.83                         | 20.84                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 21.18                 | 20.92                        | 20.81                    | 20.79                         | 20.82                  | 22                  | 2        |
| 20              | 16QAM      | 100     | 0         | 21.20                 | 20.94                        | 20.83                    | 20.97                         | 20.74                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 21.35                 | 21.36                        | 21.31                    | 21.45                         | 21.43                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 21.45                 | 21.15                        | 21.05                    | 21.32                         | 21.30                  | 22                  | 2        |
| 20              | 64QAM      | 1       | 99        | 21.39                 | 21.87                        | 21.56                    | 21.46                         | 21.42                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 20.41                 | 20.49                        | 20.51                    | 20.45                         | 20.17                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 20.55                 | 20.24                        | 20.34                    | 20.54                         | 20.20                  | 21                  | 3        |
| 20              | 64QAM      | 50      | 50        | 20.63                 | 20.44                        | 20.43                    | 20.68                         | 20.32                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 20.57                 | 20.49                        | 20.29                    | 20.58                         | 20.39                  |                     |          |
| Channel         |            |         |           | 39725                 | 40173                        | 40620                    | 41068                         | 41515                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 2503.5                | 2548.3                       | 2593                     | 2637.8                        | 2682.5                 |                     |          |
| 15              | QPSK       | 1       | 0         | 22.91                 | 22.58                        | 22.64                    | 22.64                         | 22.50                  | 24                  | 0        |
| 15              | QPSK       | 1       | 37        | 22.76                 | 22.52                        | 22.62                    | 22.83                         | 22.47                  |                     |          |
| 15              | QPSK       | 1       | 74        | 23.10                 | 22.54                        | 22.63                    | 22.61                         | 22.32                  |                     |          |
| 15              | QPSK       | 36      | 0         | 21.95                 | 21.67                        | 21.86                    | 21.87                         | 21.55                  | 23                  | 1        |
| 15              | QPSK       | 36      | 20        | 21.94                 | 21.74                        | 21.63                    | 21.75                         | 21.30                  |                     |          |
| 15              | QPSK       | 36      | 39        | 22.06                 | 21.79                        | 21.56                    | 21.80                         | 21.84                  |                     |          |
| 15              | QPSK       | 75      | 0         | 22.00                 | 21.74                        | 21.74                    | 21.83                         | 21.82                  | 23                  | 1        |
| 15              | 16QAM      | 1       | 0         | 21.89                 | 21.57                        | 21.52                    | 21.95                         | 21.65                  |                     |          |
| 15              | 16QAM      | 1       | 37        | 21.91                 | 21.67                        | 21.65                    | 21.93                         | 21.18                  |                     |          |
| 15              | 16QAM      | 1       | 74        | 22.09                 | 21.84                        | 21.50                    | 21.47                         | 21.65                  | 22                  | 2        |
| 15              | 16QAM      | 36      | 0         | 20.91                 | 20.70                        | 20.86                    | 20.82                         | 20.37                  |                     |          |
| 15              | 16QAM      | 36      | 20        | 20.91                 | 20.75                        | 20.62                    | 20.63                         | 20.67                  |                     |          |
| 15              | 16QAM      | 36      | 39        | 21.09                 | 20.89                        | 20.78                    | 20.79                         | 20.80                  | 22                  | 2        |
| 15              | 16QAM      | 75      | 0         | 21.14                 | 20.89                        | 20.76                    | 20.97                         | 20.72                  |                     |          |
| 15              | 64QAM      | 1       | 0         | 21.31                 | 21.52                        | 21.27                    | 21.66                         | 21.32                  |                     |          |
| 15              | 64QAM      | 1       | 37        | 21.15                 | 21.32                        | 21.18                    | 21.03                         | 21.22                  | 22                  | 2        |
| 15              | 64QAM      | 1       | 74        | 21.17                 | 21.50                        | 21.18                    | 21.72                         | 21.56                  |                     |          |
| 15              | 64QAM      | 36      | 0         | 20.55                 | 20.43                        | 20.38                    | 20.58                         | 20.50                  |                     |          |
| 15              | 64QAM      | 36      | 20        | 20.38                 | 20.39                        | 20.39                    | 20.48                         | 20.30                  | 21                  | 3        |
| 15              | 64QAM      | 36      | 39        | 20.58                 | 20.53                        | 20.32                    | 20.35                         | 20.42                  |                     |          |
| 15              | 64QAM      | 75      | 0         | 20.55                 | 20.41                        | 20.35                    | 20.64                         | 20.49                  |                     |          |



| Channel         |       |    |    | 39700  | 40160  | 40620 | 41080   | 41540  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|--------|-------|---------|--------|---------------------------|-------------|
| Frequency (MHz) |       |    |    | 2501   | 2547   | 2593  | 2639    | 2685   |                           |             |
| 10              | QPSK  | 1  | 0  | 22.97  | 22.57  | 22.67 | 22.48   | 22.59  | 24                        | 0           |
| 10              | QPSK  | 1  | 25 | 22.74  | 22.46  | 22.54 | 22.74   | 22.57  |                           |             |
| 10              | QPSK  | 1  | 49 | 22.96  | 22.63  | 22.66 | 22.70   | 22.36  |                           |             |
| 10              | QPSK  | 25 | 0  | 22.04  | 21.60  | 21.91 | 21.92   | 21.63  | 23                        | 1           |
| 10              | QPSK  | 25 | 12 | 21.91  | 21.65  | 21.58 | 21.87   | 21.33  |                           |             |
| 10              | QPSK  | 25 | 25 | 22.15  | 21.76  | 21.67 | 21.77   | 21.84  |                           |             |
| 10              | QPSK  | 50 | 0  | 22.15  | 21.68  | 21.74 | 21.83   | 21.89  | 23                        | 1           |
| 10              | 16QAM | 1  | 0  | 22.04  | 21.62  | 21.62 | 21.81   | 21.58  |                           |             |
| 10              | 16QAM | 1  | 25 | 21.72  | 21.59  | 21.59 | 21.83   | 21.21  |                           |             |
| 10              | 16QAM | 1  | 49 | 21.98  | 21.95  | 21.58 | 21.42   | 21.56  | 22                        | 2           |
| 10              | 16QAM | 25 | 0  | 21.03  | 20.77  | 20.86 | 20.91   | 20.35  |                           |             |
| 10              | 16QAM | 25 | 12 | 20.92  | 20.77  | 20.75 | 20.82   | 20.73  |                           |             |
| 10              | 16QAM | 25 | 25 | 20.98  | 20.83  | 20.70 | 20.61   | 20.71  | 22                        | 2           |
| 10              | 16QAM | 50 | 0  | 21.19  | 20.87  | 20.64 | 20.81   | 20.72  |                           |             |
| 10              | 64QAM | 1  | 0  | 21.11  | 21.41  | 21.27 | 21.66   | 21.15  |                           |             |
| 10              | 64QAM | 1  | 25 | 21.07  | 21.20  | 21.05 | 21.06   | 21.13  | 22                        | 2           |
| 10              | 64QAM | 1  | 49 | 21.16  | 21.30  | 21.08 | 21.68   | 21.37  |                           |             |
| 10              | 64QAM | 25 | 0  | 20.53  | 20.33  | 20.20 | 20.55   | 20.44  |                           |             |
| 10              | 64QAM | 25 | 12 | 20.38  | 20.35  | 20.21 | 20.39   | 20.22  | 21                        | 3           |
| 10              | 64QAM | 25 | 25 | 20.56  | 20.42  | 20.16 | 20.31   | 20.39  |                           |             |
| 10              | 64QAM | 50 | 0  | 20.40  | 20.38  | 20.28 | 20.62   | 20.43  |                           |             |
| Channel         |       |    |    | 39675  | 40148  | 40620 | 41093   | 41565  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 2498.5 | 2545.8 | 2593  | 2640.30 | 2687.5 |                           |             |
| 5               | QPSK  | 1  | 0  | 22.85  | 22.56  | 22.60 | 22.56   | 22.48  | 24                        | 0           |
| 5               | QPSK  | 1  | 12 | 22.65  | 22.53  | 22.64 | 22.79   | 22.56  |                           |             |
| 5               | QPSK  | 1  | 24 | 23.04  | 22.68  | 22.69 | 22.64   | 22.36  |                           |             |
| 5               | QPSK  | 12 | 0  | 21.89  | 21.58  | 21.90 | 21.85   | 21.56  | 23                        | 1           |
| 5               | QPSK  | 12 | 7  | 22.03  | 21.62  | 21.62 | 21.93   | 21.24  |                           |             |
| 5               | QPSK  | 12 | 13 | 22.01  | 21.79  | 21.48 | 21.84   | 21.80  |                           |             |
| 5               | QPSK  | 25 | 0  | 22.01  | 21.58  | 21.71 | 21.84   | 21.85  | 23                        | 1           |
| 5               | 16QAM | 1  | 0  | 22.02  | 21.60  | 21.46 | 21.89   | 21.51  |                           |             |
| 5               | 16QAM | 1  | 12 | 21.81  | 21.68  | 21.67 | 21.73   | 21.36  |                           |             |
| 5               | 16QAM | 1  | 24 | 22.10  | 21.85  | 21.53 | 21.60   | 21.65  | 22                        | 2           |
| 5               | 16QAM | 12 | 0  | 21.08  | 20.68  | 20.81 | 20.92   | 20.36  |                           |             |
| 5               | 16QAM | 12 | 7  | 20.96  | 20.70  | 20.76 | 20.77   | 20.75  |                           |             |
| 5               | 16QAM | 12 | 13 | 21.07  | 20.86  | 20.81 | 20.62   | 20.72  | 22                        | 2           |
| 5               | 16QAM | 25 | 0  | 21.09  | 20.80  | 20.79 | 20.79   | 20.62  |                           |             |
| 5               | 64QAM | 1  | 0  | 21.19  | 21.47  | 21.27 | 21.58   | 21.32  |                           |             |
| 5               | 64QAM | 1  | 12 | 21.15  | 21.29  | 21.01 | 21.04   | 21.09  | 22                        | 2           |
| 5               | 64QAM | 1  | 24 | 21.11  | 21.40  | 21.07 | 21.58   | 21.42  |                           |             |
| 5               | 64QAM | 12 | 0  | 20.54  | 20.35  | 20.28 | 20.49   | 20.36  |                           |             |
| 5               | 64QAM | 12 | 7  | 20.38  | 20.38  | 20.31 | 20.28   | 20.17  | 21                        | 3           |
| 5               | 64QAM | 12 | 13 | 20.39  | 20.52  | 20.31 | 20.17   | 20.28  |                           |             |
| 5               | 64QAM | 25 | 0  | 20.53  | 20.23  | 20.35 | 20.58   | 20.37  |                           |             |

**<Near-Body and Hotspot Power Mode>**
**<LTE Band 38>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|------------------------|-------------|
| Channel         |            |         |           | 37850                    | 38000                       | 38150                     |                        |             |
| Frequency (MHz) |            |         |           | 2580                     | 2595                        | 2610                      |                        |             |
| 20              | QPSK       | 1       | 0         | 20.07                    | 19.98                       | 20.09                     | 20.5                   | 0           |
| 20              | QPSK       | 1       | 49        | 19.99                    | 19.97                       | 19.99                     |                        |             |
| 20              | QPSK       | 1       | 99        | 20.09                    | 20.11                       | 20.23                     |                        |             |
| 20              | QPSK       | 50      | 0         | 19.98                    | 19.84                       | 19.94                     | 20.5                   | 0           |
| 20              | QPSK       | 50      | 24        | 20.00                    | 19.79                       | 20.03                     |                        |             |
| 20              | QPSK       | 50      | 50        | 20.00                    | 19.85                       | 20.04                     |                        |             |
| 20              | QPSK       | 100     | 0         | 19.94                    | 19.90                       | 20.00                     | 20.5                   | 0           |
| 20              | 16QAM      | 1       | 0         | 20.01                    | 19.90                       | 19.98                     |                        |             |
| 20              | 16QAM      | 1       | 49        | 20.20                    | 19.81                       | 20.00                     |                        |             |
| 20              | 16QAM      | 1       | 99        | 20.28                    | 20.00                       | 20.08                     | 20.5                   | 0           |
| 20              | 16QAM      | 50      | 0         | 18.98                    | 18.87                       | 18.97                     |                        |             |
| 20              | 16QAM      | 50      | 24        | 19.00                    | 18.85                       | 18.91                     |                        |             |
| 20              | 16QAM      | 50      | 50        | 19.00                    | 18.89                       | 19.12                     | 20.5                   | 0           |
| 20              | 16QAM      | 100     | 0         | 19.02                    | 18.96                       | 19.10                     |                        |             |
| 20              | 64QAM      | 1       | 0         | 18.79                    | 18.64                       | 18.59                     |                        |             |
| 20              | 64QAM      | 1       | 49        | 18.74                    | 18.71                       | 18.69                     | 19.5                   | 1           |
| 20              | 64QAM      | 1       | 99        | 18.90                    | 18.71                       | 18.91                     |                        |             |
| 20              | 64QAM      | 50      | 0         | 18.01                    | 17.76                       | 17.89                     |                        |             |
| 20              | 64QAM      | 50      | 24        | 18.02                    | 17.82                       | 17.99                     | 19.5                   | 1           |
| 20              | 64QAM      | 50      | 50        | 18.02                    | 17.89                       | 18.03                     |                        |             |
| 20              | 64QAM      | 100     | 0         | 17.97                    | 17.93                       | 18.00                     |                        |             |
| Channel         |            |         |           | 37825                    | 38000                       | 38175                     | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |            |         |           | 2577.5                   | 2595                        | 2612.5                    |                        |             |
| 15              | QPSK       | 1       | 0         | 20.11                    | 20.05                       | 20.18                     | 20.5                   | 0           |
| 15              | QPSK       | 1       | 37        | 20.09                    | 20.07                       | 20.09                     |                        |             |
| 15              | QPSK       | 1       | 74        | 20.04                    | 20.18                       | 20.32                     |                        |             |
| 15              | QPSK       | 36      | 0         | 19.92                    | 19.91                       | 20.01                     | 20.5                   | 0           |
| 15              | QPSK       | 36      | 20        | 19.92                    | 19.74                       | 19.99                     |                        |             |
| 15              | QPSK       | 36      | 39        | 19.97                    | 19.71                       | 19.98                     |                        |             |
| 15              | QPSK       | 75      | 0         | 19.96                    | 19.91                       | 19.92                     | 20.5                   | 0           |
| 15              | 16QAM      | 1       | 0         | 19.92                    | 19.96                       | 19.99                     |                        |             |
| 15              | 16QAM      | 1       | 37        | 20.14                    | 19.82                       | 20.05                     |                        |             |
| 15              | 16QAM      | 1       | 74        | 20.29                    | 20.10                       | 20.12                     | 20.5                   | 0           |
| 15              | 16QAM      | 36      | 0         | 19.07                    | 18.80                       | 18.98                     |                        |             |
| 15              | 16QAM      | 36      | 20        | 18.93                    | 18.89                       | 18.99                     |                        |             |
| 15              | 16QAM      | 36      | 39        | 18.98                    | 18.79                       | 19.11                     | 20.5                   | 0           |
| 15              | 16QAM      | 75      | 0         | 18.99                    | 18.93                       | 19.17                     |                        |             |
| 15              | 64QAM      | 1       | 0         | 18.69                    | 18.68                       | 18.58                     |                        |             |
| 15              | 64QAM      | 1       | 37        | 18.73                    | 18.65                       | 18.63                     | 19.5                   | 1           |
| 15              | 64QAM      | 1       | 74        | 18.89                    | 18.80                       | 19.01                     |                        |             |
| 15              | 64QAM      | 36      | 0         | 18.00                    | 17.77                       | 17.94                     |                        |             |
| 15              | 64QAM      | 36      | 20        | 18.06                    | 17.89                       | 17.91                     | 19.5                   | 1           |
| 15              | 64QAM      | 36      | 39        | 17.92                    | 17.93                       | 18.13                     |                        |             |
| 15              | 64QAM      | 75      | 0         | 17.97                    | 17.88                       | 18.10                     |                        |             |



| Channel         |       |    |    | 37800  | 38000 | 38200  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|-------|--------|------------------------|-------------|
| Frequency (MHz) |       |    |    | 2575   | 2595  | 2615   |                        |             |
| 10              | QPSK  | 1  | 0  | 19.99  | 20.00 | 20.15  | 20.5                   | 0           |
| 10              | QPSK  | 1  | 25 | 20.09  | 20.04 | 20.00  |                        |             |
| 10              | QPSK  | 1  | 49 | 20.01  | 20.02 | 20.19  |                        |             |
| 10              | QPSK  | 25 | 0  | 19.90  | 19.82 | 19.90  | 20.5                   | 0           |
| 10              | QPSK  | 25 | 12 | 20.08  | 19.86 | 20.05  |                        |             |
| 10              | QPSK  | 25 | 25 | 20.03  | 19.72 | 20.03  |                        |             |
| 10              | QPSK  | 50 | 0  | 19.93  | 19.83 | 20.04  |                        |             |
| 10              | 16QAM | 1  | 0  | 20.00  | 19.81 | 19.90  | 20.5                   | 0           |
| 10              | 16QAM | 1  | 25 | 20.18  | 19.76 | 19.93  |                        |             |
| 10              | 16QAM | 1  | 49 | 20.19  | 19.97 | 20.16  |                        |             |
| 10              | 16QAM | 25 | 0  | 19.04  | 18.88 | 18.90  | 20.5                   | 0           |
| 10              | 16QAM | 25 | 12 | 19.03  | 18.75 | 18.89  |                        |             |
| 10              | 16QAM | 25 | 25 | 19.09  | 18.93 | 19.22  |                        |             |
| 10              | 16QAM | 50 | 0  | 18.99  | 18.90 | 19.14  |                        |             |
| 10              | 64QAM | 1  | 0  | 18.83  | 18.55 | 18.59  | 19.5                   | 1           |
| 10              | 64QAM | 1  | 25 | 18.77  | 18.67 | 18.62  |                        |             |
| 10              | 64QAM | 1  | 49 | 18.99  | 18.61 | 18.99  |                        |             |
| 10              | 64QAM | 25 | 0  | 17.92  | 17.73 | 17.80  | 19.5                   | 1           |
| 10              | 64QAM | 25 | 12 | 17.94  | 17.85 | 18.09  |                        |             |
| 10              | 64QAM | 25 | 25 | 18.07  | 17.86 | 18.04  |                        |             |
| 10              | 64QAM | 50 | 0  | 17.95  | 17.92 | 17.97  |                        |             |
| Channel         |       |    |    | 37775  | 38000 | 38225  | Tune-up limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 2572.5 | 2595  | 2617.5 |                        |             |
| 5               | QPSK  | 1  | 0  | 20.09  | 19.95 | 20.07  | 20.5                   | 0           |
| 5               | QPSK  | 1  | 12 | 20.04  | 19.88 | 19.93  |                        |             |
| 5               | QPSK  | 1  | 24 | 20.03  | 20.15 | 20.13  |                        |             |
| 5               | QPSK  | 12 | 0  | 19.99  | 19.93 | 20.04  | 20.5                   | 0           |
| 5               | QPSK  | 12 | 7  | 20.09  | 19.84 | 20.06  |                        |             |
| 5               | QPSK  | 12 | 13 | 19.97  | 19.77 | 20.12  |                        |             |
| 5               | QPSK  | 25 | 0  | 19.95  | 19.89 | 20.10  |                        |             |
| 5               | 16QAM | 1  | 0  | 19.95  | 19.88 | 20.02  | 20.5                   | 0           |
| 5               | 16QAM | 1  | 12 | 20.12  | 19.74 | 20.02  |                        |             |
| 5               | 16QAM | 1  | 24 | 20.30  | 19.92 | 20.18  |                        |             |
| 5               | 16QAM | 12 | 0  | 19.01  | 18.84 | 18.90  | 20.5                   | 0           |
| 5               | 16QAM | 12 | 7  | 19.08  | 18.95 | 18.95  |                        |             |
| 5               | 16QAM | 12 | 13 | 19.09  | 18.99 | 19.03  |                        |             |
| 5               | 16QAM | 25 | 0  | 19.03  | 18.97 | 19.03  |                        |             |
| 5               | 64QAM | 1  | 0  | 18.82  | 18.68 | 18.64  | 19.5                   | 1           |
| 5               | 64QAM | 1  | 12 | 18.77  | 18.65 | 18.72  |                        |             |
| 5               | 64QAM | 1  | 24 | 18.98  | 18.63 | 18.92  |                        |             |
| 5               | 64QAM | 12 | 0  | 17.92  | 17.75 | 17.81  | 19.5                   | 1           |
| 5               | 64QAM | 12 | 7  | 18.01  | 17.86 | 18.07  |                        |             |
| 5               | 64QAM | 12 | 13 | 17.95  | 17.83 | 17.93  |                        |             |
| 5               | 64QAM | 25 | 0  | 18.07  | 17.92 | 18.05  |                        |             |



**<LTE Band 41 (Power Class 2)>**

| BW [MHz]        | Modulation | RB Size | RB Offset | for IC Power Low Ch. / Freq. | Power Low Ch. / Freq. | Power Middle Low Ch. / Freq. | Power Middle High Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|------------------------------|-----------------------|------------------------------|-------------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 39750                        | 40185                 | 40620                        | 41055                         | 41490                  |                     |          |
| Frequency (MHz) |            |         |           | 2506                         | 2549.5                | 2593                         | 2636.5                        | 2680                   |                     |          |
| 20              | QPSK       | 1       | 0         | 20.01                        | 19.99                 | 19.94                        | 20.42                         | 19.92                  | 21.5                | 0        |
| 20              | QPSK       | 1       | 49        | 20.18                        | 20.09                 | 20.13                        | 20.44                         | 20.00                  |                     |          |
| 20              | QPSK       | 1       | 99        | 20.47                        | 20.42                 | 20.23                        | 20.47                         | 20.11                  |                     |          |
| 20              | QPSK       | 50      | 0         | 20.50                        | 20.39                 | 20.28                        | 20.36                         | 20.34                  | 21.5                | 0        |
| 20              | QPSK       | 50      | 24        | 20.37                        | 20.35                 | 20.24                        | 20.12                         | 20.28                  |                     |          |
| 20              | QPSK       | 50      | 50        | 20.55                        | 20.47                 | 20.27                        | 20.43                         | 20.28                  |                     |          |
| 20              | QPSK       | 100     | 0         | 20.44                        | 20.41                 | 20.24                        | 20.40                         | 20.28                  | 21.5                | 0        |
| 20              | 16QAM      | 1       | 0         | 20.68                        | 20.24                 | 20.14                        | 19.94                         | 19.77                  |                     |          |
| 20              | 16QAM      | 1       | 49        | 20.39                        | 20.53                 | 20.16                        | 20.32                         | 19.74                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 20.80                        | 20.80                 | 20.36                        | 20.52                         | 19.80                  | 21.5                | 0        |
| 20              | 16QAM      | 50      | 0         | 19.78                        | 19.72                 | 19.69                        | 19.84                         | 19.62                  |                     |          |
| 20              | 16QAM      | 50      | 24        | 19.78                        | 19.61                 | 19.56                        | 19.68                         | 19.60                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 19.88                        | 19.82                 | 19.56                        | 19.74                         | 19.71                  | 20.5                | 1        |
| 20              | 16QAM      | 100     | 0         | 19.83                        | 19.78                 | 19.56                        | 19.64                         | 19.50                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 19.21                        | 19.30                 | 19.11                        | 19.59                         | 19.53                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 19.41                        | 19.28                 | 19.41                        | 19.61                         | 19.51                  | 20.5                | 1        |
| 20              | 64QAM      | 1       | 99        | 19.88                        | 19.63                 | 19.57                        | 19.80                         | 18.93                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 18.74                        | 18.65                 | 18.64                        | 18.77                         | 18.58                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 18.78                        | 18.66                 | 18.52                        | 18.68                         | 18.55                  | 20.5                | 1        |
| 20              | 64QAM      | 50      | 50        | 18.86                        | 18.85                 | 18.58                        | 18.74                         | 18.68                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 18.80                        | 18.75                 | 18.59                        | 18.77                         | 18.55                  |                     |          |
| Channel         |            |         |           | 39725                        | 40173                 | 40620                        | 41068                         | 41515                  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |            |         |           | 2503.5                       | 2548.3                | 2593                         | 2637.8                        | 2682.5                 |                     |          |
| 15              | QPSK       | 1       | 0         | 19.98                        | 19.92                 | 19.93                        | 20.51                         | 19.96                  | 21.5                | 0        |
| 15              | QPSK       | 1       | 37        | 20.10                        | 20.00                 | 20.19                        | 20.40                         | 19.91                  |                     |          |
| 15              | QPSK       | 1       | 74        | 20.42                        | 20.45                 | 20.15                        | 20.38                         | 20.02                  |                     |          |
| 15              | QPSK       | 36      | 0         | 20.54                        | 20.35                 | 20.32                        | 20.44                         | 20.44                  | 21.5                | 0        |
| 15              | QPSK       | 36      | 20        | 20.37                        | 20.36                 | 20.23                        | 20.15                         | 20.36                  |                     |          |
| 15              | QPSK       | 36      | 39        | 20.64                        | 20.52                 | 20.18                        | 20.47                         | 20.31                  |                     |          |
| 15              | QPSK       | 75      | 0         | 20.54                        | 20.33                 | 20.25                        | 20.33                         | 20.32                  | 21.5                | 0        |
| 15              | 16QAM      | 1       | 0         | 20.62                        | 20.33                 | 20.20                        | 19.88                         | 19.82                  |                     |          |
| 15              | 16QAM      | 1       | 37        | 20.37                        | 20.48                 | 20.06                        | 20.40                         | 19.68                  |                     |          |
| 15              | 16QAM      | 1       | 74        | 20.81                        | 20.85                 | 20.40                        | 20.44                         | 19.73                  | 21.5                | 0        |
| 15              | 16QAM      | 36      | 0         | 19.85                        | 19.70                 | 19.65                        | 19.93                         | 19.64                  |                     |          |
| 15              | 16QAM      | 36      | 20        | 19.75                        | 19.69                 | 19.64                        | 19.69                         | 19.68                  |                     |          |
| 15              | 16QAM      | 36      | 39        | 19.96                        | 19.88                 | 19.66                        | 19.80                         | 19.61                  | 20.5                | 1        |
| 15              | 16QAM      | 75      | 0         | 19.92                        | 19.76                 | 19.47                        | 19.62                         | 19.47                  |                     |          |
| 15              | 64QAM      | 1       | 0         | 19.28                        | 19.27                 | 19.14                        | 19.64                         | 19.60                  |                     |          |
| 15              | 64QAM      | 1       | 37        | 19.32                        | 19.20                 | 19.50                        | 19.57                         | 19.50                  | 20.5                | 1        |
| 15              | 64QAM      | 1       | 74        | 19.93                        | 19.55                 | 19.62                        | 19.79                         | 18.97                  |                     |          |
| 15              | 64QAM      | 36      | 0         | 18.71                        | 18.64                 | 18.72                        | 18.83                         | 18.50                  |                     |          |
| 15              | 64QAM      | 36      | 20        | 18.84                        | 18.68                 | 18.46                        | 18.73                         | 18.59                  | 20.5                | 1        |
| 15              | 64QAM      | 36      | 39        | 18.77                        | 18.76                 | 18.66                        | 18.69                         | 18.66                  |                     |          |
| 15              | 64QAM      | 75      | 0         | 18.73                        | 18.84                 | 18.68                        | 18.82                         | 18.62                  |                     |          |



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| Channel         |       |    |    | 39700  | 40160  | 40620 | 41080  | 41540  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|--------|-------|--------|--------|---------------------------|-------------|
| Frequency (MHz) |       |    |    | 2501   | 2547   | 2593  | 2639   | 2685   |                           |             |
| 10              | QPSK  | 1  | 0  | 20.02  | 19.99  | 19.91 | 20.32  | 20.06  | 21.5                      | 0           |
| 10              | QPSK  | 1  | 25 | 20.25  | 20.05  | 20.13 | 20.50  | 19.96  |                           |             |
| 10              | QPSK  | 1  | 49 | 20.48  | 20.45  | 20.33 | 20.38  | 20.11  |                           |             |
| 10              | QPSK  | 25 | 0  | 20.51  | 20.48  | 20.38 | 20.29  | 20.39  | 21.5                      | 0           |
| 10              | QPSK  | 25 | 12 | 20.33  | 20.44  | 20.32 | 20.13  | 20.22  |                           |             |
| 10              | QPSK  | 25 | 25 | 20.64  | 20.39  | 20.34 | 20.39  | 20.20  |                           |             |
| 10              | QPSK  | 50 | 0  | 20.37  | 20.50  | 20.15 | 20.38  | 20.37  | 21.5                      | 0           |
| 10              | 16QAM | 1  | 0  | 20.71  | 20.34  | 20.22 | 19.97  | 19.76  |                           |             |
| 10              | 16QAM | 1  | 25 | 20.42  | 20.51  | 20.10 | 20.22  | 19.78  |                           |             |
| 10              | 16QAM | 1  | 49 | 20.72  | 20.82  | 20.38 | 20.62  | 19.81  | 21.5                      | 0           |
| 10              | 16QAM | 25 | 0  | 19.88  | 19.75  | 19.72 | 19.84  | 19.70  |                           |             |
| 10              | 16QAM | 25 | 12 | 19.70  | 19.55  | 19.46 | 19.67  | 19.70  |                           |             |
| 10              | 16QAM | 25 | 25 | 19.79  | 19.82  | 19.52 | 19.77  | 19.72  | 21.5                      | 0           |
| 10              | 16QAM | 50 | 0  | 19.75  | 19.75  | 19.50 | 19.66  | 19.49  |                           |             |
| 10              | 64QAM | 1  | 0  | 19.11  | 19.33  | 19.17 | 19.68  | 19.59  | 20.5                      | 1           |
| 10              | 64QAM | 1  | 25 | 19.45  | 19.37  | 19.45 | 19.55  | 19.55  |                           |             |
| 10              | 64QAM | 1  | 49 | 19.96  | 19.72  | 19.54 | 19.79  | 19.02  |                           |             |
| 10              | 64QAM | 25 | 0  | 18.68  | 18.58  | 18.67 | 18.82  | 18.53  | 20.5                      | 1           |
| 10              | 64QAM | 25 | 12 | 18.74  | 18.63  | 18.54 | 18.68  | 18.53  |                           |             |
| 10              | 64QAM | 25 | 25 | 18.94  | 18.85  | 18.62 | 18.78  | 18.73  |                           |             |
| 10              | 64QAM | 50 | 0  | 18.70  | 18.79  | 18.54 | 18.83  | 18.51  | 20.5                      | 1           |
| 10              | 64QAM | 50 | 0  | 18.70  | 18.79  | 18.54 | 18.83  | 18.51  |                           |             |
| Channel         |       |    |    | 39675  | 40148  | 40620 | 41093  | 41565  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 2498.5 | 2545.8 | 2593  | 2640.3 | 2687.5 |                           |             |
| 5               | QPSK  | 1  | 0  | 20.02  | 19.90  | 20.03 | 20.37  | 20.04  | 21.5                      | 0           |
| 5               | QPSK  | 1  | 12 | 20.08  | 20.06  | 20.13 | 20.34  | 19.93  |                           |             |
| 5               | QPSK  | 1  | 24 | 20.50  | 20.47  | 20.21 | 20.42  | 20.07  |                           |             |
| 5               | QPSK  | 12 | 0  | 20.40  | 20.45  | 20.25 | 20.37  | 20.35  | 21.5                      | 0           |
| 5               | QPSK  | 12 | 7  | 20.37  | 20.33  | 20.25 | 20.20  | 20.36  |                           |             |
| 5               | QPSK  | 12 | 13 | 20.46  | 20.45  | 20.26 | 20.42  | 20.18  |                           |             |
| 5               | QPSK  | 25 | 0  | 20.51  | 20.39  | 20.23 | 20.33  | 20.20  | 21.5                      | 0           |
| 5               | 16QAM | 1  | 0  | 20.62  | 20.26  | 20.21 | 19.92  | 19.84  |                           |             |
| 5               | 16QAM | 1  | 12 | 20.46  | 20.43  | 20.23 | 20.24  | 19.76  |                           |             |
| 5               | 16QAM | 1  | 24 | 20.79  | 20.74  | 20.32 | 20.55  | 19.74  | 21.5                      | 0           |
| 5               | 16QAM | 12 | 0  | 19.82  | 19.79  | 19.79 | 19.90  | 19.66  |                           |             |
| 5               | 16QAM | 12 | 7  | 19.83  | 19.56  | 19.54 | 19.66  | 19.65  |                           |             |
| 5               | 16QAM | 12 | 13 | 19.85  | 19.90  | 19.48 | 19.72  | 19.72  | 21.5                      | 0           |
| 5               | 16QAM | 25 | 0  | 19.85  | 19.82  | 19.60 | 19.60  | 19.48  |                           |             |
| 5               | 64QAM | 1  | 0  | 19.27  | 19.27  | 19.06 | 19.59  | 19.52  |                           |             |
| 5               | 64QAM | 1  | 12 | 19.39  | 19.24  | 19.48 | 19.53  | 19.46  | 20.5                      | 1           |
| 5               | 64QAM | 1  | 24 | 19.92  | 19.67  | 19.62 | 19.86  | 18.88  |                           |             |
| 5               | 64QAM | 12 | 0  | 18.70  | 18.68  | 18.56 | 18.76  | 18.49  |                           |             |
| 5               | 64QAM | 12 | 7  | 18.78  | 18.58  | 18.45 | 18.77  | 18.45  | 20.5                      | 1           |
| 5               | 64QAM | 12 | 13 | 18.80  | 18.82  | 18.48 | 18.75  | 18.59  |                           |             |
| 5               | 64QAM | 25 | 0  | 18.76  | 18.67  | 18.60 | 18.71  | 18.62  |                           |             |



**<LTE Band 41 (Power Class 3)>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low Ch. / Freq. | Power Low Middle Ch. / Freq. | Power Middle Ch. / Freq. | Power High Middle Ch. / Freq. | Power High Ch. / Freq. | Tune-up limit (dBm) | MPR (dB) |
|-----------------|------------|---------|-----------|-----------------------|------------------------------|--------------------------|-------------------------------|------------------------|---------------------|----------|
| Channel         |            |         |           | 39750                 | 40185                        | 40620                    | 41055                         | 41490                  |                     |          |
| Frequency (MHz) |            |         |           | 2506                  | 2549.5                       | 2593                     | 2636.5                        | 2680                   |                     |          |
| 20              | QPSK       | 1       | 0         | 16.82                 | 16.73                        | 16.73                    | 16.90                         | 16.85                  | 17                  | 0        |
| 20              | QPSK       | 1       | 49        | 16.26                 | 16.11                        | 16.00                    | 16.18                         | 16.09                  |                     |          |
| 20              | QPSK       | 1       | 99        | 16.45                 | 16.49                        | 16.19                    | 16.40                         | 16.21                  |                     |          |
| 20              | QPSK       | 50      | 0         | 16.36                 | 16.28                        | 16.12                    | 16.39                         | 16.27                  | 17                  | 0        |
| 20              | QPSK       | 50      | 24        | 16.36                 | 16.29                        | 16.12                    | 16.32                         | 16.13                  |                     |          |
| 20              | QPSK       | 50      | 50        | 16.53                 | 16.40                        | 16.23                    | 16.40                         | 16.28                  |                     |          |
| 20              | QPSK       | 100     | 0         | 16.45                 | 16.28                        | 16.18                    | 16.41                         | 16.21                  | 17                  | 0        |
| 20              | 16QAM      | 1       | 0         | 15.57                 | 15.56                        | 15.74                    | 15.68                         | 15.61                  |                     |          |
| 20              | 16QAM      | 1       | 49        | 15.68                 | 15.79                        | 15.51                    | 15.72                         | 15.56                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 16.12                 | 16.28                        | 15.59                    | 15.67                         | 15.55                  | 17                  | 0        |
| 20              | 16QAM      | 50      | 0         | 15.81                 | 15.68                        | 15.63                    | 15.83                         | 15.65                  |                     |          |
| 20              | 16QAM      | 50      | 24        | 15.82                 | 15.65                        | 15.54                    | 15.70                         | 15.58                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 15.91                 | 15.79                        | 15.55                    | 15.79                         | 15.65                  | 17                  | 0        |
| 20              | 16QAM      | 100     | 0         | 15.89                 | 15.73                        | 15.57                    | 15.83                         | 15.64                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 15.41                 | 15.44                        | 15.12                    | 15.41                         | 15.52                  | 16                  | 1        |
| 20              | 64QAM      | 1       | 49        | 15.46                 | 15.31                        | 15.17                    | 15.38                         | 15.39                  |                     |          |
| 20              | 64QAM      | 1       | 99        | 15.65                 | 15.64                        | 15.31                    | 15.56                         | 15.50                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 15.75                 | 15.74                        | 15.64                    | 15.81                         | 15.69                  | 16                  | 1        |
| 20              | 64QAM      | 50      | 24        | 15.83                 | 15.68                        | 15.53                    | 15.64                         | 15.58                  |                     |          |
| 20              | 64QAM      | 50      | 50        | 15.89                 | 15.87                        | 15.58                    | 15.77                         | 15.70                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 15.89                 | 15.75                        | 15.61                    | 15.78                         | 15.54                  |                     |          |
| Channel         |            |         |           | 39725                 | 40173                        | 40620                    | 41068                         | 41515                  |                     |          |
| Frequency (MHz) |            |         |           | 2503.5                | 2548.3                       | 2593                     | 2637.8                        | 2682.5                 | Tune-up limit (dBm) | MPR (dB) |
| 15              | QPSK       | 1       | 0         | 16.27                 | 16.13                        | 16.17                    | 16.17                         | 16.02                  | 17                  | 0        |
| 15              | QPSK       | 1       | 37        | 15.60                 | 15.49                        | 15.31                    | 15.66                         | 15.52                  |                     |          |
| 15              | QPSK       | 1       | 74        | 15.87                 | 15.89                        | 15.68                    | 15.85                         | 15.69                  |                     |          |
| 15              | QPSK       | 36      | 0         | 15.75                 | 15.75                        | 15.61                    | 15.86                         | 15.71                  | 17                  | 0        |
| 15              | QPSK       | 36      | 20        | 15.66                 | 15.68                        | 15.58                    | 15.74                         | 15.44                  |                     |          |
| 15              | QPSK       | 36      | 39        | 15.83                 | 15.84                        | 15.49                    | 15.74                         | 15.62                  |                     |          |
| 15              | QPSK       | 75      | 0         | 15.84                 | 15.61                        | 15.53                    | 15.79                         | 15.58                  | 17                  | 0        |
| 15              | 16QAM      | 1       | 0         | 15.49                 | 15.60                        | 15.80                    | 15.73                         | 15.53                  |                     |          |
| 15              | 16QAM      | 1       | 37        | 15.73                 | 15.84                        | 15.58                    | 15.73                         | 15.47                  |                     |          |
| 15              | 16QAM      | 1       | 74        | 16.22                 | 16.27                        | 15.55                    | 15.60                         | 15.65                  | 17                  | 0        |
| 15              | 16QAM      | 36      | 0         | 15.81                 | 15.73                        | 15.57                    | 15.88                         | 15.66                  |                     |          |
| 15              | 16QAM      | 36      | 20        | 15.83                 | 15.59                        | 15.50                    | 15.80                         | 15.49                  |                     |          |
| 15              | 16QAM      | 36      | 39        | 15.92                 | 15.81                        | 15.58                    | 15.69                         | 15.71                  | 17                  | 0        |
| 15              | 16QAM      | 75      | 0         | 15.85                 | 15.82                        | 15.60                    | 15.77                         | 15.72                  |                     |          |
| 15              | 64QAM      | 1       | 0         | 15.49                 | 15.42                        | 15.09                    | 15.46                         | 15.56                  |                     |          |
| 15              | 64QAM      | 1       | 37        | 15.49                 | 15.35                        | 15.10                    | 15.48                         | 15.35                  | 16                  | 1        |
| 15              | 64QAM      | 1       | 74        | 15.60                 | 15.72                        | 15.26                    | 15.47                         | 15.40                  |                     |          |
| 15              | 64QAM      | 36      | 0         | 15.85                 | 15.65                        | 15.55                    | 15.85                         | 15.73                  |                     |          |
| 15              | 64QAM      | 36      | 20        | 15.93                 | 15.59                        | 15.57                    | 15.71                         | 15.51                  | 16                  | 1        |
| 15              | 64QAM      | 36      | 39        | 15.95                 | 15.95                        | 15.51                    | 15.71                         | 15.62                  |                     |          |
| 15              | 64QAM      | 75      | 0         | 15.80                 | 15.83                        | 15.59                    | 15.82                         | 15.44                  |                     |          |



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| Channel         |       |    |    | 39700  | 40160  | 40620 | 41080   | 41540  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|--------|-------|---------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 2501   | 2547   | 2593  | 2639    | 2685   |                     |          |
| 10              | QPSK  | 1  | 0  | 16.23  | 16.11  | 16.06 | 16.28   | 16.03  | 17                  | 0        |
| 10              | QPSK  | 1  | 25 | 15.68  | 15.55  | 15.39 | 15.54   | 15.39  |                     |          |
| 10              | QPSK  | 1  | 49 | 15.77  | 15.94  | 15.66 | 15.87   | 15.65  |                     |          |
| 10              | QPSK  | 25 | 0  | 15.67  | 15.72  | 15.59 | 15.88   | 15.59  | 17                  | 0        |
| 10              | QPSK  | 25 | 12 | 15.82  | 15.59  | 15.50 | 15.70   | 15.58  |                     |          |
| 10              | QPSK  | 25 | 25 | 16.01  | 15.71  | 15.54 | 15.78   | 15.52  |                     |          |
| 10              | QPSK  | 50 | 0  | 15.87  | 15.60  | 15.64 | 15.82   | 15.66  | 17                  | 0        |
| 10              | 16QAM | 1  | 0  | 15.52  | 15.62  | 15.78 | 15.60   | 15.51  |                     |          |
| 10              | 16QAM | 1  | 25 | 15.64  | 15.86  | 15.50 | 15.78   | 15.47  |                     |          |
| 10              | 16QAM | 1  | 49 | 16.05  | 16.23  | 15.67 | 15.64   | 15.55  | 17                  | 0        |
| 10              | 16QAM | 25 | 0  | 15.80  | 15.60  | 15.58 | 15.91   | 15.58  |                     |          |
| 10              | 16QAM | 25 | 12 | 15.91  | 15.75  | 15.52 | 15.76   | 15.56  |                     |          |
| 10              | 16QAM | 25 | 25 | 16.00  | 15.70  | 15.56 | 15.85   | 15.57  | 17                  | 0        |
| 10              | 16QAM | 50 | 0  | 15.84  | 15.71  | 15.51 | 15.79   | 15.70  |                     |          |
| 10              | 64QAM | 1  | 0  | 15.51  | 15.44  | 15.21 | 15.51   | 15.48  |                     |          |
| 10              | 64QAM | 1  | 25 | 15.37  | 15.24  | 15.25 | 15.46   | 15.40  | 16                  | 1        |
| 10              | 64QAM | 1  | 49 | 15.60  | 15.68  | 15.24 | 15.59   | 15.57  |                     |          |
| 10              | 64QAM | 25 | 0  | 15.74  | 15.83  | 15.72 | 15.79   | 15.74  |                     |          |
| 10              | 64QAM | 25 | 12 | 15.77  | 15.59  | 15.49 | 15.64   | 15.67  | 16                  | 1        |
| 10              | 64QAM | 25 | 25 | 15.93  | 15.78  | 15.53 | 15.72   | 15.65  |                     |          |
| 10              | 64QAM | 50 | 0  | 15.99  | 15.84  | 15.68 | 15.77   | 15.48  |                     |          |
| Channel         |       |    |    | 39675  | 40148  | 40620 | 41093   | 41565  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 2498.5 | 2545.8 | 2593  | 2640.30 | 2687.5 |                     |          |
| 5               | QPSK  | 1  | 0  | 16.15  | 16.09  | 16.06 | 16.26   | 16.14  | 17                  | 0        |
| 5               | QPSK  | 1  | 12 | 15.64  | 15.55  | 15.34 | 15.48   | 15.49  |                     |          |
| 5               | QPSK  | 1  | 24 | 15.79  | 15.89  | 15.55 | 15.81   | 15.66  |                     |          |
| 5               | QPSK  | 12 | 0  | 15.85  | 15.72  | 15.63 | 15.84   | 15.65  | 17                  | 0        |
| 5               | QPSK  | 12 | 7  | 15.69  | 15.59  | 15.49 | 15.65   | 15.60  |                     |          |
| 5               | QPSK  | 12 | 13 | 15.95  | 15.81  | 15.43 | 15.67   | 15.53  |                     |          |
| 5               | QPSK  | 25 | 0  | 15.87  | 15.61  | 15.57 | 15.89   | 15.70  | 17                  | 0        |
| 5               | 16QAM | 1  | 0  | 15.63  | 15.56  | 15.81 | 15.78   | 15.56  |                     |          |
| 5               | 16QAM | 1  | 12 | 15.69  | 15.88  | 15.52 | 15.65   | 15.59  |                     |          |
| 5               | 16QAM | 1  | 24 | 16.06  | 16.11  | 15.52 | 15.76   | 15.52  | 17                  | 0        |
| 5               | 16QAM | 12 | 0  | 15.90  | 15.61  | 15.61 | 15.91   | 15.63  |                     |          |
| 5               | 16QAM | 12 | 7  | 15.79  | 15.68  | 15.50 | 15.76   | 15.62  |                     |          |
| 5               | 16QAM | 12 | 13 | 16.00  | 15.80  | 15.63 | 15.79   | 15.67  | 17                  | 0        |
| 5               | 16QAM | 25 | 0  | 15.79  | 15.83  | 15.58 | 15.91   | 15.70  |                     |          |
| 5               | 64QAM | 1  | 0  | 15.35  | 15.48  | 15.22 | 15.38   | 15.43  |                     |          |
| 5               | 64QAM | 1  | 12 | 15.55  | 15.22  | 15.10 | 15.48   | 15.30  | 16                  | 1        |
| 5               | 64QAM | 1  | 24 | 15.72  | 15.62  | 15.40 | 15.48   | 15.57  |                     |          |
| 5               | 64QAM | 12 | 0  | 15.74  | 15.74  | 15.70 | 15.84   | 15.60  |                     |          |
| 5               | 64QAM | 12 | 7  | 15.79  | 15.63  | 15.52 | 15.62   | 15.60  | 16                  | 1        |
| 5               | 64QAM | 12 | 13 | 15.90  | 15.97  | 15.60 | 15.71   | 15.68  |                     |          |
| 5               | 64QAM | 25 | 0  | 15.90  | 15.70  | 15.51 | 15.74   | 15.52  |                     |          |

**<LTE Carrier Aggregation combinations>**
**General Note:**

1. This device supports Carrier Aggregation on downlink only for inter and intra band, Uplink CA is not supported. For the device supports combination bands and configurations are provided as follow table was according to 3GPP.
2. In applying the existing power measurement procedure of KDB 941225 D05A for DL CA SAR test exclusion, only the subset with the largest number of combinations of the frequency band and CCs in each row need consideration, and that configurations require power measurement should be highlighted in the below table.

**<Inter-Band combinations>**

| Inter-Band     |
|----------------|
| 2 bands / 2 CC |
| CA_2A-4A       |
| CA_2A-5A       |
| CA_2A-12A      |
| CA_2A-66A      |
| CA_2A-71A      |
| CA_4A-2A       |
| CA_4A-5A       |
| CA_4A-12A      |
| CA_4A-71A      |
| CA_5A-2A       |
| CA_5A-4A       |
| CA_12A-2A      |
| CA_12A-4A      |
| CA_12A-66A     |
| CA_25A-26A     |
| CA_26A-25A     |
| CA_66A-2A      |
| CA_66A-12A     |
| CA_66A-71A     |
| CA_71A-2A      |
| CA_71A-4A      |
| CA_71A-66A     |

**<Intra-Band combinations>**

| Intra-Band Contiguous | Intra-Band Non- Contiguous |
|-----------------------|----------------------------|
| CA_2C                 | CA_2A-2A                   |
| Intra-Band Contiguous | Intra-Band Non- Contiguous |
|                       | CA_4A-4A                   |
| Intra-Band Contiguous | Intra-Band Non- Contiguous |
|                       | CA_25A-25A                 |
| Intra-Band Contiguous | Intra-Band Non- Contiguous |
| CA_41C                | CA_41A-41A                 |
| Intra-Band Contiguous | Intra-Band Non- Contiguous |
| CA_66B                | CA_66A-66A                 |
| CA_66C                |                            |

**<Power verification when LTE Carrier Aggregation Active>**

**General Note:**

- i. According to KDB941225 D05A v01r02, Uplink maximum output power measurement with downlink carrier aggregation active should be measured, using the highest output channel measured without downlink carrier aggregation, to confirm that uplink maximum output power with downlink carrier aggregation active remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output measured without downlink carrier aggregation active.
- ii. Uplink maximum output power with downlink carrier aggregation active does not show more than ¼ dB higher than the maximum output power without downlink carrier aggregation active, therefore SAR evaluation with downlink carrier aggregation active can be excluded.
- iii. The device supports downlink two carrier aggregation. For power measurement were control and acknowledge data is sent on uplink channels that operate identical to specifications when downlink carrier aggregation is inactive.
- iv. Selected highest measured power when downlink carrier aggregation is inactive for conducted power comparison with downlink carrier aggregation is active, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.
- v. For non-contiguous intra-band CA, the SCC selected to provide maximum separation from the PCC and must remain fully within the downlink transmission band.
- vi. The device supports uplink carrier aggregation for LTE B41C with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre the above 3GPP requirement.
- vii. According TCB workshop, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.
- viii. Uplink CA is only operating with power class 3 for LTE B41, and additional SAR measurement for TLE UL CA whit other DL CA combinations active were not required since the maximum output power for this configuration was not > 0.25dB higher than the maximum output power for UL CA \_41C active.
- ix. For inter-band CA, the SCC selected highest bandwidth and near the middle of its transmission band.
- x. For Intra-band, contiguous CA, the downlink channels selected to perform the uplink power measurement must satisfy 3GPP channel spacing (5.4.1A of 3GPP TS 36.521 or equivalent) and channel bandwidth (5.4.2A) requirements.

$$\text{Nominal channel spacing} = \left\lceil \frac{BW_{\text{Channel}(1)} + BW_{\text{Channel}(2)} - 0.1|BW_{\text{Channel}(1)} - BW_{\text{Channel}(2)}|}{0.6} \right\rceil 0.3 \text{ [MHz]}$$

**<Two Downlink Carrier Aggregation power verification>**

| Configure  |                | PCC      |          |                |            |      |        | SCC          |          |          |                | Power      |                        |                       |
|------------|----------------|----------|----------|----------------|------------|------|--------|--------------|----------|----------|----------------|------------|------------------------|-----------------------|
|            |                | LTE Band | BW (MHz) | UL Freq. (MHz) | UL Channel | Mod. | UL# RB | UL RB Offset | LTE Band | BW (MHz) | DL Freq. (MHz) | DL Channel | With CA Tx.Power (dBm) | W/O CA Tx.Power (dBm) |
| Inter-Band |                | 2        | 20       | 1880           | 18900      | QPSK | 1      | 49           | 4        | 20       | 2132.5         | 2175       | 23.45                  | 23.46                 |
|            |                | 4        | 20       | 1732.5         | 20175      | QPSK | 1      | 99           | 2        | 20       | 1960           | 900        | 23.38                  | 23.40                 |
|            |                | 2        | 20       | 1880           | 18900      | QPSK | 1      | 49           | 5        | 10       | 881.5          | 2525       | 23.45                  | 23.46                 |
|            |                | 5        | 10       | 836.5          | 20525      | QPSK | 1      | 49           | 2        | 20       | 1960           | 900        | 23.38                  | 23.39                 |
|            |                | 2        | 20       | 1880           | 18900      | QPSK | 1      | 49           | 12       | 10       | 737.5          | 5095       | 23.45                  | 23.46                 |
|            |                | 12       | 10       | 711            | 23130      | QPSK | 1      | 49           | 2        | 20       | 1960           | 900        | 23.21                  | 23.26                 |
|            |                | 2        | 20       | 1880           | 18900      | QPSK | 1      | 49           | 66       | 20       | 2155           | 66886      | 23.45                  | 23.46                 |
|            |                | 66       | 20       | 1770           | 132572     | QPSK | 1      | 99           | 2        | 20       | 1960           | 900        | 23.62                  | 23.63                 |
|            |                | 2        | 20       | 1880           | 18900      | QPSK | 1      | 49           | 71       | 20       | 680.5          | 133297     | 23.45                  | 23.46                 |
|            |                | 71       | 20       | 688            | 133372     | QPSK | 1      | 49           | 2        | 20       | 1960           | 900        | 23.21                  | 23.24                 |
|            |                | 4        | 20       | 1732.5         | 20175      | QPSK | 1      | 99           | 5        | 10       | 881.5          | 2525       | 23.38                  | 23.40                 |
|            |                | 5        | 10       | 836.5          | 20525      | QPSK | 1      | 49           | 4        | 20       | 2132.5         | 2175       | 23.38                  | 23.39                 |
|            |                | 4        | 20       | 1732.5         | 20175      | QPSK | 1      | 99           | 12       | 10       | 737.5          | 5095       | 23.38                  | 23.40                 |
|            |                | 12       | 10       | 711            | 23130      | QPSK | 1      | 49           | 4        | 20       | 2132.5         | 2175       | 23.21                  | 23.26                 |
|            |                | 4        | 20       | 1732.5         | 20175      | QPSK | 1      | 99           | 71       | 20       | 680.5          | 133297     | 23.38                  | 23.40                 |
|            |                | 71       | 20       | 688            | 133372     | QPSK | 1      | 49           | 4        | 20       | 2132.5         | 2175       | 23.21                  | 23.24                 |
|            |                | 12       | 10       | 711            | 23130      | QPSK | 1      | 49           | 66       | 20       | 2155           | 66886      | 23.21                  | 23.26                 |
|            |                | 66       | 20       | 1770           | 132572     | QPSK | 1      | 99           | 12       | 10       | 737.5          | 5095       | 23.62                  | 23.63                 |
|            |                | 25       | 20       | 1860           | 26140      | QPSK | 1      | 49           | 26       | 15       | 876.5          | 8865       | 23.47                  | 23.51                 |
|            |                | 26       | 15       | 821.5          | 26765      | QPSK | 1      | 37           | 25       | 20       | 1960           | 8340       | 23.40                  | 23.43                 |
|            |                | 66       | 20       | 1770           | 132572     | QPSK | 1      | 99           | 71       | 20       | 680.5          | 133297     | 23.62                  | 23.63                 |
|            |                | 71       | 20       | 688            | 133372     | QPSK | 1      | 49           | 66       | 20       | 2155           | 66886      | 23.20                  | 23.24                 |
| Intra-Band | Non-Contiguous | 2        | 20       | 1880           | 18900      | QPSK | 1      | 49           | 2        | 5        | 1987.5         | 1175       | 23.45                  | 23.46                 |
|            |                | 4        | 20       | 1732.5         | 20175      | QPSK | 1      | 99           | 4        | 5        | 2152.5         | 2375       | 23.38                  | 23.40                 |
|            |                | 25       | 20       | 1860           | 26140      | QPSK | 1      | 49           | 25       | 5        | 1992.5         | 8665       | 23.47                  | 23.51                 |
|            |                | 41       | 20       | 2506           | 39750      | QPSK | 1      | 99           | 41       | 5        | 2545.8         | 40148      | 23.54                  | 23.60                 |
|            |                | 66       | 20       | 1770           | 132572     | QPSK | 1      | 99           | 66       | 5        | 2112.5         | 66461      | 23.62                  | 23.63                 |
|            | Contiguous     | 2        | 20       | 1880           | 18900      | QPSK | 1      | 49           | 2        | 20       | 1979.80        | 1098       | 23.45                  | 23.46                 |
|            |                | 41       | 20       | 2506           | 39750      | QPSK | 1      | 99           | 41       | 20       | 2524.8         | 39948      | 23.54                  | 23.60                 |
|            |                | 66       | 20       | 1770           | 132572     | QPSK | 1      | 99           | 66       | 5        | 2154.30        | 66879      | 23.62                  | 23.63                 |
|            |                | 66       | 20       | 1770           | 132572     | QPSK | 1      | 99           | 66       | 20       | 2150.20        | 66838      | 23.62                  | 23.63                 |

**<Uplink carrier aggregation power measurement>**

| CA_41C when operating in default power mode |             |            |         |           |         |           |               |                       |                      |                     |
|---------------------------------------------|-------------|------------|---------|-----------|---------|-----------|---------------|-----------------------|----------------------|---------------------|
| Combination 20MHz+20MHz (100RB+100RB)       |             |            |         |           |         |           |               |                       |                      |                     |
| PCC Channel                                 | SCC Channel | Modulation | PCC     |           | SCC     |           | Total RB Size | Target MPR Level (dB) | Measured Power (dBm) | Tune up Power (dBm) |
|                                             |             |            | RB Size | RB offset | RB Size | RB offset |               |                       |                      |                     |
| 39750                                       | 39948       | QPSK       | 1       | 0         | 0       | 0         | 1             | 0                     | 22.14                | 24                  |
| 40185                                       | 39987       | QPSK       | 1       | 0         | 1       | 99        | 2             | 0                     | 22.24                | 24                  |
| 40620                                       | 40422       | QPSK       | 1       | 0         | 1       | 99        | 2             | 0                     | 22.09                | 24                  |
| 41055                                       | 40857       | QPSK       | 1       | 0         | 1       | 99        | 2             | 0                     | 22.01                | 24                  |
| 41490                                       | 41292       | QPSK       | 1       | 0         | 1       | 99        | 2             | 0                     | 22.11                | 24                  |

| CA_41C when operating in near-body and hotspot power mode |             |            |         |           |         |           |               |                       |                      |                     |
|-----------------------------------------------------------|-------------|------------|---------|-----------|---------|-----------|---------------|-----------------------|----------------------|---------------------|
| Combination 20MHz+20MHz (100RB+100RB)                     |             |            |         |           |         |           |               |                       |                      |                     |
| PCC Channel                                               | SCC Channel | Modulation | PCC     |           | SCC     |           | Total RB Size | Target MPR Level (dB) | Measured Power (dBm) | Tune up Power (dBm) |
|                                                           |             |            | RB Size | RB offset | RB Size | RB offset |               |                       |                      |                     |
| 39750                                                     | 39948       | QPSK       | 1       | 0         | 0       | 0         | 1             | 0                     | 16.74                | 17                  |
| 40185                                                     | 39987       | QPSK       | 1       | 0         | 1       | 99        | 2             | 0                     | 16.82                | 17                  |
| 40620                                                     | 40422       | QPSK       | 1       | 0         | 1       | 99        | 2             | 0                     | 16.81                | 17                  |
| 41055                                                     | 40857       | QPSK       | 1       | 0         | 1       | 99        | 2             | 0                     | 16.65                | 17                  |
| 41490                                                     | 41292       | QPSK       | 1       | 0         | 1       | 99        | 2             | 0                     | 16.78                | 17                  |

**<WLAN Conducted Power>****General Note:**

1. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. For OFDM, in both 2.4 and 5 GHz bands, an initial test configuration must be determined for each standalone and aggregated frequency band, according to the transmission mode configuration with the highest maximum output power specified for production units to perform SAR measurements. If the same highest maximum output power applies to different combinations of channel bandwidths, modulations and data rates, additional procedures are applied to determine which test configurations require SAR measurement. When applicable, an initial test position may be applied to reduce the number of SAR measurements required for next to the ear, UMPC mini-tablet or hotspot mode configurations with multiple test positions.
2. For 2.4 GHz 802.11b DSSS, either the initial test position procedure for multiple exposure test positions or the DSSS procedure for fixed exposure position is applied; these are mutually exclusive. For 2.4 GHz and 5 GHz OFDM configurations, the initial test configuration is applied to measure SAR using either the initial test position procedure for multiple exposure test position configurations or the initial test configuration procedures for fixed exposure test conditions. Based on the reported SAR of the measured configurations and maximum output power of the transmission mode configurations that are not included in the initial test configuration, the subsequent test configuration and initial test position procedures are applied to determine if SAR measurements are required for the remaining OFDM transmission configurations. In general, the number of test channels that require SAR measurement is minimized based on maximum output power measured for the test sample(s).
3. For OFDM transmission configurations in the 2.4 GHz and 5 GHz bands, When the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel for each frequency band.
4. DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures.<sup>18</sup> The initial test position procedure is described in the following:
  - a. When the reported SAR of the initial test position is  $\leq 0.4$  W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band.
  - b. When the reported SAR of the test position is  $> 0.4$  W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is  $\leq 0.8$  W/kg or all required test position are tested.
  - c. For all positions/configurations, when the reported SAR is  $> 0.8$  W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is  $\leq 1.2$  W/kg or all required channels are tested.

**<Default Power Mode>**
**<2.4GHz WLAN>**

|             | Mode              | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Duty Cycle % |
|-------------|-------------------|---------|-----------------|---------------------|---------------|--------------|
| 2.4GHz WLAN | 802.11b 1Mbps     | 1       | 2412            | 18.49               | 18.50         | 97.62        |
|             |                   | 6       | 2437            | 18.46               | 18.50         |              |
|             |                   | 11      | 2462            | 18.28               | 18.50         |              |
|             | 802.11g 6Mbps     | 1       | 2412            | 10.62               | 11.00         | 87.26        |
|             |                   | 6       | 2437            | 10.98               | 11.00         |              |
|             |                   | 11      | 2462            | 10.97               | 11.00         |              |
|             | 802.11n-HT20 MCS0 | 1       | 2412            | 8.91                | 9.00          | 85.91        |
|             |                   | 6       | 2437            | 8.67                | 9.00          |              |
|             |                   | 11      | 2462            | 8.52                | 9.00          |              |

**<5GHz WLAN>**

|             | Mode              | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Duty Cycle % |
|-------------|-------------------|---------|-----------------|---------------------|---------------|--------------|
| 5.2GHz WLAN | 802.11a 6Mbps     | 36      | 5180            | 15.90               | 16.00         | 86.26        |
|             |                   | 40      | 5200            | 15.66               | 16.00         |              |
|             |                   | 44      | 5220            | 15.87               | 16.00         |              |
|             |                   | 48      | 5240            | 15.97               | 16.00         |              |
|             | 802.11n-HT20 MCS0 | 36      | 5180            | 10.98               | 11.00         | 86.18        |
|             |                   | 40      | 5200            | 10.95               | 11.00         |              |
|             |                   | 44      | 5220            | 10.95               | 11.00         |              |
|             |                   | 48      | 5240            | 10.78               | 11.00         |              |
|             | 802.11n-HT40 MCS0 | 38      | 5190            | 9.57                | 10.00         | 88.80        |
|             |                   | 46      | 5230            | 9.83                | 10.00         |              |

|             | Mode              | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Duty Cycle % |
|-------------|-------------------|---------|-----------------|---------------------|---------------|--------------|
| 5.3GHz WLAN | 802.11a 6Mbps     | 52      | 5260            | 15.81               | 16.00         | 86.26        |
|             |                   | 56      | 5280            | 15.69               | 16.00         |              |
|             |                   | 60      | 5300            | 15.92               | 16.00         |              |
|             |                   | 64      | 5320            | 15.97               | 16.00         |              |
|             | 802.11n-HT20 MCS0 | 52      | 5260            | 10.83               | 11.00         | 86.18        |
|             |                   | 56      | 5280            | 10.81               | 11.00         |              |
|             |                   | 60      | 5300            | 10.95               | 11.00         |              |
|             |                   | 64      | 5320            | 10.97               | 11.00         |              |
|             | 802.11n-HT40 MCS0 | 54      | 5270            | 9.76                | 10.00         | 88.80        |
|             |                   | 62      | 5310            | 9.91                | 10.00         |              |

| 5.5GHz WLAN | Mode              | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Duty Cycle % |
|-------------|-------------------|---------|-----------------|---------------------|---------------|--------------|
|             | 802.11a 6Mbps     | 100     | 5500            | 15.82               | 16.00         | 86.26        |
|             |                   | 116     | 5580            | 15.82               | 16.00         |              |
|             |                   | 124     | 5620            | 15.78               | 16.00         |              |
|             |                   | 132     | 5660            | 15.79               | 16.00         |              |
|             |                   | 140     | 5700            | 14.76               | 16.00         |              |
|             |                   | 144     | 5720            | 15.89               | 16.00         |              |
|             | 802.11n-HT20 MCS0 | 100     | 5500            | 10.96               | 11.00         | 86.18        |
|             |                   | 116     | 5580            | 10.82               | 11.00         |              |
|             |                   | 124     | 5620            | 10.89               | 11.00         |              |
|             |                   | 132     | 5660            | 10.88               | 11.00         |              |
|             |                   | 140     | 5700            | 10.95               | 11.00         |              |
|             |                   | 144     | 5720            | 10.68               | 11.00         |              |
|             | 802.11n-HT40 MCS0 | 102     | 5510            | 9.93                | 10.00         | 88.80        |
|             |                   | 110     | 5550            | 9.90                | 10.00         |              |
|             |                   | 126     | 5630            | 9.88                | 10.00         |              |
|             |                   | 134     | 5670            | 9.78                | 10.00         |              |
|             |                   | 142     | 5710            | 9.82                | 10.00         |              |

| 5.8GHz WLAN | Mode              | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Duty Cycle % |
|-------------|-------------------|---------|-----------------|---------------------|---------------|--------------|
|             | 802.11a 6Mbps     | 149     | 5745            | 15.97               | 16.00         | 86.26        |
|             |                   | 157     | 5785            | 15.92               | 16.00         |              |
|             |                   | 165     | 5825            | 15.86               | 16.00         |              |
|             | 802.11n-HT20 MCS0 | 149     | 5745            | 10.97               | 11.00         | 86.18        |
|             |                   | 157     | 5785            | 10.81               | 11.00         |              |
|             |                   | 165     | 5825            | 10.94               | 11.00         |              |
|             | 802.11n-HT40 MCS0 | 151     | 5755            | 9.90                | 10.00         | 88.80        |
|             |                   | 159     | 5795            | 9.83                | 10.00         |              |

**<At-Head Power Mode>**
**<5GHz WLAN>**

|             | Mode              | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Duty Cycle % |
|-------------|-------------------|---------|-----------------|---------------------|---------------|--------------|
| 5.2GHz WLAN | 802.11a 6Mbps     | 36      | 5180            | 13.73               | 14.00         | 86.26        |
|             |                   | 40      | 5200            | 13.61               | 14.00         |              |
|             |                   | 44      | 5220            | 13.74               | 14.00         |              |
|             |                   | 48      | 5240            | 13.91               | 14.00         |              |
|             | 802.11n-HT20 MCS0 | 36      | 5180            | 10.98               | 11.00         | 86.18        |
|             |                   | 40      | 5200            | 10.95               | 11.00         |              |
|             |                   | 44      | 5220            | 10.95               | 11.00         |              |
|             |                   | 48      | 5240            | 10.78               | 11.00         |              |
|             | 802.11n-HT40 MCS0 | 38      | 5190            | 9.57                | 10.00         | 88.80        |
|             |                   | 46      | 5230            | 9.83                | 10.00         |              |

|             | Mode              | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Duty Cycle % |
|-------------|-------------------|---------|-----------------|---------------------|---------------|--------------|
| 5.3GHz WLAN | 802.11a 6Mbps     | 52      | 5260            | 13.98               | 14.00         | 86.26        |
|             |                   | 56      | 5280            | 13.55               | 14.00         |              |
|             |                   | 60      | 5300            | 13.66               | 14.00         |              |
|             |                   | 64      | 5320            | 13.94               | 14.00         |              |
|             | 802.11n-HT20 MCS0 | 52      | 5260            | 10.83               | 11.00         | 86.18        |
|             |                   | 56      | 5280            | 10.81               | 11.00         |              |
|             |                   | 60      | 5300            | 10.95               | 11.00         |              |
|             |                   | 64      | 5320            | 10.97               | 11.00         |              |
|             | 802.11n-HT40 MCS0 | 54      | 5270            | 9.76                | 10.00         | 88.80        |
|             |                   | 62      | 5310            | 9.91                | 10.00         |              |

| 5.5GHz WLAN | Mode              | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Duty Cycle % |
|-------------|-------------------|---------|-----------------|---------------------|---------------|--------------|
|             | 802.11a 6Mbps     | 100     | 5500            | 13.85               | 14.00         | 86.26        |
|             |                   | 116     | 5580            | 13.95               | 14.00         |              |
|             |                   | 124     | 5620            | 13.64               | 14.00         |              |
|             |                   | 132     | 5660            | 13.73               | 14.00         |              |
|             |                   | 140     | 5700            | 13.88               | 14.00         |              |
|             |                   | 144     | 5720            | 13.96               | 14.00         |              |
|             | 802.11n-HT20 MCS0 | 100     | 5500            | 10.96               | 11.00         | 86.18        |
|             |                   | 116     | 5580            | 10.82               | 11.00         |              |
|             |                   | 124     | 5620            | 10.89               | 11.00         |              |
|             |                   | 132     | 5660            | 10.88               | 11.00         |              |
|             |                   | 140     | 5700            | 10.95               | 11.00         |              |
|             |                   | 144     | 5720            | 10.68               | 11.00         |              |
|             | 802.11n-HT40 MCS0 | 102     | 5510            | 9.93                | 10.00         | 88.80        |
|             |                   | 110     | 5550            | 9.90                | 10.00         |              |
|             |                   | 126     | 5630            | 9.88                | 10.00         |              |
|             |                   | 134     | 5670            | 9.78                | 10.00         |              |
|             |                   | 142     | 5710            | 9.82                | 10.00         |              |

| 5.8GHz WLAN | Mode              | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Duty Cycle % |
|-------------|-------------------|---------|-----------------|---------------------|---------------|--------------|
|             | 802.11a 6Mbps     | 149     | 5745            | 13.90               | 14.00         | 86.26        |
|             |                   | 157     | 5785            | 13.91               | 14.00         |              |
|             |                   | 165     | 5825            | 13.76               | 14.00         |              |
|             | 802.11n-HT20 MCS0 | 149     | 5745            | 10.97               | 11.00         | 86.18        |
|             |                   | 157     | 5785            | 10.81               | 11.00         |              |
|             |                   | 165     | 5825            | 10.94               | 11.00         |              |
|             | 802.11n-HT40 MCS0 | 151     | 5755            | 9.90                | 10.00         | 88.80        |
|             |                   | 159     | 5795            | 9.83                | 10.00         |              |

**<Hotspot Power Mode>**
**<5GHz WLAN>**

|             | Mode              | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Duty Cycle % |
|-------------|-------------------|---------|-----------------|---------------------|---------------|--------------|
| 5.8GHz WLAN | 802.11a 6Mbps     | 149     | 5745            | 14.44               | 14.50         | 86.26        |
|             |                   | 157     | 5785            | 14.42               | 14.50         |              |
|             |                   | 165     | 5825            | 14.11               | 14.50         |              |
|             | 802.11n-HT20 MCS0 | 149     | 5745            | 10.97               | 11.00         | 86.18        |
|             |                   | 157     | 5785            | 10.81               | 11.00         |              |
|             |                   | 165     | 5825            | 10.94               | 11.00         |              |
|             | 802.11n-HT40 MCS0 | 151     | 5755            | 9.90                | 10.00         | 88.80        |
|             |                   | 159     | 5795            | 9.83                | 10.00         |              |

**<Near to body Power Mode>**
**<5GHz WLAN>**

|             | Mode              | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Duty Cycle % |
|-------------|-------------------|---------|-----------------|---------------------|---------------|--------------|
| 5.2GHz WLAN | 802.11a 6Mbps     | 36      | 5180            | 14.95               | 15.00         | 86.26        |
|             |                   | 40      | 5200            | 14.54               | 15.00         |              |
|             |                   | 44      | 5220            | 14.97               | 15.00         |              |
|             |                   | 48      | 5240            | 14.80               | 15.00         |              |
|             | 802.11n-HT20 MCS0 | 36      | 5180            | 10.98               | 11.00         | 86.18        |
|             |                   | 40      | 5200            | 10.95               | 11.00         |              |
|             |                   | 44      | 5220            | 10.95               | 11.00         |              |
|             |                   | 48      | 5240            | 10.78               | 11.00         |              |
|             | 802.11n-HT40 MCS0 | 38      | 5190            | 9.57                | 10.00         | 88.80        |
|             |                   | 46      | 5230            | 9.83                | 10.00         |              |

|             | Mode              | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Duty Cycle % |
|-------------|-------------------|---------|-----------------|---------------------|---------------|--------------|
| 5.3GHz WLAN | 802.11a 6Mbps     | 52      | 5260            | 14.84               | 15.00         | 86.26        |
|             |                   | 56      | 5280            | 14.51               | 15.00         |              |
|             |                   | 60      | 5300            | 14.92               | 15.00         |              |
|             |                   | 64      | 5320            | 14.77               | 15.00         |              |
|             | 802.11n-HT20 MCS0 | 52      | 5260            | 10.83               | 11.00         | 86.18        |
|             |                   | 56      | 5280            | 10.81               | 11.00         |              |
|             |                   | 60      | 5300            | 10.95               | 11.00         |              |
|             |                   | 64      | 5320            | 10.97               | 11.00         |              |
|             | 802.11n-HT40 MCS0 | 54      | 5270            | 9.76                | 10.00         | 88.80        |
|             |                   | 62      | 5310            | 9.91                | 10.00         |              |

| 5.5GHz WLAN | Mode              | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Duty Cycle % |
|-------------|-------------------|---------|-----------------|---------------------|---------------|--------------|
|             | 802.11a 6Mbps     | 100     | 5500            | 14.75               | 15.00         | 86.26        |
|             |                   | 116     | 5580            | 14.88               | 15.00         |              |
|             |                   | 124     | 5620            | 14.51               | 15.00         |              |
|             |                   | 132     | 5660            | 14.73               | 15.00         |              |
|             |                   | 140     | 5700            | 14.70               | 15.00         |              |
|             |                   | 144     | 5720            | 14.97               | 15.00         |              |
|             | 802.11n-HT20 MCS0 | 100     | 5500            | 10.96               | 11.00         | 86.18        |
|             |                   | 116     | 5580            | 10.82               | 11.00         |              |
|             |                   | 124     | 5620            | 10.89               | 11.00         |              |
|             |                   | 132     | 5660            | 10.88               | 11.00         |              |
|             |                   | 140     | 5700            | 10.95               | 11.00         |              |
|             |                   | 144     | 5720            | 10.68               | 11.00         |              |
|             | 802.11n-HT40 MCS0 | 102     | 5510            | 9.93                | 10.00         | 88.80        |
|             |                   | 110     | 5550            | 9.90                | 10.00         |              |
|             |                   | 126     | 5630            | 9.88                | 10.00         |              |
|             |                   | 134     | 5670            | 9.78                | 10.00         |              |
|             |                   | 142     | 5710            | 9.82                | 10.00         |              |

| 5.8GHz WLAN | Mode              | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Duty Cycle % |
|-------------|-------------------|---------|-----------------|---------------------|---------------|--------------|
|             | 802.11a 6Mbps     | 149     | 5745            | 14.93               | 15.00         | 86.26        |
|             |                   | 157     | 5785            | 14.90               | 15.00         |              |
|             |                   | 165     | 5825            | 14.95               | 15.00         |              |
|             | 802.11n-HT20 MCS0 | 149     | 5745            | 10.97               | 11.00         | 86.18        |
|             |                   | 157     | 5785            | 10.81               | 11.00         |              |
|             |                   | 165     | 5825            | 10.94               | 11.00         |              |
|             | 802.11n-HT40 MCS0 | 151     | 5755            | 9.90                | 10.00         | 88.80        |
|             |                   | 159     | 5795            | 9.83                | 10.00         |              |

### <2.4GHz Bluetooth>

| Mode          | Channel | Frequency (MHz) | Average power (dBm) |       |       |
|---------------|---------|-----------------|---------------------|-------|-------|
|               |         |                 | 1Mbps               | 2Mbps | 3Mbps |
| BR / EDR      | CH 00   | 2402            | 11.82               | 9.95  | 9.96  |
|               | CH 39   | 2441            | 11.36               | 9.52  | 9.53  |
|               | CH 78   | 2480            | 11.01               | 9.12  | 9.14  |
| Tune-up Limit |         |                 | 12.00               | 10.00 | 10.00 |

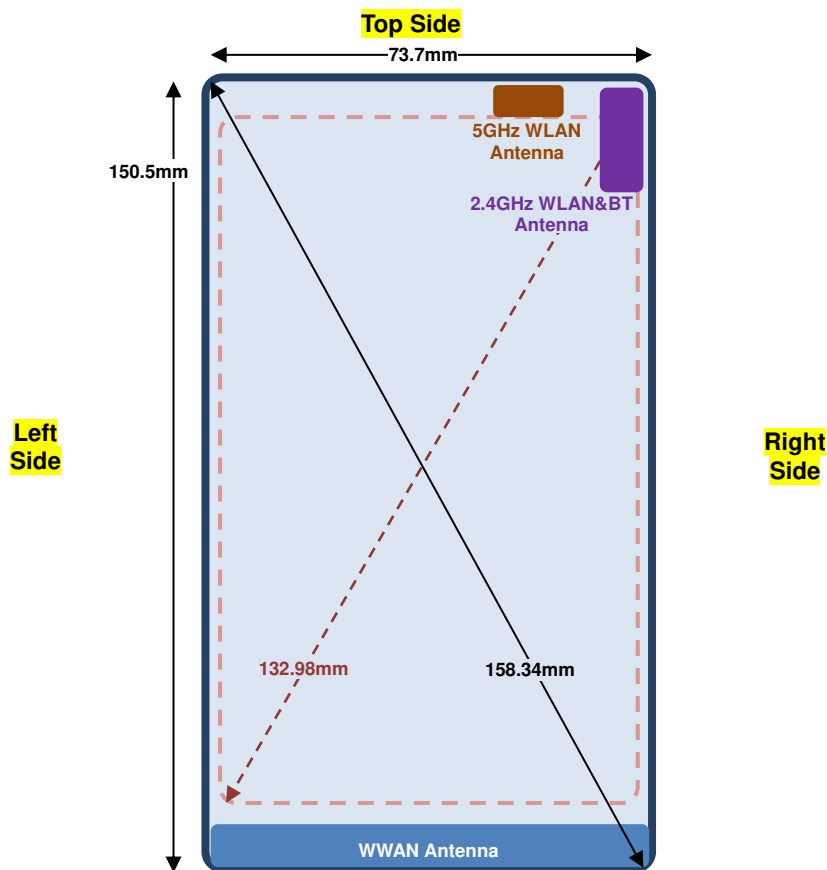
| Mode          | Channel | Frequency (MHz) | Average power (dBm) |  |
|---------------|---------|-----------------|---------------------|--|
|               |         |                 | GFSK                |  |
| LE            | CH 00   | 2402            | 2.89                |  |
|               | CH 19   | 2440            | 2.11                |  |
|               | CH 39   | 2480            | 1.85                |  |
| Tune-up Limit |         |                 | 3.00                |  |

#### General Note:

- For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.

### 13. Antenna Location

<Mobile Phone>



**Front View**

| Distance of the Antenna to the EUT surface/edge |        |        |          |             |            |           |
|-------------------------------------------------|--------|--------|----------|-------------|------------|-----------|
| Antennas                                        | Back   | Front  | Top Side | Bottom Side | Right Side | Left Side |
| WWAN Main                                       | ≤ 25mm | ≤ 25mm | >25mm    | ≤ 25mm      | ≤ 25mm     | ≤ 25mm    |
| BT&WLAN                                         | ≤ 25mm | ≤ 25mm | ≤ 25mm   | >25mm       | ≤ 25mm     | >25mm     |

| Positions for SAR tests; Hotspot mode |      |       |          |             |            |           |
|---------------------------------------|------|-------|----------|-------------|------------|-----------|
| Antennas                              | Back | Front | Top Side | Bottom Side | Right Side | Left Side |
| WWAN Main                             | Yes  | Yes   | No       | Yes         | Yes        | Yes       |
| BT&WLAN                               | Yes  | Yes   | Yes      | No          | Yes        | No        |

**General Note:**

- Referring to KDB 941225 D06 v02r01, when the overall device length and width are ≥ 9cm\*5cm, the test distance is 10 mm. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25mm from that surface or edge.



## **14. SAR Test Results**

### **General Note:**

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
  - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
  - b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
  - c. For WWAN/Bluetooth: Reported SAR(W/kg)= Measured SAR(W/kg)\*Tune-up Scaling Factor
  - d. For WLAN: Reported SAR(W/kg)= Measured SAR(W/kg)\* Duty Cycle scaling factor \* Tune-up scaling factor
  - e. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix  $63.3\%/62.9\% = 1.006$  is applied to scale-up the measured SAR result. The Reported TDD LTE SAR = measured SAR (W/kg)\* Tune-up Scaling Factor\* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
  - $\leq 0.8$  W/kg or  $2.0$  W/kg, for 1-g or 10-g respectively, when the transmission band is  $\leq 100$  MHz
  - $\leq 0.6$  W/kg or  $1.5$  W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
  - $\leq 0.4$  W/kg or  $1.0$  W/kg, for 1-g or 10-g respectively, when the transmission band is  $\geq 200$  MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is  $\geq 0.8$ W/kg.
4. Pre KDB648474 D04v01r03, when the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is  $> 1.2$  W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.
5. While operating in "Front" and "Back" configuration by end user, the device will limit different maximum output powers on the GSM1900, WCDMA B2 / B4 / B5, CDMA BC1 and LTE B2 / B4 / B5 / B7 / B25 / B38 / B41 / B66 transmitter and detail descriptions of the power reduction mechanism are included in the operational description.
6. While operating in body-adjacent exposure configuration during a mobile hotspot session, the device will reduced output powers on the GSM1900, WCDMA B2 / B4 / B5, CDMA BC1 and LTE B2 / B4 / B5 / B7 / B25 / B38 / B41 / B66 transmitter and detail descriptions of the power reduction mechanism are included in the operational description.
7. The device utilizes independent power reduction mechanisms for SAR compliance for the WLAN transmitter for held-to-ear and near to body exposure conditions and detail descriptions of the power reduction mechanism are included in the operational description.

### **GSM Note:**

1. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Therefore, the GPRS (4Tx slots) for GSM850/GSM1900 is considered as the primary mode.
2. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is  $\leq \frac{1}{4}$  dB higher than the primary mode, SAR measurement is not required for the secondary mode.
3. Power reduction which is triggered by hotspot mode is implemented in GSM1900 band, for hotspot mode SAR testing EUT was set in reduced power mode and GPRS 4Tx slot due to its highest frame-average power.

### **UMTS Note:**

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is  $\leq \frac{1}{4}$  dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (HSUPA, HSDPA, DC-HSDPA) are less than  $\frac{1}{4}$  dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

**CDMA Note:**

1. Per KDB 941225 D01v03r01, SAR for next to the ear head exposure is measured in RC3 with the handset configured to transmit at full rate in SO55.
2. Per KDB 941225 D01v03r01, in Hotspot mode EUT is treated as data device and SAR is tested with Ev-Do Rev 0 (RTAP 153.6kbps) as the primary mode.
3. Per KDB 941225 D01v03r01, for Body-worn accessory SAR is measured in RC3 with the handset configured in TDSO/SO32 to transmit at full rate on FCH only with all other code channels disabled. The body-worn accessory procedures in KDB Publication 447498 are applied. The 3G SAR test reduction procedure is applied to the multiple code channel configuration (FCH+SCH), with FCH only as the primary mode.

**LTE Note:**

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are  $\leq 0.8$  W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is  $> 1.45$  W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is  $>$  not  $\frac{1}{2}$  dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is  $>$  not  $\frac{1}{2}$  dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B4 / B5 / B12 / B17 / B26 / B38 / B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
7. LTE band 17 SAR test was covered by Band 12; according to TCB workshop, SAR test for overlapping LTE bands can be reduced if
  - a. The maximum output power, including tolerance, for the smaller band is  $\leq$  the larger band to qualify for the SAR test exclusion.
  - b. The channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band.
8. For LTE Band 41, SAR was measured with only a single carrier active in the uplink (carrier aggregation not active). For each exposure condition, the uplink CA scenario with two component carriers was additionally tested for the configuration with highest SAR when carrier aggregation was not active.
9. For the LTE Band 41 uplink CA SAR testing was selected the highest power configuration (RB configuration) of the largest aggregation bandwidth, in LTE UL CA.
10. The device supports Power Class 2 uplink-downlink configurations 0 and 6, and Power Class 3 uplink-downlink configurations 1 to 5 operations for LTE Band 41.
11. The highest available duty cycle for Power Class 2 operation is 43.3% using UL-DL configuration 1, for Power Class 3 operation is 63.3% using UL-DL configuration 0. Per FCC Guidance, all SAR tests were performed using Power Class 3. SAR with Power Class 2 at the available duty factor was additionally performed for the Power Class 3 configuration with the highest SAR among all exposure condition. Please see Section 14.5 for linearity results.

**WLAN Note:**

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is  $\leq 1.2$  W/kg.
2. Per KDB 248227 D01v02r02, U-NII-1 SAR testing is not required when the U-NII-2A band highest reported SAR for a test configuration is  $\leq 1.2$  W/kg, SAR is not required for U-NII-1 band.
3. When the reported SAR of the test position is  $> 0.4$  W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is  $\leq 0.8$  W/kg or all required test position are tested.
4. For all positions / configurations, when the reported SAR is  $> 0.8$  W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is  $\leq 1.2$  W/kg or all required channels are tested.
5. During SAR testing the WLAN transmission was verified using a spectrum analyzer.

# 14.1 Head SAR

## <GSM SAR>

| Plot No. | Band    | Mode              | Test Position | Gap (mm) | Ch. | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|---------|-------------------|---------------|----------|-----|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | GSM850  | GPRS (4 Tx slots) | Right Cheek   | 0mm      | 251 | 848.8       | 26.34               | 27.50               | 1.306                  | -0.11            | 0.365                  | 0.477                  |
|          | GSM850  | GPRS (4 Tx slots) | Right Tilted  | 0mm      | 251 | 848.8       | 26.34               | 27.50               | 1.306                  | 0                | 0.153                  | 0.200                  |
| 01       | GSM850  | GPRS (4 Tx slots) | Left Cheek    | 0mm      | 251 | 848.8       | 26.34               | 27.50               | 1.306                  | 0.01             | 0.366                  | 0.478                  |
|          | GSM850  | GPRS (4 Tx slots) | Left Tilted   | 0mm      | 251 | 848.8       | 26.34               | 27.50               | 1.306                  | 0.15             | 0.169                  | 0.221                  |
|          | GSM1900 | GPRS (4 Tx slots) | Right Cheek   | 0mm      | 661 | 1880        | 24.27               | 25.00               | 1.183                  | -0.03            | 0.175                  | 0.207                  |
|          | GSM1900 | GPRS (4 Tx slots) | Right Tilted  | 0mm      | 661 | 1880        | 24.27               | 25.00               | 1.183                  | 0.01             | 0.126                  | 0.149                  |
| 02       | GSM1900 | GPRS (4 Tx slots) | Left Cheek    | 0mm      | 661 | 1880        | 24.27               | 25.00               | 1.183                  | 0.11             | 0.220                  | 0.260                  |
|          | GSM1900 | GPRS (4 Tx slots) | Left Tilted   | 0mm      | 661 | 1880        | 24.27               | 25.00               | 1.183                  | 0.05             | 0.142                  | 0.168                  |

## <WCDMA SAR>

| Plot No. | Band     | Mode         | Test Position | Gap (mm) | Ch.  | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|----------|--------------|---------------|----------|------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | WCDMA II | RMC 12.2Kbps | Right Cheek   | 0mm      | 9400 | 1880        | 23.22               | 24.00               | 1.197                  | 0.01             | 0.272                  | 0.326                  |
|          | WCDMA II | RMC 12.2Kbps | Right Tilted  | 0mm      | 9400 | 1880        | 23.22               | 24.00               | 1.197                  | 0                | 0.218                  | 0.261                  |
| 03       | WCDMA II | RMC 12.2Kbps | Left Cheek    | 0mm      | 9400 | 1880        | 23.22               | 24.00               | 1.197                  | -0.13            | 0.413                  | 0.494                  |
|          | WCDMA II | RMC 12.2Kbps | Left Tilted   | 0mm      | 9400 | 1880        | 23.22               | 24.00               | 1.197                  | -0.06            | 0.234                  | 0.280                  |
|          | WCDMA IV | RMC 12.2Kbps | Right Cheek   | 0mm      | 1513 | 1752.6      | 23.10               | 24.00               | 1.230                  | 0.06             | 0.274                  | 0.337                  |
|          | WCDMA IV | RMC 12.2Kbps | Right Tilted  | 0mm      | 1513 | 1752.6      | 23.10               | 24.00               | 1.230                  | 0.06             | 0.273                  | 0.336                  |
| 04       | WCDMA IV | RMC 12.2Kbps | Left Cheek    | 0mm      | 1513 | 1752.6      | 23.10               | 24.00               | 1.230                  | -0.12            | 0.392                  | 0.482                  |
|          | WCDMA IV | RMC 12.2Kbps | Left Tilted   | 0mm      | 1513 | 1752.6      | 23.10               | 24.00               | 1.230                  | -0.15            | 0.196                  | 0.241                  |
| 05       | WCDMA V  | RMC 12.2Kbps | Right Cheek   | 0mm      | 4233 | 846.6       | 22.60               | 24.00               | 1.380                  | -0.08            | 0.569                  | 0.785                  |
|          | WCDMA V  | RMC 12.2Kbps | Right Tilted  | 0mm      | 4233 | 846.6       | 22.60               | 24.00               | 1.380                  | -0.1             | 0.273                  | 0.377                  |
|          | WCDMA V  | RMC 12.2Kbps | Left Cheek    | 0mm      | 4233 | 846.6       | 22.60               | 24.00               | 1.380                  | 0.08             | 0.250                  | 0.345                  |
|          | WCDMA V  | RMC 12.2Kbps | Left Tilted   | 0mm      | 4233 | 846.6       | 22.60               | 24.00               | 1.380                  | 0.18             | 0.039                  | 0.054                  |

## <CDMA SAR>

| Plot No. | Band      | Mode           | Test Position | Gap (mm) | Ch. | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|-----------|----------------|---------------|----------|-----|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
| 06       | CDMA BC0  | 1xRTT RC3 SO55 | Right Cheek   | 0mm      | 777 | 848.31      | 24.00               | 24.50               | 1.122                  | 0.05             | 0.531                  | 0.596                  |
|          | CDMA BC0  | 1xRTT RC3 SO55 | Right Tilted  | 0mm      | 777 | 848.31      | 24.00               | 24.50               | 1.122                  | -0.1             | 0.232                  | 0.260                  |
|          | CDMA BC0  | 1xRTT RC3 SO55 | Left Cheek    | 0mm      | 777 | 848.31      | 24.00               | 24.50               | 1.122                  | -0.03            | 0.519                  | 0.582                  |
|          | CDMA BC0  | 1xRTT RC3 SO55 | Left Tilted   | 0mm      | 777 | 848.31      | 24.00               | 24.50               | 1.122                  | -0.04            | 0.273                  | 0.306                  |
|          | CDMA BC1  | 1xRTT RC3 SO55 | Right Cheek   | 0mm      | 600 | 1880        | 24.32               | 24.50               | 1.042                  | -0.04            | 0.361                  | 0.376                  |
|          | CDMA BC1  | 1xRTT RC3 SO55 | Right Tilted  | 0mm      | 600 | 1880        | 24.32               | 24.50               | 1.042                  | -0.19            | 0.145                  | 0.151                  |
| 07       | CDMA BC1  | 1xRTT RC3 SO55 | Left Cheek    | 0mm      | 600 | 1880        | 24.32               | 24.50               | 1.042                  | -0.1             | 0.370                  | 0.386                  |
|          | CDMA BC1  | 1xRTT RC3 SO55 | Left Tilted   | 0mm      | 600 | 1880        | 24.32               | 24.50               | 1.042                  | -0.05            | 0.240                  | 0.250                  |
| 08       | CDMA BC10 | 1xRTT RC3 SO55 | Right Cheek   | 0mm      | 684 | 823.1       | 24.06               | 24.50               | 1.107                  | -0.07            | 0.525                  | 0.581                  |
|          | CDMA BC10 | 1xRTT RC3 SO55 | Right Tilted  | 0mm      | 684 | 823.1       | 24.06               | 24.50               | 1.107                  | -0.09            | 0.227                  | 0.251                  |
|          | CDMA BC10 | 1xRTT RC3 SO55 | Left Cheek    | 0mm      | 684 | 823.1       | 24.06               | 24.50               | 1.107                  | 0.02             | 0.504                  | 0.558                  |
|          | CDMA BC10 | 1xRTT RC3 SO55 | Left Tilted   | 0mm      | 684 | 823.1       | 24.06               | 24.50               | 1.107                  | -0.03            | 0.311                  | 0.344                  |

**<FDD LTE SAR>**

| Plot No. | Band        | BW (MHz) | Modulation | RB Size | RB offset | Test Position | Gap (mm) | Ch.   | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|-------------|----------|------------|---------|-----------|---------------|----------|-------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
| 09       | LTE Band 2  | 20M      | QPSK       | 1       | 49        | Right Cheek   | 0mm      | 18900 | 1880        | 23.46               | 24.00               | 1.132                  | -0.12            | 0.342                  | 0.387                  |
|          | LTE Band 2  | 20M      | QPSK       | 50      | 0         | Right Cheek   | 0mm      | 18900 | 1880        | 22.51               | 23.00               | 1.119                  | 0.05             | 0.189                  | 0.212                  |
|          | LTE Band 2  | 20M      | QPSK       | 1       | 49        | Right Tilted  | 0mm      | 18900 | 1880        | 23.46               | 24.00               | 1.132                  | -0.12            | 0.184                  | 0.208                  |
|          | LTE Band 2  | 20M      | QPSK       | 50      | 0         | Right Tilted  | 0mm      | 18900 | 1880        | 22.51               | 23.00               | 1.119                  | 0.15             | 0.109                  | 0.122                  |
|          | LTE Band 2  | 20M      | QPSK       | 1       | 49        | Left Cheek    | 0mm      | 18900 | 1880        | 23.46               | 24.00               | 1.132                  | -0.18            | 0.334                  | 0.378                  |
|          | LTE Band 2  | 20M      | QPSK       | 50      | 0         | Left Cheek    | 0mm      | 18900 | 1880        | 22.51               | 23.00               | 1.119                  | 0.02             | 0.192                  | 0.215                  |
|          | LTE Band 2  | 20M      | QPSK       | 1       | 49        | Left Tilted   | 0mm      | 18900 | 1880        | 23.46               | 24.00               | 1.132                  | -0.17            | 0.205                  | 0.232                  |
|          | LTE Band 2  | 20M      | QPSK       | 50      | 0         | Left Tilted   | 0mm      | 18900 | 1880        | 22.51               | 23.00               | 1.119                  | 0.14             | 0.123                  | 0.138                  |
|          | LTE Band 4  | 20M      | QPSK       | 1       | 99        | Right Cheek   | 0mm      | 20175 | 1732.5      | 23.41               | 24.00               | 1.146                  | -0.13            | 0.195                  | 0.223                  |
|          | LTE Band 4  | 20M      | QPSK       | 50      | 0         | Right Cheek   | 0mm      | 20175 | 1732.5      | 22.07               | 23.00               | 1.239                  | -0.01            | 0.112                  | 0.139                  |
|          | LTE Band 4  | 20M      | QPSK       | 1       | 99        | Right Tilted  | 0mm      | 20175 | 1732.5      | 23.41               | 24.00               | 1.146                  | 0.04             | 0.187                  | 0.214                  |
|          | LTE Band 4  | 20M      | QPSK       | 50      | 0         | Right Tilted  | 0mm      | 20175 | 1732.5      | 22.07               | 23.00               | 1.239                  | 0.1              | 0.107                  | 0.133                  |
| 10       | LTE Band 4  | 20M      | QPSK       | 1       | 99        | Left Cheek    | 0mm      | 20175 | 1732.5      | 23.41               | 24.00               | 1.146                  | -0.01            | 0.423                  | 0.485                  |
|          | LTE Band 4  | 20M      | QPSK       | 50      | 0         | Left Cheek    | 0mm      | 20175 | 1732.5      | 22.07               | 23.00               | 1.239                  | 0.12             | 0.170                  | 0.211                  |
|          | LTE Band 4  | 20M      | QPSK       | 1       | 99        | Left Tilted   | 0mm      | 20175 | 1732.5      | 23.41               | 24.00               | 1.146                  | -0.01            | 0.148                  | 0.170                  |
|          | LTE Band 4  | 20M      | QPSK       | 50      | 0         | Left Tilted   | 0mm      | 20175 | 1732.5      | 22.07               | 23.00               | 1.239                  | -0.06            | 0.088                  | 0.109                  |
| 11       | LTE Band 5  | 10M      | QPSK       | 1       | 49        | Right Cheek   | 0mm      | 20525 | 836.5       | 23.39               | 24.00               | 1.151                  | -0.17            | 0.579                  | 0.666                  |
|          | LTE Band 5  | 10M      | QPSK       | 25      | 25        | Right Cheek   | 0mm      | 20525 | 836.5       | 22.10               | 23.00               | 1.230                  | -0.01            | 0.285                  | 0.351                  |
|          | LTE Band 5  | 10M      | QPSK       | 1       | 49        | Right Tilted  | 0mm      | 20525 | 836.5       | 23.39               | 24.00               | 1.151                  | -0.06            | 0.231                  | 0.266                  |
|          | LTE Band 5  | 10M      | QPSK       | 25      | 25        | Right Tilted  | 0mm      | 20525 | 836.5       | 22.10               | 23.00               | 1.230                  | 0.06             | 0.162                  | 0.199                  |
|          | LTE Band 5  | 10M      | QPSK       | 1       | 49        | Left Cheek    | 0mm      | 20525 | 836.5       | 23.39               | 24.00               | 1.151                  | 0.16             | 0.412                  | 0.474                  |
|          | LTE Band 5  | 10M      | QPSK       | 25      | 25        | Left Cheek    | 0mm      | 20525 | 836.5       | 22.10               | 23.00               | 1.230                  | 0.14             | 0.213                  | 0.262                  |
|          | LTE Band 5  | 10M      | QPSK       | 1       | 49        | Left Tilted   | 0mm      | 20525 | 836.5       | 23.39               | 24.00               | 1.151                  | 0.1              | 0.278                  | 0.320                  |
|          | LTE Band 5  | 10M      | QPSK       | 25      | 25        | Left Tilted   | 0mm      | 20525 | 836.5       | 22.10               | 23.00               | 1.230                  | 0.09             | 0.141                  | 0.173                  |
| 12       | LTE Band 7  | 20M      | QPSK       | 1       | 99        | Right Cheek   | 0mm      | 21350 | 2560        | 23.45               | 24.00               | 1.135                  | -0.15            | 0.371                  | 0.421                  |
|          | LTE Band 7  | 20M      | QPSK       | 50      | 24        | Right Cheek   | 0mm      | 20850 | 2510        | 22.18               | 23.00               | 1.208                  | 0                | 0.182                  | 0.220                  |
|          | LTE Band 7  | 20M      | QPSK       | 1       | 99        | Right Tilted  | 0mm      | 21350 | 2560        | 23.45               | 24.00               | 1.135                  | -0.03            | 0.083                  | 0.094                  |
|          | LTE Band 7  | 20M      | QPSK       | 50      | 24        | Right Tilted  | 0mm      | 20850 | 2510        | 22.18               | 23.00               | 1.208                  | -0.1             | 0.050                  | 0.060                  |
|          | LTE Band 7  | 20M      | QPSK       | 1       | 99        | Left Cheek    | 0mm      | 21350 | 2560        | 23.45               | 24.00               | 1.135                  | -0.17            | 0.144                  | 0.163                  |
|          | LTE Band 7  | 20M      | QPSK       | 50      | 24        | Left Cheek    | 0mm      | 20850 | 2510        | 22.18               | 23.00               | 1.208                  | 0.07             | 0.094                  | 0.114                  |
|          | LTE Band 7  | 20M      | QPSK       | 1       | 99        | Left Tilted   | 0mm      | 21350 | 2560        | 23.45               | 24.00               | 1.135                  | -0.1             | 0.106                  | 0.120                  |
|          | LTE Band 7  | 20M      | QPSK       | 50      | 24        | Left Tilted   | 0mm      | 20850 | 2510        | 22.18               | 23.00               | 1.208                  | 0.05             | 0.051                  | 0.062                  |
|          | LTE Band 12 | 10M      | QPSK       | 1       | 49        | Right Cheek   | 0mm      | 23095 | 707.5       | 23.07               | 24.00               | 1.239                  | -0.09            | 0.270                  | 0.334                  |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Right Cheek   | 0mm      | 23095 | 707.5       | 21.94               | 23.00               | 1.276                  | -0.09            | 0.156                  | 0.199                  |
|          | LTE Band 12 | 10M      | QPSK       | 1       | 49        | Right Tilted  | 0mm      | 23095 | 707.5       | 23.07               | 24.00               | 1.239                  | -0.08            | 0.126                  | 0.156                  |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Right Tilted  | 0mm      | 23095 | 707.5       | 21.94               | 23.00               | 1.276                  | -0.11            | 0.117                  | 0.149                  |
| 13       | LTE Band 12 | 10M      | QPSK       | 1       | 49        | Left Cheek    | 0mm      | 23095 | 707.5       | 23.07               | 24.00               | 1.239                  | 0.02             | 0.288                  | 0.357                  |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Left Cheek    | 0mm      | 23095 | 707.5       | 21.94               | 23.00               | 1.276                  | 0.02             | 0.155                  | 0.198                  |
|          | LTE Band 12 | 10M      | QPSK       | 1       | 49        | Left Tilted   | 0mm      | 23095 | 707.5       | 23.07               | 24.00               | 1.239                  | -0.05            | 0.194                  | 0.240                  |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Left Tilted   | 0mm      | 23095 | 707.5       | 21.94               | 23.00               | 1.276                  | 0.07             | 0.093                  | 0.119                  |
|          | LTE Band 13 | 10M      | QPSK       | 1       | 49        | Right Cheek   | 0mm      | 23230 | 782         | 22.94               | 24.00               | 1.276                  | -0.08            | 0.401                  | 0.512                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Right Cheek   | 0mm      | 23230 | 782         | 21.93               | 23.00               | 1.279                  | -0.02            | 0.212                  | 0.271                  |
|          | LTE Band 13 | 10M      | QPSK       | 1       | 49        | Right Tilted  | 0mm      | 23230 | 782         | 22.94               | 24.00               | 1.276                  | -0.01            | 0.202                  | 0.258                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Right Tilted  | 0mm      | 23230 | 782         | 21.93               | 23.00               | 1.279                  | -0.1             | 0.106                  | 0.136                  |
| 14       | LTE Band 13 | 10M      | QPSK       | 1       | 49        | Left Cheek    | 0mm      | 23230 | 782         | 22.94               | 24.00               | 1.276                  | 0.18             | 0.421                  | 0.537                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Left Cheek    | 0mm      | 23230 | 782         | 21.93               | 23.00               | 1.279                  | -0.09            | 0.217                  | 0.278                  |
|          | LTE Band 13 | 10M      | QPSK       | 1       | 49        | Left Tilted   | 0mm      | 23230 | 782         | 22.94               | 24.00               | 1.276                  | -0.08            | 0.275                  | 0.351                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Left Tilted   | 0mm      | 23230 | 782         | 21.93               | 23.00               | 1.279                  | -0.07            | 0.146                  | 0.187                  |



| Plot No. | Band        | BW (MHz) | Modulation | RB Size | RB offset | Test Position | Gap (mm) | Ch.    | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|-------------|----------|------------|---------|-----------|---------------|----------|--------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | LTE Band 25 | 20M      | QPSK       | 1       | 49        | Right Cheek   | 0mm      | 26140  | 1860        | 23.51               | 24.00               | 1.119                  | 0.1              | 0.222                  | 0.249                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 50        | Right Cheek   | 0mm      | 26140  | 1860        | 22.35               | 23.00               | 1.161                  | 0.05             | 0.185                  | 0.215                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 49        | Right Tilted  | 0mm      | 26140  | 1860        | 23.51               | 24.00               | 1.119                  | -0.02            | 0.180                  | 0.201                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 50        | Right Tilted  | 0mm      | 26140  | 1860        | 22.35               | 23.00               | 1.161                  | 0.15             | 0.107                  | 0.124                  |
| 15       | LTE Band 25 | 20M      | QPSK       | 1       | 49        | Left Cheek    | 0mm      | 26140  | 1860        | 23.51               | 24.00               | 1.119                  | 0.1              | 0.267                  | 0.299                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 50        | Left Cheek    | 0mm      | 26140  | 1860        | 22.35               | 23.00               | 1.161                  | 0.14             | 0.167                  | 0.194                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 49        | Left Tilted   | 0mm      | 26140  | 1860        | 23.51               | 24.00               | 1.119                  | -0.17            | 0.201                  | 0.225                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 50        | Left Tilted   | 0mm      | 26140  | 1860        | 22.35               | 23.00               | 1.161                  | 0.14             | 0.120                  | 0.139                  |
|          | LTE Band 26 | 15M      | QPSK       | 1       | 74        | Right Cheek   | 0mm      | 26865  | 831.5       | 23.14               | 24.00               | 1.219                  | -0.07            | 0.556                  | 0.678                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Right Cheek   | 0mm      | 26865  | 831.5       | 22.33               | 23.00               | 1.167                  | -0.08            | 0.326                  | 0.380                  |
|          | LTE Band 26 | 15M      | QPSK       | 1       | 74        | Right Tilted  | 0mm      | 26865  | 831.5       | 23.14               | 24.00               | 1.219                  | -0.18            | 0.357                  | 0.435                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Right Tilted  | 0mm      | 26865  | 831.5       | 22.33               | 23.00               | 1.167                  | -0.13            | 0.182                  | 0.212                  |
| 16       | LTE Band 26 | 15M      | QPSK       | 1       | 74        | Left Cheek    | 0mm      | 26865  | 831.5       | 23.14               | 24.00               | 1.219                  | -0.1             | 0.581                  | 0.708                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Left Cheek    | 0mm      | 26865  | 831.5       | 22.33               | 23.00               | 1.167                  | 0.02             | 0.307                  | 0.358                  |
|          | LTE Band 26 | 15M      | QPSK       | 1       | 74        | Left Tilted   | 0mm      | 26865  | 831.5       | 23.14               | 24.00               | 1.219                  | -0.1             | 0.317                  | 0.386                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Left Tilted   | 0mm      | 26865  | 831.5       | 22.33               | 23.00               | 1.167                  | -0.07            | 0.174                  | 0.203                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Right Cheek   | 0mm      | 132572 | 1770        | 23.63               | 24.00               | 1.089                  | -0.16            | 0.188                  | 0.205                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 50        | Right Cheek   | 0mm      | 132572 | 1770        | 22.27               | 23.00               | 1.183                  | 0.07             | 0.116                  | 0.137                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Right Tilted  | 0mm      | 132572 | 1770        | 23.63               | 24.00               | 1.089                  | -0.19            | 0.182                  | 0.198                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 50        | Right Tilted  | 0mm      | 132572 | 1770        | 22.27               | 23.00               | 1.183                  | -0.02            | 0.107                  | 0.127                  |
| 17       | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Left Cheek    | 0mm      | 132572 | 1770        | 23.63               | 24.00               | 1.089                  | -0.17            | 0.266                  | 0.290                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 50        | Left Cheek    | 0mm      | 132572 | 1770        | 22.27               | 23.00               | 1.183                  | -0.01            | 0.159                  | 0.188                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Left Tilted   | 0mm      | 132572 | 1770        | 23.63               | 24.00               | 1.089                  | -0.03            | 0.028                  | 0.030                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 50        | Left Tilted   | 0mm      | 132572 | 1770        | 22.27               | 23.00               | 1.183                  | -0.04            | 0.028                  | 0.033                  |
|          | LTE Band 71 | 20M      | QPSK       | 1       | 49        | Right Cheek   | 0mm      | 133322 | 683         | 22.88               | 24.00               | 1.294                  | -0.15            | 0.128                  | 0.166                  |
|          | LTE Band 71 | 20M      | QPSK       | 50      | 24        | Right Cheek   | 0mm      | 133322 | 683         | 22.10               | 23.00               | 1.230                  | -0.13            | 0.098                  | 0.121                  |
|          | LTE Band 71 | 20M      | QPSK       | 1       | 49        | Right Tilted  | 0mm      | 133322 | 683         | 22.88               | 24.00               | 1.294                  | -0.06            | 0.071                  | 0.092                  |
|          | LTE Band 71 | 20M      | QPSK       | 50      | 24        | Right Tilted  | 0mm      | 133322 | 683         | 22.10               | 23.00               | 1.230                  | -0.12            | 0.065                  | 0.080                  |
| 18       | LTE Band 71 | 20M      | QPSK       | 1       | 49        | Left Cheek    | 0mm      | 133322 | 683         | 22.88               | 24.00               | 1.294                  | -0.12            | 0.133                  | 0.172                  |
|          | LTE Band 71 | 20M      | QPSK       | 50      | 24        | Left Cheek    | 0mm      | 133322 | 683         | 22.10               | 23.00               | 1.230                  | 0.11             | 0.104                  | 0.128                  |
|          | LTE Band 71 | 20M      | QPSK       | 1       | 49        | Left Tilted   | 0mm      | 133322 | 683         | 22.88               | 24.00               | 1.294                  | 0.04             | 0.068                  | 0.088                  |
|          | LTE Band 71 | 20M      | QPSK       | 50      | 24        | Left Tilted   | 0mm      | 133322 | 683         | 22.10               | 23.00               | 1.230                  | 0.18             | 0.057                  | 0.070                  |



**<TDD LTE SAR>**

| Plot No. | Band              | BW (MHz) | Modulation | RB Size | RB offset | Test Position | Gap (mm) | Ch.           | Freq. (MHz)   | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Duty Cycle % | Duty Cycle Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|-------------------|----------|------------|---------|-----------|---------------|----------|---------------|---------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|------------------------|------------------------|
| 19       | LTE Band 38       | 20M      | QPSK       | 1       | 49        | Right Cheek   | 0mm      | 38000         | 2595          | 23.84               | 24.00               | 1.038                  | 62.9         | 1.006                     | 0                | 0.237                  | 0.247                  |
|          | LTE Band 38       | 20M      | QPSK       | 50      | 0         | Right Cheek   | 0mm      | 38150         | 2610          | 21.98               | 23.00               | 1.265                  | 62.9         | 1.006                     | 0.05             | 0.148                  | 0.188                  |
|          | LTE Band 38       | 20M      | QPSK       | 1       | 49        | Right Tilted  | 0mm      | 38000         | 2595          | 23.84               | 24.00               | 1.038                  | 62.9         | 1.006                     | -0.08            | 0.037                  | 0.039                  |
|          | LTE Band 38       | 20M      | QPSK       | 50      | 0         | Right Tilted  | 0mm      | 38150         | 2610          | 21.98               | 23.00               | 1.265                  | 62.9         | 1.006                     | -0.11            | 0.013                  | 0.017                  |
|          | LTE Band 38       | 20M      | QPSK       | 1       | 49        | Left Cheek    | 0mm      | 38000         | 2595          | 23.84               | 24.00               | 1.038                  | 62.9         | 1.006                     | 0.17             | 0.079                  | 0.082                  |
|          | LTE Band 38       | 20M      | QPSK       | 50      | 0         | Left Cheek    | 0mm      | 38150         | 2610          | 21.98               | 23.00               | 1.265                  | 62.9         | 1.006                     | 0.02             | 0.035                  | 0.045                  |
|          | LTE Band 38       | 20M      | QPSK       | 1       | 49        | Left Tilted   | 0mm      | 38000         | 2595          | 23.84               | 24.00               | 1.038                  | 62.9         | 1.006                     | 0.09             | 0.029                  | 0.030                  |
|          | LTE Band 38       | 20M      | QPSK       | 50      | 0         | Left Tilted   | 0mm      | 38150         | 2610          | 21.98               | 23.00               | 1.265                  | 62.9         | 1.006                     | 0.1              | 0.025                  | 0.032                  |
| 20       | LTE Band 41_PC3   | 20M      | QPSK       | 1       | 99        | Right Cheek   | 0mm      | 39750         | 2506          | 23.60               | 24.00               | 1.096                  | 62.9         | 1.006                     | -0.13            | 0.339                  | 0.374                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 50      | 50        | Right Cheek   | 0mm      | 39750         | 2506          | 22.77               | 23.00               | 1.054                  | 62.9         | 1.006                     | -0.14            | 0.113                  | 0.120                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 1       | 99        | Right Tilted  | 0mm      | 39750         | 2506          | 23.60               | 24.00               | 1.096                  | 62.9         | 1.006                     | 0.02             | 0.074                  | 0.082                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 50      | 50        | Right Tilted  | 0mm      | 39750         | 2506          | 22.77               | 23.00               | 1.054                  | 62.9         | 1.006                     | -0.01            | 0.029                  | 0.031                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 1       | 99        | Left Cheek    | 0mm      | 39750         | 2506          | 23.60               | 24.00               | 1.096                  | 62.9         | 1.006                     | -0.08            | 0.197                  | 0.217                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 50      | 50        | Left Cheek    | 0mm      | 39750         | 2506          | 22.77               | 23.00               | 1.054                  | 62.9         | 1.006                     | -0.13            | 0.063                  | 0.067                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 1       | 99        | Left Tilted   | 0mm      | 39750         | 2506          | 23.60               | 24.00               | 1.096                  | 62.9         | 1.006                     | -0.01            | 0.142                  | 0.157                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 50      | 50        | Left Tilted   | 0mm      | 39750         | 2506          | 22.77               | 23.00               | 1.054                  | 62.9         | 1.006                     | -0.06            | 0.044                  | 0.047                  |
|          | LTE Band 41_PC2   | 20M      | QPSK       | 1       | 99        | Right Cheek   | 0mm      | 39750         | 2506          | 24.20               | 25.00               | 1.202                  | 42.9         | 1.009                     | -0.13            | 0.266                  | 0.323                  |
|          | LTE Band 41_UL CA | 20M      | QPSK       | 1       | 99        | Right Cheek   | 0mm      | 39750 + 39948 | 2506 + 2525.8 | 22.14               | 24.00               | 1.535                  | 62.9         | 1.006                     | 0                | 0.224                  | 0.346                  |

PC3: 1CC uplink, Power Class 3  
PC2: 1CC uplink, Power Class 2  
UL CA: 2CC Uplink, Power Class 3



**<WLAN SAR>**

| Plot No. | Band       | Mode              | Test Position | Gap (mm) | Power Reduction | Ch. | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Duty Cycle % | Duty Cycle Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|------------|-------------------|---------------|----------|-----------------|-----|-------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|------------------------|------------------------|
|          | WLAN2.4GHz | 802.11b 1Mbps     | Right Cheek   | 0mm      | OFF             | 1   | 2412        | 18.49               | 18.50               | 1.002                  | 97.62        | 1.024                     | -0.04            | 0.615                  | 0.631                  |
|          | WLAN2.4GHz | 802.11b 1Mbps     | Right Tilted  | 0mm      | OFF             | 1   | 2412        | 18.49               | 18.50               | 1.002                  | 97.62        | 1.024                     | -0.14            | 0.629                  | 0.646                  |
| 21       | WLAN2.4GHz | 802.11b 1Mbps     | Left Cheek    | 0mm      | OFF             | 1   | 2412        | 18.49               | 18.50               | 1.002                  | 97.62        | 1.024                     | -0.09            | 1.310                  | 1.345                  |
|          | WLAN2.4GHz | 802.11b 1Mbps     | Left Cheek    | 0mm      | OFF             | 6   | 2437        | 18.46               | 18.50               | 1.009                  | 97.62        | 1.024                     | -0.08            | 1.210                  | 1.251                  |
|          | WLAN2.4GHz | 802.11b 1Mbps     | Left Cheek    | 0mm      | OFF             | 11  | 2462        | 18.28               | 18.50               | 1.052                  | 97.62        | 1.024                     | -0.03            | 1.100                  | 1.185                  |
|          | WLAN2.4GHz | 802.11b 1Mbps     | Left Tilted   | 0mm      | OFF             | 1   | 2412        | 18.49               | 18.50               | 1.002                  | 97.62        | 1.024                     | -0.1             | 0.892                  | 0.916                  |
|          | WLAN2.4GHz | 802.11b 1Mbps     | Left Tilted   | 0mm      | OFF             | 6   | 2437        | 18.46               | 18.50               | 1.009                  | 97.62        | 1.024                     | 0.01             | 0.771                  | 0.797                  |
|          | WLAN5GHz   | 802.11a 6Mbps     | Right Cheek   | 0mm      | ON              | 52  | 5260        | 13.98               | 14.00               | 1.004                  | 86.26        | 1.159                     | 0.13             | 0.661                  | 0.769                  |
|          | WLAN5GHz   | 802.11a 6Mbps     | Right Tilted  | 0mm      | ON              | 52  | 5260        | 13.98               | 14.00               | 1.004                  | 86.26        | 1.159                     | 0.09             | 0.715                  | 0.832                  |
|          | WLAN5GHz   | 802.11a 6Mbps     | Right Tilted  | 0mm      | ON              | 64  | 5320        | 13.94               | 14.00               | 1.013                  | 86.26        | 1.159                     | 0.11             | 0.579                  | 0.680                  |
| 22       | WLAN5GHz   | 802.11a 6Mbps     | Left Cheek    | 0mm      | ON              | 52  | 5260        | 13.98               | 14.00               | 1.005                  | 86.26        | 1.159                     | -0.04            | 0.719                  | 0.837                  |
|          | WLAN5GHz   | 802.11a 6Mbps     | Left Cheek    | 0mm      | ON              | 64  | 5320        | 13.94               | 14.00               | 1.013                  | 86.26        | 1.159                     | 0.16             | 0.623                  | 0.732                  |
|          | WLAN5GHz   | 802.11a 6Mbps     | Left Tilted   | 0mm      | ON              | 52  | 5260        | 13.98               | 14.00               | 1.005                  | 86.26        | 1.159                     | 0.02             | 0.712                  | 0.829                  |
|          | WLAN5GHz   | 802.11a 6Mbps     | Left Tilted   | 0mm      | ON              | 64  | 5320        | 13.94               | 14.00               | 1.013                  | 86.26        | 1.159                     | 0.09             | 0.614                  | 0.721                  |
|          | WLAN5GHz   | 802.11a 6Mbps     | Right Cheek   | 0mm      | ON              | 144 | 5720        | 13.96               | 14.00               | 1.009                  | 86.26        | 1.159                     | 0.03             | 0.976                  | 1.141                  |
|          | WLAN5GHz   | 802.11a 6Mbps     | Right Cheek   | 0mm      | ON              | 116 | 5580        | 13.95               | 14.00               | 1.011                  | 86.26        | 1.159                     | 0.02             | 0.714                  | 0.837                  |
|          | WLAN5GHz   | 802.11a 6Mbps     | Right Tilted  | 0mm      | ON              | 144 | 5720        | 13.96               | 14.00               | 1.009                  | 86.26        | 1.159                     | 0.01             | 0.960                  | 1.122                  |
|          | WLAN5GHz   | 802.11a 6Mbps     | Right Tilted  | 0mm      | ON              | 116 | 5580        | 13.95               | 14.00               | 1.011                  | 86.26        | 1.159                     | 0.01             | 0.757                  | 0.887                  |
| 23       | WLAN5GHz   | 802.11a 6Mbps     | Left Cheek    | 0mm      | ON              | 144 | 5720        | 13.96               | 14.00               | 1.009                  | 86.26        | 1.159                     | 0.07             | 1.090                  | 1.274                  |
|          | WLAN5GHz   | 802.11a 6Mbps     | Left Cheek    | 0mm      | ON              | 116 | 5580        | 13.95               | 14.00               | 1.011                  | 86.26        | 1.159                     | -0.16            | 0.897                  | 1.051                  |
|          | WLAN5GHz   | 802.11a 6Mbps     | Left Tilted   | 0mm      | ON              | 144 | 5720        | 13.96               | 14.00               | 1.009                  | 86.26        | 1.159                     | 0.1              | 1.010                  | 1.181                  |
|          | WLAN5GHz   | 802.11a 6Mbps     | Left Tilted   | 0mm      | ON              | 116 | 5580        | 13.95               | 14.00               | 1.011                  | 86.26        | 1.159                     | -0.03            | 0.914                  | 1.071                  |
|          | WLAN5GHz   | 802.11a 6Mbps     | Right Cheek   | 0mm      | ON              | 157 | 5785        | 13.91               | 14.00               | 1.020                  | 86.26        | 1.159                     | 0.14             | 1.050                  | 1.242                  |
|          | WLAN5GHz   | 802.11a 6Mbps     | Right Cheek   | 0mm      | ON              | 149 | 5745        | 13.90               | 14.00               | 1.023                  | 86.26        | 1.159                     | -0.17            | 1.020                  | 1.209                  |
|          | WLAN5GHz   | 802.11a 6Mbps     | Right Cheek   | 0mm      | ON              | 165 | 5825        | 13.76               | 14.00               | 1.056                  | 86.26        | 1.159                     | -0.12            | 1.130                  | 1.383                  |
|          | WLAN5GHz   | 802.11n-HT40 MCS0 | Right Cheek   | 0mm      | ON              | 151 | 5755        | 9.90                | 10.00               | 1.024                  | 88.8         | 1.126                     | 0.1              | 0.340                  | 0.392                  |
|          | WLAN5GHz   | 802.11a 6Mbps     | Right Tilted  | 0mm      | ON              | 157 | 5785        | 13.91               | 14.00               | 1.020                  | 86.26        | 1.159                     | -0.03            | 0.910                  | 1.076                  |
|          | WLAN5GHz   | 802.11a 6Mbps     | Right Tilted  | 0mm      | ON              | 149 | 5745        | 13.90               | 14.00               | 1.023                  | 86.26        | 1.159                     | -0.04            | 0.940                  | 1.114                  |
|          | WLAN5GHz   | 802.11a 6Mbps     | Left Cheek    | 0mm      | ON              | 157 | 5785        | 13.91               | 14.00               | 1.020                  | 86.26        | 1.159                     | -0.14            | 1.130                  | 1.337                  |
|          | WLAN5GHz   | 802.11a 6Mbps     | Left Cheek    | 0mm      | ON              | 149 | 5745        | 13.90               | 14.00               | 1.023                  | 86.26        | 1.159                     | -0.05            | 1.130                  | 1.340                  |
| 24       | WLAN5GHz   | 802.11a 6Mbps     | Left Cheek    | 0mm      | ON              | 165 | 5825        | 13.76               | 14.00               | 1.056                  | 86.26        | 1.159                     | -0.02            | 1.160                  | 1.420                  |
|          | WLAN5GHz   | 802.11n-HT40 MCS0 | Left Cheek    | 0mm      | ON              | 151 | 5755        | 9.90                | 10.00               | 1.024                  | 88.8         | 1.126                     | -0.03            | 0.391                  | 0.451                  |
|          | WLAN5GHz   | 802.11a 6Mbps     | Left Tilted   | 0mm      | ON              | 157 | 5785        | 13.91               | 14.00               | 1.020                  | 86.26        | 1.159                     | -0.15            | 1.010                  | 1.195                  |
|          | WLAN5GHz   | 802.11a 6Mbps     | Left Tilted   | 0mm      | ON              | 149 | 5745        | 13.90               | 14.00               | 1.023                  | 86.26        | 1.159                     | 0.01             | 0.910                  | 1.079                  |

**<Bluetooth SAR>**

| Plot No. | Band      | Mode  | Test Position | Gap (mm) | Ch. | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|-----------|-------|---------------|----------|-----|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | Bluetooth | 1Mbps | Right Cheek   | 0mm      | 0   | 2402        | 11.82               | 12.00               | 1.042                  | -0.03            | 0.104                  | 0.108                  |
|          | Bluetooth | 1Mbps | Right Tilted  | 0mm      | 0   | 2402        | 11.82               | 12.00               | 1.042                  | 0.03             | 0.109                  | 0.114                  |
| 25       | Bluetooth | 1Mbps | Left Cheek    | 0mm      | 0   | 2402        | 11.82               | 12.00               | 1.042                  | 0.11             | 0.216                  | 0.225                  |
|          | Bluetooth | 1Mbps | Left Tilted   | 0mm      | 0   | 2402        | 11.82               | 12.00               | 1.042                  | 0.03             | 0.158                  | 0.165                  |

## 14.2 Hotspot SAR

### <GSM SAR>

| Plot No. | Band    | Mode              | Test Position | Gap (mm) | Power Reduction | Ch. | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|---------|-------------------|---------------|----------|-----------------|-----|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | GSM850  | GPRS (4 Tx slots) | Front         | 5mm      | OFF             | 251 | 848.8       | 26.34               | 27.50               | 1.306                  | -0.19            | 0.452                  | 0.590                  |
| 26       | GSM850  | GPRS (4 Tx slots) | Back          | 5mm      | OFF             | 251 | 848.8       | 26.34               | 27.50               | 1.306                  | 0.06             | 0.910                  | 1.189                  |
|          | GSM850  | GPRS (4 Tx slots) | Back          | 5mm      | OFF             | 128 | 824.2       | 26.25               | 27.50               | 1.334                  | 0.01             | 0.466                  | 0.621                  |
|          | GSM850  | GPRS (4 Tx slots) | Back          | 5mm      | OFF             | 189 | 836.4       | 26.33               | 27.50               | 1.309                  | -0.02            | 0.543                  | 0.711                  |
|          | GSM850  | GPRS (4 Tx slots) | Left Side     | 5mm      | OFF             | 251 | 848.8       | 26.34               | 27.50               | 1.306                  | 0.06             | 0.516                  | 0.674                  |
|          | GSM850  | GPRS (4 Tx slots) | Right Side    | 5mm      | OFF             | 251 | 848.8       | 26.34               | 27.50               | 1.306                  | -0.02            | 0.557                  | 0.728                  |
|          | GSM850  | GPRS (4 Tx slots) | Bottom Side   | 5mm      | OFF             | 251 | 848.8       | 26.34               | 27.50               | 1.306                  | -0.04            | 0.113                  | 0.148                  |
|          | GSM1900 | GPRS (4 Tx slots) | Front         | 5mm      | ON              | 661 | 1880        | 19.34               | 19.50               | 1.038                  | 0.06             | 0.396                  | 0.411                  |
| 27       | GSM1900 | GPRS (4 Tx slots) | Back          | 5mm      | ON              | 661 | 1880        | 19.34               | 19.50               | 1.038                  | 0.07             | 0.689                  | 0.715                  |
|          | GSM1900 | GPRS (4 Tx slots) | Left Side     | 5mm      | ON              | 661 | 1880        | 19.34               | 19.50               | 1.038                  | 0.07             | 0.062                  | 0.064                  |
|          | GSM1900 | GPRS (4 Tx slots) | Right Side    | 5mm      | ON              | 661 | 1880        | 19.34               | 19.50               | 1.038                  | 0.03             | 0.053                  | 0.055                  |
|          | GSM1900 | GPRS (4 Tx slots) | Bottom Side   | 5mm      | ON              | 661 | 1880        | 19.34               | 19.50               | 1.038                  | 0.09             | 0.554                  | 0.575                  |

### <WCDMA SAR>

| Plot No. | Band     | Mode         | Test Position | Gap (mm) | Power Reduction | Ch.  | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|----------|--------------|---------------|----------|-----------------|------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | WCDMA II | RMC 12.2Kbps | Front         | 5mm      | ON              | 9400 | 1880        | 16.50               | 16.50               | 1.000                  | -0.12            | 0.710                  | 0.710                  |
|          | WCDMA II | RMC 12.2Kbps | Back          | 5mm      | ON              | 9400 | 1880        | 16.50               | 16.50               | 1.000                  | -0.03            | 1.170                  | 1.170                  |
| 28       | WCDMA II | RMC 12.2Kbps | Back          | 5mm      | ON              | 9262 | 1852.4      | 16.20               | 16.50               | 1.072                  | -0.09            | 1.200                  | 1.286                  |
|          | WCDMA II | RMC 12.2Kbps | Back          | 5mm      | ON              | 9538 | 1907.6      | 16.46               | 16.50               | 1.009                  | -0.07            | 1.040                  | 1.050                  |
|          | WCDMA II | RMC 12.2Kbps | Left Side     | 5mm      | ON              | 9400 | 1880        | 16.50               | 16.50               | 1.000                  | -0.12            | 0.106                  | 0.106                  |
|          | WCDMA II | RMC 12.2Kbps | Right Side    | 5mm      | ON              | 9400 | 1880        | 16.50               | 16.50               | 1.000                  | 0.02             | 0.089                  | 0.089                  |
|          | WCDMA II | RMC 12.2Kbps | Bottom Side   | 5mm      | ON              | 9400 | 1880        | 16.50               | 16.50               | 1.000                  | -0.14            | 0.976                  | 0.976                  |
|          | WCDMA II | RMC 12.2Kbps | Bottom Side   | 5mm      | ON              | 9262 | 1852.4      | 16.20               | 16.50               | 1.072                  | -0.17            | 0.971                  | 1.040                  |
|          | WCDMA II | RMC 12.2Kbps | Bottom Side   | 5mm      | ON              | 9538 | 1907.6      | 16.46               | 16.50               | 1.009                  | -0.16            | 0.895                  | 0.903                  |
|          | WCDMA IV | RMC 12.2Kbps | Front         | 5mm      | ON              | 1513 | 1752.6      | 15.40               | 16.00               | 1.148                  | 0.02             | 0.682                  | 0.783                  |
| 29       | WCDMA IV | RMC 12.2Kbps | Back          | 5mm      | ON              | 1513 | 1752.6      | 15.40               | 16.00               | 1.148                  | -0.15            | 1.260                  | 1.447                  |
|          | WCDMA IV | RMC 12.2Kbps | Back          | 5mm      | ON              | 1312 | 1712.4      | 15.15               | 16.00               | 1.216                  | -0.12            | 1.020                  | 1.241                  |
|          | WCDMA IV | RMC 12.2Kbps | Back          | 5mm      | ON              | 1413 | 1732.6      | 15.34               | 16.00               | 1.164                  | -0.14            | 1.180                  | 1.374                  |
|          | WCDMA IV | RMC 12.2Kbps | Left Side     | 5mm      | ON              | 1513 | 1752.6      | 15.40               | 16.00               | 1.148                  | 0.13             | 0.114                  | 0.131                  |
|          | WCDMA IV | RMC 12.2Kbps | Right Side    | 5mm      | ON              | 1513 | 1752.6      | 15.40               | 16.00               | 1.148                  | 0.04             | 0.062                  | 0.071                  |
|          | WCDMA IV | RMC 12.2Kbps | Bottom Side   | 5mm      | ON              | 1513 | 1752.6      | 15.40               | 16.00               | 1.148                  | 0.12             | 0.998                  | 1.146                  |
|          | WCDMA IV | RMC 12.2Kbps | Bottom Side   | 5mm      | ON              | 1312 | 1712.4      | 15.15               | 16.00               | 1.216                  | 0.14             | 0.843                  | 1.025                  |
|          | WCDMA IV | RMC 12.2Kbps | Bottom Side   | 5mm      | ON              | 1413 | 1732.6      | 15.34               | 16.00               | 1.164                  | 0.16             | 0.945                  | 1.100                  |
|          | WCDMA V  | RMC 12.2Kbps | Front         | 5mm      | ON              | 4233 | 846.6       | 22.13               | 22.50               | 1.089                  | -0.01            | 0.724                  | 0.788                  |
| 30       | WCDMA V  | RMC 12.2Kbps | Back          | 5mm      | ON              | 4233 | 846.6       | 22.13               | 22.50               | 1.089                  | -0.08            | 0.967                  | 1.053                  |
|          | WCDMA V  | RMC 12.2Kbps | Back          | 5mm      | ON              | 4132 | 826.4       | 22.12               | 22.50               | 1.091                  | -0.08            | 0.806                  | 0.880                  |
|          | WCDMA V  | RMC 12.2Kbps | Back          | 5mm      | ON              | 4182 | 836.4       | 22.04               | 22.50               | 1.112                  | -0.04            | 0.890                  | 0.989                  |
|          | WCDMA V  | RMC 12.2Kbps | Left Side     | 5mm      | ON              | 4233 | 846.6       | 22.13               | 22.50               | 1.089                  | 0                | 0.697                  | 0.759                  |
|          | WCDMA V  | RMC 12.2Kbps | Right Side    | 5mm      | ON              | 4233 | 846.6       | 22.13               | 22.50               | 1.089                  | -0.02            | 0.796                  | 0.867                  |
|          | WCDMA V  | RMC 12.2Kbps | Right Side    | 5mm      | ON              | 4132 | 826.4       | 22.12               | 22.50               | 1.091                  | 0                | 0.777                  | 0.848                  |
|          | WCDMA V  | RMC 12.2Kbps | Right Side    | 5mm      | ON              | 4182 | 836.4       | 22.04               | 22.50               | 1.112                  | -0.03            | 0.796                  | 0.885                  |
|          | WCDMA V  | RMC 12.2Kbps | Bottom Side   | 5mm      | ON              | 4233 | 846.6       | 22.13               | 22.50               | 1.089                  | 0.1              | 0.179                  | 0.195                  |



**<CDMA SAR>**

| Plot No. | Band      | Mode           | Test Position | Gap (mm) | Power Reduction | Ch.  | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|-----------|----------------|---------------|----------|-----------------|------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | CDMA BC0  | RTAP 153.6Kbps | Front         | 5mm      | OFF             | 777  | 848.31      | 23.99               | 24.50               | 1.125                  | -0.03            | 0.681                  | 0.766                  |
|          | CDMA BC0  | RTAP 153.6Kbps | Back          | 5mm      | OFF             | 777  | 848.31      | 23.99               | 24.50               | 1.125                  | -0.13            | 0.935                  | 1.052                  |
|          | CDMA BC0  | RTAP 153.6Kbps | Back          | 5mm      | OFF             | 1013 | 824.7       | 23.79               | 24.50               | 1.178                  | -0.19            | 0.829                  | 0.976                  |
|          | CDMA BC0  | RTAP 153.6Kbps | Back          | 5mm      | OFF             | 384  | 836.52      | 23.91               | 24.50               | 1.146                  | -0.11            | 0.895                  | 1.025                  |
|          | CDMA BC0  | RTAP 153.6Kbps | Left Side     | 5mm      | OFF             | 777  | 848.31      | 23.99               | 24.50               | 1.125                  | 0.1              | 0.753                  | 0.847                  |
|          | CDMA BC0  | RTAP 153.6Kbps | Left Side     | 5mm      | OFF             | 1013 | 824.7       | 23.79               | 24.50               | 1.178                  | 0.12             | 0.726                  | 0.855                  |
|          | CDMA BC0  | RTAP 153.6Kbps | Left Side     | 5mm      | OFF             | 384  | 836.52      | 23.91               | 24.50               | 1.146                  | 0.14             | 0.756                  | 0.866                  |
|          | CDMA BC0  | RTAP 153.6Kbps | Right Side    | 5mm      | OFF             | 777  | 848.31      | 23.99               | 24.50               | 1.125                  | 0.12             | 0.952                  | 1.071                  |
|          | CDMA BC0  | RTAP 153.6Kbps | Right Side    | 5mm      | OFF             | 1013 | 824.7       | 23.79               | 24.50               | 1.178                  | 0.08             | 0.911                  | 1.073                  |
| 31       | CDMA BC0  | RTAP 153.6Kbps | Right Side    | 5mm      | OFF             | 384  | 836.52      | 23.91               | 24.50               | 1.146                  | 0.14             | 0.949                  | 1.087                  |
|          | CDMA BC0  | RTAP 153.6Kbps | Bottom Side   | 5mm      | OFF             | 777  | 848.31      | 23.99               | 24.50               | 1.125                  | 0.02             | 0.129                  | 0.145                  |
|          | CDMA BC1  | RTAP 153.6Kbps | Front         | 5mm      | ON              | 600  | 1880        | 18.46               | 19.00               | 1.132                  | 0.04             | 0.643                  | 0.728                  |
|          | CDMA BC1  | RTAP 153.6Kbps | Back          | 5mm      | ON              | 600  | 1880        | 18.46               | 19.00               | 1.132                  | -0.03            | 1.160                  | 1.314                  |
| 32       | CDMA BC1  | RTAP 153.6Kbps | Back          | 5mm      | ON              | 25   | 1851.25     | 18.37               | 19.00               | 1.156                  | -0.06            | 1.200                  | 1.387                  |
|          | CDMA BC1  | RTAP 153.6Kbps | Back          | 5mm      | ON              | 1175 | 1908.75     | 18.25               | 19.00               | 1.189                  | -0.07            | 1.040                  | 1.236                  |
|          | CDMA BC1  | RTAP 153.6Kbps | Left Side     | 5mm      | ON              | 600  | 1880        | 18.46               | 19.00               | 1.132                  | 0                | 0.091                  | 0.103                  |
|          | CDMA BC1  | RTAP 153.6Kbps | Right Side    | 5mm      | ON              | 600  | 1880        | 18.46               | 19.00               | 1.132                  | -0.11            | 0.090                  | 0.102                  |
|          | CDMA BC1  | RTAP 153.6Kbps | Bottom Side   | 5mm      | ON              | 600  | 1880        | 18.46               | 19.00               | 1.132                  | 0.14             | 0.905                  | 1.025                  |
|          | CDMA BC1  | RTAP 153.6Kbps | Bottom Side   | 5mm      | ON              | 25   | 1851.25     | 18.37               | 19.00               | 1.156                  | 0.06             | 0.926                  | 1.071                  |
|          | CDMA BC1  | RTAP 153.6Kbps | Bottom Side   | 5mm      | ON              | 1175 | 1908.75     | 18.25               | 19.00               | 1.189                  | 0.07             | 0.818                  | 0.972                  |
|          | CDMA BC10 | RTAP 153.6Kbps | Front         | 5mm      | OFF             | 580  | 820.5       | 23.93               | 24.50               | 1.140                  | -0.12            | 0.575                  | 0.656                  |
|          | CDMA BC10 | RTAP 153.6Kbps | Back          | 5mm      | OFF             | 580  | 820.5       | 23.93               | 24.50               | 1.140                  | -0.09            | 0.861                  | 0.982                  |
|          | CDMA BC10 | RTAP 153.6Kbps | Left Side     | 5mm      | OFF             | 580  | 820.5       | 23.93               | 24.50               | 1.140                  | 0.11             | 0.758                  | 0.864                  |
| 33       | CDMA BC10 | RTAP 153.6Kbps | Right Side    | 5mm      | OFF             | 580  | 820.5       | 23.93               | 24.50               | 1.140                  | 0.11             | 0.964                  | 1.099                  |
|          | CDMA BC10 | RTAP 153.6Kbps | Bottom Side   | 5mm      | OFF             | 580  | 820.5       | 23.93               | 24.50               | 1.140                  | 0.06             | 0.104                  | 0.119                  |

**<FDD LTE SAR>**

| Plot No. | Band       | BW (MHz) | Modulation | RB Size | RB offset | Test Position | Gap (mm) | Power Reduction | Ch.   | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|------------|----------|------------|---------|-----------|---------------|----------|-----------------|-------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | LTE Band 2 | 20M      | QPSK       | 1       | 0         | Front         | 5mm      | ON              | 19100 | 1900        | 16.50               | 16.50               | 1.000                  | -0.11            | 0.587                  | 0.587                  |
|          | LTE Band 2 | 20M      | QPSK       | 50      | 0         | Front         | 5mm      | ON              | 18900 | 1880        | 16.41               | 16.50               | 1.021                  | -0.07            | 0.593                  | 0.605                  |
|          | LTE Band 2 | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | ON              | 19100 | 1900        | 16.50               | 16.50               | 1.000                  | 0.07             | 1.050                  | 1.050                  |
|          | LTE Band 2 | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | ON              | 18700 | 1860        | 16.17               | 16.50               | 1.079                  | -0.08            | 1.010                  | 1.090                  |
|          | LTE Band 2 | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | ON              | 18900 | 1880        | 16.37               | 16.50               | 1.030                  | -0.02            | 0.921                  | 0.949                  |
|          | LTE Band 2 | 20M      | QPSK       | 50      | 0         | Back          | 5mm      | ON              | 18900 | 1880        | 16.41               | 16.50               | 1.021                  | -0.11            | 1.050                  | 1.072                  |
| 34       | LTE Band 2 | 20M      | QPSK       | 50      | 0         | Back          | 5mm      | ON              | 18700 | 1860        | 16.06               | 16.50               | 1.107                  | -0.1             | 1.020                  | 1.129                  |
|          | LTE Band 2 | 20M      | QPSK       | 50      | 0         | Back          | 5mm      | ON              | 19100 | 1900        | 16.37               | 16.50               | 1.030                  | -0.05            | 0.919                  | 0.947                  |
|          | LTE Band 2 | 20M      | QPSK       | 100     | 0         | Back          | 5mm      | ON              | 18900 | 1880        | 16.28               | 16.50               | 1.052                  | 0.01             | 1.050                  | 1.105                  |
|          | LTE Band 2 | 20M      | QPSK       | 1       | 0         | Left Side     | 5mm      | ON              | 19100 | 1900        | 16.50               | 16.50               | 1.000                  | 0.14             | 0.062                  | 0.062                  |
|          | LTE Band 2 | 20M      | QPSK       | 50      | 0         | Left Side     | 5mm      | ON              | 18900 | 1880        | 16.41               | 16.50               | 1.021                  | 0.05             | 0.066                  | 0.067                  |
|          | LTE Band 2 | 20M      | QPSK       | 1       | 0         | Right Side    | 5mm      | ON              | 19100 | 1900        | 16.50               | 16.50               | 1.000                  | 0.12             | 0.079                  | 0.079                  |
|          | LTE Band 2 | 20M      | QPSK       | 50      | 0         | Right Side    | 5mm      | ON              | 18900 | 1880        | 16.41               | 16.50               | 1.021                  | 0.09             | 0.082                  | 0.084                  |
|          | LTE Band 2 | 20M      | QPSK       | 1       | 0         | Bottom Side   | 5mm      | ON              | 19100 | 1900        | 16.50               | 16.50               | 1.000                  | 0.03             | 0.825                  | 0.825                  |
|          | LTE Band 2 | 20M      | QPSK       | 1       | 0         | Bottom Side   | 5mm      | ON              | 18700 | 1860        | 16.17               | 16.50               | 1.079                  | 0.02             | 0.801                  | 0.864                  |
|          | LTE Band 2 | 20M      | QPSK       | 1       | 0         | Bottom Side   | 5mm      | ON              | 18900 | 1880        | 16.37               | 16.50               | 1.030                  | -0.01            | 0.739                  | 0.761                  |
|          | LTE Band 2 | 20M      | QPSK       | 50      | 0         | Bottom Side   | 5mm      | ON              | 18900 | 1880        | 16.41               | 16.50               | 1.021                  | -0.16            | 0.822                  | 0.839                  |
|          | LTE Band 2 | 20M      | QPSK       | 50      | 0         | Bottom Side   | 5mm      | ON              | 18700 | 1860        | 16.06               | 16.50               | 1.107                  | -0.01            | 0.811                  | 0.897                  |
|          | LTE Band 2 | 20M      | QPSK       | 50      | 0         | Bottom Side   | 5mm      | ON              | 19100 | 1900        | 16.37               | 16.50               | 1.030                  | -0.03            | 0.730                  | 0.752                  |
|          | LTE Band 2 | 20M      | QPSK       | 100     | 0         | Bottom Side   | 5mm      | ON              | 18900 | 1880        | 16.28               | 16.50               | 1.052                  | 0.07             | 0.815                  | 0.857                  |



| Plot No. | Band        | BW (MHz) | Modulation | RB Size | RB offset | Test Position | Gap (mm) | Power Reduction | Ch.   | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|-------------|----------|------------|---------|-----------|---------------|----------|-----------------|-------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
| 35       | LTE Band 4  | 20M      | QPSK       | 1       | 99        | Front         | 5mm      | ON              | 20175 | 1732.5      | 15.79               | 16.50               | 1.178                  | -0.05            | 0.570                  | 0.671                  |
|          | LTE Band 4  | 20M      | QPSK       | 50      | 24        | Front         | 5mm      | ON              | 20175 | 1732.5      | 15.68               | 16.50               | 1.208                  | -0.03            | 0.465                  | 0.562                  |
|          | LTE Band 4  | 20M      | QPSK       | 1       | 99        | Back          | 5mm      | ON              | 20175 | 1732.5      | 15.79               | 16.50               | 1.178                  | -0.03            | 0.966                  | 1.138                  |
|          | LTE Band 4  | 20M      | QPSK       | 50      | 0         | Back          | 5mm      | ON              | 20175 | 1732.5      | 15.81               | 16.50               | 1.172                  | -0.04            | 0.806                  | 0.945                  |
|          | LTE Band 4  | 20M      | QPSK       | 100     | 0         | Back          | 5mm      | ON              | 20175 | 1732.5      | 15.76               | 16.50               | 1.186                  | -0.07            | 0.788                  | 0.934                  |
|          | LTE Band 4  | 20M      | QPSK       | 1       | 99        | Left Side     | 5mm      | ON              | 20175 | 1732.5      | 15.79               | 16.50               | 1.178                  | 0.03             | 0.101                  | 0.119                  |
|          | LTE Band 4  | 20M      | QPSK       | 50      | 0         | Left Side     | 5mm      | ON              | 20175 | 1732.5      | 15.81               | 16.50               | 1.172                  | 0.04             | 0.077                  | 0.090                  |
|          | LTE Band 4  | 20M      | QPSK       | 1       | 99        | Right Side    | 5mm      | ON              | 20175 | 1732.5      | 15.79               | 16.50               | 1.178                  | -0.13            | 0.053                  | 0.062                  |
|          | LTE Band 4  | 20M      | QPSK       | 50      | 0         | Right Side    | 5mm      | ON              | 20175 | 1732.5      | 15.81               | 16.50               | 1.172                  | -0.12            | 0.042                  | 0.049                  |
|          | LTE Band 4  | 20M      | QPSK       | 1       | 99        | Bottom Side   | 5mm      | ON              | 20175 | 1732.5      | 15.79               | 16.50               | 1.178                  | 0.11             | 0.807                  | 0.950                  |
| 36       | LTE Band 4  | 20M      | QPSK       | 50      | 0         | Bottom Side   | 5mm      | ON              | 20175 | 1732.5      | 15.81               | 16.50               | 1.172                  | -0.04            | 0.656                  | 0.769                  |
|          | LTE Band 4  | 20M      | QPSK       | 100     | 0         | Bottom Side   | 5mm      | ON              | 20175 | 1732.5      | 15.76               | 16.50               | 1.186                  | -0.16            | 0.629                  | 0.746                  |
|          | LTE Band 5  | 10M      | QPSK       | 1       | 49        | Front         | 5mm      | ON              | 20525 | 836.5       | 21.95               | 23.00               | 1.274                  | -0.02            | 0.604                  | 0.769                  |
|          | LTE Band 5  | 10M      | QPSK       | 25      | 25        | Front         | 5mm      | ON              | 20525 | 836.5       | 21.76               | 23.00               | 1.330                  | 0.02             | 0.348                  | 0.463                  |
|          | LTE Band 5  | 10M      | QPSK       | 1       | 49        | Back          | 5mm      | ON              | 20525 | 836.5       | 21.95               | 23.00               | 1.274                  | 0.05             | 0.792                  | 1.009                  |
|          | LTE Band 5  | 10M      | QPSK       | 25      | 25        | Back          | 5mm      | ON              | 20525 | 836.5       | 21.76               | 23.00               | 1.330                  | -0.05            | 0.491                  | 0.653                  |
|          | LTE Band 5  | 10M      | QPSK       | 50      | 0         | Back          | 5mm      | ON              | 20525 | 836.5       | 21.74               | 23.00               | 1.337                  | -0.1             | 0.472                  | 0.631                  |
|          | LTE Band 5  | 10M      | QPSK       | 1       | 49        | Left Side     | 5mm      | ON              | 20525 | 836.5       | 21.95               | 23.00               | 1.274                  | -0.09            | 0.702                  | 0.894                  |
|          | LTE Band 5  | 10M      | QPSK       | 25      | 25        | Left Side     | 5mm      | ON              | 20525 | 836.5       | 21.76               | 23.00               | 1.330                  | -0.01            | 0.563                  | 0.749                  |
|          | LTE Band 5  | 10M      | QPSK       | 50      | 0         | Left Side     | 5mm      | ON              | 20525 | 836.5       | 21.74               | 23.00               | 1.337                  | -0.02            | 0.550                  | 0.735                  |
| 37       | LTE Band 5  | 10M      | QPSK       | 1       | 49        | Right Side    | 5mm      | ON              | 20525 | 836.5       | 21.95               | 23.00               | 1.274                  | -0.09            | 0.835                  | 1.063                  |
|          | LTE Band 5  | 10M      | QPSK       | 25      | 25        | Right Side    | 5mm      | ON              | 20525 | 836.5       | 21.76               | 23.00               | 1.330                  | 0.05             | 0.634                  | 0.844                  |
|          | LTE Band 5  | 10M      | QPSK       | 50      | 0         | Right Side    | 5mm      | ON              | 20525 | 836.5       | 21.74               | 23.00               | 1.337                  | -0.01            | 0.620                  | 0.829                  |
|          | LTE Band 5  | 10M      | QPSK       | 1       | 49        | Bottom Side   | 5mm      | ON              | 20525 | 836.5       | 21.95               | 23.00               | 1.274                  | 0                | 0.128                  | 0.163                  |
|          | LTE Band 5  | 10M      | QPSK       | 25      | 25        | Bottom Side   | 5mm      | ON              | 20525 | 836.5       | 21.76               | 23.00               | 1.330                  | 0.12             | 0.083                  | 0.110                  |
|          | LTE Band 7  | 20M      | QPSK       | 1       | 49        | Front         | 5mm      | ON              | 20850 | 2510        | 17.86               | 18.50               | 1.159                  | -0.07            | 0.655                  | 0.759                  |
|          | LTE Band 7  | 20M      | QPSK       | 50      | 50        | Front         | 5mm      | ON              | 21350 | 2560        | 17.85               | 18.50               | 1.161                  | -0.09            | 0.588                  | 0.683                  |
|          | LTE Band 7  | 20M      | QPSK       | 1       | 49        | Back          | 5mm      | ON              | 20850 | 2510        | 17.86               | 18.50               | 1.159                  | -0.06            | 0.877                  | 1.016                  |
|          | LTE Band 7  | 20M      | QPSK       | 1       | 49        | Back          | 5mm      | ON              | 21100 | 2535        | 17.71               | 18.50               | 1.199                  | -0.05            | 0.873                  | 1.047                  |
|          | LTE Band 7  | 20M      | QPSK       | 1       | 49        | Back          | 5mm      | ON              | 21350 | 2560        | 17.62               | 18.50               | 1.225                  | -0.06            | 0.913                  | 1.118                  |
| 38       | LTE Band 7  | 20M      | QPSK       | 50      | 50        | Back          | 5mm      | ON              | 21350 | 2560        | 17.85               | 18.50               | 1.161                  | 0.03             | 0.686                  | 0.797                  |
|          | LTE Band 7  | 20M      | QPSK       | 100     | 0         | Back          | 5mm      | ON              | 20850 | 2510        | 17.82               | 18.50               | 1.169                  | -0.04            | 0.673                  | 0.787                  |
|          | LTE Band 7  | 20M      | QPSK       | 1       | 49        | Left Side     | 5mm      | ON              | 20850 | 2510        | 17.86               | 18.50               | 1.159                  | 0.05             | 0.037                  | 0.043                  |
|          | LTE Band 7  | 20M      | QPSK       | 50      | 50        | Left Side     | 5mm      | ON              | 21350 | 2560        | 17.85               | 18.50               | 1.161                  | 0.04             | 0.034                  | 0.039                  |
|          | LTE Band 7  | 20M      | QPSK       | 1       | 49        | Right Side    | 5mm      | ON              | 20850 | 2510        | 17.86               | 18.50               | 1.159                  | -0.06            | 0.207                  | 0.240                  |
|          | LTE Band 7  | 20M      | QPSK       | 50      | 50        | Right Side    | 5mm      | ON              | 21350 | 2560        | 17.85               | 18.50               | 1.161                  | -0.07            | 0.159                  | 0.185                  |
|          | LTE Band 7  | 20M      | QPSK       | 1       | 49        | Bottom Side   | 5mm      | ON              | 20850 | 2510        | 17.86               | 18.50               | 1.159                  | 0.04             | 0.613                  | 0.710                  |
|          | LTE Band 7  | 20M      | QPSK       | 50      | 50        | Bottom Side   | 5mm      | ON              | 21350 | 2560        | 17.85               | 18.50               | 1.161                  | 0                | 0.491                  | 0.570                  |
|          | LTE Band 12 | 10M      | QPSK       | 1       | 49        | Front         | 5mm      | OFF             | 23095 | 707.5       | 23.07               | 24.00               | 1.239                  | -0.12            | 0.335                  | 0.415                  |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Front         | 5mm      | OFF             | 23095 | 707.5       | 21.94               | 23.00               | 1.276                  | 0.06             | 0.178                  | 0.227                  |
| 38       | LTE Band 12 | 10M      | QPSK       | 1       | 49        | Back          | 5mm      | OFF             | 23095 | 707.5       | 23.07               | 24.00               | 1.239                  | -0.09            | 0.625                  | 0.774                  |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Back          | 5mm      | OFF             | 23095 | 707.5       | 21.94               | 23.00               | 1.276                  | -0.04            | 0.338                  | 0.431                  |
|          | LTE Band 12 | 10M      | QPSK       | 1       | 49        | Left Side     | 5mm      | OFF             | 23095 | 707.5       | 23.07               | 24.00               | 1.239                  | -0.18            | 0.570                  | 0.706                  |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Left Side     | 5mm      | OFF             | 23095 | 707.5       | 21.94               | 23.00               | 1.276                  | 0.07             | 0.307                  | 0.392                  |
|          | LTE Band 12 | 10M      | QPSK       | 1       | 49        | Right Side    | 5mm      | OFF             | 23095 | 707.5       | 23.07               | 24.00               | 1.239                  | -0.13            | 0.615                  | 0.762                  |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Right Side    | 5mm      | OFF             | 23095 | 707.5       | 21.94               | 23.00               | 1.276                  | 0.09             | 0.368                  | 0.470                  |
|          | LTE Band 12 | 10M      | QPSK       | 1       | 49        | Bottom Side   | 5mm      | OFF             | 23095 | 707.5       | 23.07               | 24.00               | 1.239                  | 0.11             | 0.111                  | 0.138                  |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Bottom Side   | 5mm      | OFF             | 23095 | 707.5       | 21.94               | 23.00               | 1.276                  | 0.15             | 0.064                  | 0.082                  |



| Plot No. | Band        | BW (MHz) | Modulation | RB Size | RB offset | Test Position | Gap (mm) | Power Reduction | Ch.   | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|-------------|----------|------------|---------|-----------|---------------|----------|-----------------|-------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | LTE Band 13 | 10M      | QPSK       | 1       | 49        | Front         | 5mm      | OFF             | 23230 | 782         | 22.94               | 24.00               | 1.276                  | -0.13            | 0.549                  | 0.701                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Front         | 5mm      | OFF             | 23230 | 782         | 21.93               | 23.00               | 1.279                  | -0.03            | 0.292                  | 0.374                  |
|          | LTE Band 13 | 10M      | QPSK       | 1       | 49        | Back          | 5mm      | OFF             | 23230 | 782         | 22.94               | 24.00               | 1.276                  | -0.18            | 0.832                  | 1.062                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Back          | 5mm      | OFF             | 23230 | 782         | 21.93               | 23.00               | 1.279                  | -0.05            | 0.431                  | 0.551                  |
|          | LTE Band 13 | 10M      | QPSK       | 50      | 0         | Back          | 5mm      | OFF             | 23230 | 782         | 21.98               | 23.00               | 1.265                  | -0.11            | 0.445                  | 0.563                  |
|          | LTE Band 13 | 10M      | QPSK       | 1       | 49        | Left Side     | 5mm      | OFF             | 23230 | 782         | 22.94               | 24.00               | 1.276                  | -0.06            | 0.827                  | 1.056                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Left Side     | 5mm      | OFF             | 23230 | 782         | 21.93               | 23.00               | 1.279                  | 0.02             | 0.472                  | 0.604                  |
|          | LTE Band 13 | 10M      | QPSK       | 50      | 0         | Left Side     | 5mm      | OFF             | 23230 | 782         | 21.98               | 23.00               | 1.265                  | 0.06             | 0.425                  | 0.538                  |
| 39       | LTE Band 13 | 10M      | QPSK       | 1       | 49        | Right Side    | 5mm      | OFF             | 23230 | 782         | 22.94               | 24.00               | 1.276                  | -0.18            | 0.938                  | 1.197                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Right Side    | 5mm      | OFF             | 23230 | 782         | 21.93               | 23.00               | 1.279                  | -0.03            | 0.494                  | 0.632                  |
|          | LTE Band 13 | 10M      | QPSK       | 50      | 0         | Right Side    | 5mm      | OFF             | 23230 | 782         | 21.98               | 23.00               | 1.265                  | 0                | 0.484                  | 0.612                  |
|          | LTE Band 13 | 10M      | QPSK       | 1       | 49        | Bottom Side   | 5mm      | OFF             | 23230 | 782         | 22.94               | 24.00               | 1.276                  | 0.17             | 0.124                  | 0.158                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Bottom Side   | 5mm      | OFF             | 23230 | 782         | 21.93               | 23.00               | 1.279                  | -0.03            | 0.064                  | 0.082                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Front         | 5mm      | ON              | 26340 | 1880        | 17.03               | 17.50               | 1.114                  | -0.15            | 0.576                  | 0.642                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Front         | 5mm      | ON              | 26340 | 1880        | 17.01               | 17.50               | 1.119                  | -0.07            | 0.594                  | 0.665                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | ON              | 26340 | 1880        | 17.03               | 17.50               | 1.114                  | 0.07             | 1.030                  | 1.148                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | ON              | 26140 | 1860        | 16.91               | 17.50               | 1.146                  | -0.08            | 1.010                  | 1.157                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | ON              | 26590 | 1905        | 17.01               | 17.50               | 1.119                  | -0.02            | 0.948                  | 1.061                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Back          | 5mm      | ON              | 26340 | 1880        | 17.01               | 17.50               | 1.119                  | -0.12            | 1.060                  | 1.187                  |
| 40       | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Back          | 5mm      | ON              | 26140 | 1860        | 16.76               | 17.50               | 1.186                  | -0.1             | 1.020                  | 1.209                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Back          | 5mm      | ON              | 26590 | 1905        | 16.99               | 17.50               | 1.125                  | -0.05            | 0.924                  | 1.039                  |
|          | LTE Band 25 | 20M      | QPSK       | 100     | 0         | Back          | 5mm      | ON              | 26340 | 1880        | 16.96               | 17.50               | 1.132                  | 0.01             | 1.060                  | 1.200                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Left Side     | 5mm      | ON              | 26340 | 1880        | 17.03               | 17.50               | 1.114                  | 0.04             | 0.061                  | 0.068                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Left Side     | 5mm      | ON              | 26340 | 1880        | 17.01               | 17.50               | 1.119                  | 0.05             | 0.066                  | 0.074                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Right Side    | 5mm      | ON              | 26340 | 1880        | 17.03               | 17.50               | 1.114                  | 0.12             | 0.077                  | 0.086                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Right Side    | 5mm      | ON              | 26340 | 1880        | 17.01               | 17.50               | 1.119                  | 0.08             | 0.082                  | 0.092                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Bottom Side   | 5mm      | ON              | 26340 | 1880        | 17.03               | 17.50               | 1.114                  | 0.03             | 0.809                  | 0.901                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Bottom Side   | 5mm      | ON              | 26140 | 1860        | 16.91               | 17.50               | 1.146                  | 0.03             | 0.802                  | 0.919                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Bottom Side   | 5mm      | ON              | 26590 | 1905        | 17.01               | 17.50               | 1.119                  | -0.01            | 0.761                  | 0.852                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Bottom Side   | 5mm      | ON              | 26340 | 1880        | 17.01               | 17.50               | 1.119                  | -0.06            | 0.823                  | 0.921                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Bottom Side   | 5mm      | ON              | 26140 | 1860        | 16.76               | 17.50               | 1.186                  | -0.02            | 0.813                  | 0.964                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Bottom Side   | 5mm      | ON              | 26590 | 1905        | 16.99               | 17.50               | 1.125                  | -0.03            | 0.735                  | 0.827                  |
|          | LTE Band 25 | 20M      | QPSK       | 100     | 0         | Bottom Side   | 5mm      | ON              | 26340 | 1880        | 16.96               | 17.50               | 1.132                  | 0.07             | 0.816                  | 0.924                  |
|          | LTE Band 26 | 15M      | QPSK       | 1       | 74        | Front         | 5mm      | OFF             | 26865 | 831.5       | 23.14               | 24.00               | 1.219                  | -0.15            | 0.600                  | 0.731                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Front         | 5mm      | OFF             | 26865 | 831.5       | 22.33               | 23.00               | 1.167                  | 0.01             | 0.345                  | 0.403                  |
|          | LTE Band 26 | 15M      | QPSK       | 1       | 74        | Back          | 5mm      | OFF             | 26865 | 831.5       | 23.14               | 24.00               | 1.219                  | -0.05            | 0.965                  | 1.176                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Back          | 5mm      | OFF             | 26865 | 831.5       | 22.33               | 23.00               | 1.167                  | -0.05            | 0.488                  | 0.569                  |
|          | LTE Band 26 | 15M      | QPSK       | 75      | 0         | Back          | 5mm      | OFF             | 26865 | 831.5       | 22.18               | 23.00               | 1.208                  | -0.1             | 0.469                  | 0.566                  |
|          | LTE Band 26 | 15M      | QPSK       | 1       | 74        | Left Side     | 5mm      | OFF             | 26865 | 831.5       | 23.14               | 24.00               | 1.219                  | -0.09            | 0.958                  | 1.168                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Left Side     | 5mm      | OFF             | 26865 | 831.5       | 22.33               | 23.00               | 1.167                  | -0.01            | 0.560                  | 0.653                  |
|          | LTE Band 26 | 15M      | QPSK       | 75      | 0         | Left Side     | 5mm      | OFF             | 26865 | 831.5       | 22.18               | 23.00               | 1.208                  | -0.06            | 0.547                  | 0.661                  |
| 41       | LTE Band 26 | 15M      | QPSK       | 1       | 74        | Right Side    | 5mm      | OFF             | 26865 | 831.5       | 23.14               | 24.00               | 1.219                  | -0.11            | 0.974                  | 1.187                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Right Side    | 5mm      | OFF             | 26865 | 831.5       | 22.33               | 23.00               | 1.167                  | 0                | 0.630                  | 0.735                  |
|          | LTE Band 26 | 15M      | QPSK       | 75      | 0         | Right Side    | 5mm      | OFF             | 26865 | 831.5       | 22.18               | 23.00               | 1.208                  | -0.01            | 0.617                  | 0.745                  |
|          | LTE Band 26 | 15M      | QPSK       | 1       | 74        | Bottom Side   | 5mm      | OFF             | 26865 | 831.5       | 23.14               | 24.00               | 1.219                  | 0                | 0.127                  | 0.155                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Bottom Side   | 5mm      | OFF             | 26865 | 831.5       | 22.33               | 23.00               | 1.167                  | 0.16             | 0.083                  | 0.097                  |



| Plot No. | Band        | BW (MHz) | Modulation | RB Size | RB offset | Test Position | Gap (mm) | Power Reduction | Ch.    | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|-------------|----------|------------|---------|-----------|---------------|----------|-----------------|--------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Front         | 5mm      | ON              | 132322 | 1745        | 16.32               | 17.00               | 1.169                  | -0.1             | 0.578                  | 0.676                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 50        | Front         | 5mm      | ON              | 132572 | 1770        | 15.89               | 17.00               | 1.291                  | -0.02            | 0.485                  | 0.626                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Back          | 5mm      | ON              | 132322 | 1745        | 16.32               | 17.00               | 1.169                  | -0.06            | 0.980                  | 1.146                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Back          | 5mm      | ON              | 132072 | 1720        | 16.21               | 17.00               | 1.199                  | -0.07            | 0.936                  | 1.123                  |
| 42       | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Back          | 5mm      | ON              | 132572 | 1770        | 16.31               | 17.00               | 1.172                  | 0                | 1.020                  | 1.196                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 50        | Back          | 5mm      | ON              | 132572 | 1770        | 15.89               | 17.00               | 1.291                  | -0.05            | 0.840                  | 1.085                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 50        | Back          | 5mm      | ON              | 132072 | 1720        | 15.82               | 17.00               | 1.312                  | 0                | 0.759                  | 0.996                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 50        | Back          | 5mm      | ON              | 132322 | 1745        | 15.75               | 17.00               | 1.334                  | 0.01             | 0.780                  | 1.040                  |
|          | LTE Band 66 | 20M      | QPSK       | 100     | 0         | Back          | 5mm      | ON              | 132572 | 1770        | 15.83               | 17.00               | 1.309                  | -0.04            | 0.822                  | 1.076                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Left Side     | 5mm      | ON              | 132322 | 1745        | 16.32               | 17.00               | 1.169                  | 0.03             | 0.102                  | 0.119                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 50        | Left Side     | 5mm      | ON              | 132572 | 1770        | 15.89               | 17.00               | 1.291                  | 0.04             | 0.080                  | 0.103                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Right Side    | 5mm      | ON              | 132322 | 1745        | 16.32               | 17.00               | 1.169                  | -0.03            | 0.054                  | 0.063                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 50        | Right Side    | 5mm      | ON              | 132572 | 1770        | 15.89               | 17.00               | 1.291                  | -0.15            | 0.043                  | 0.056                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Bottom Side   | 5mm      | ON              | 132322 | 1745        | 16.32               | 17.00               | 1.169                  | 0.11             | 0.818                  | 0.957                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Bottom Side   | 5mm      | ON              | 132072 | 1720        | 16.21               | 17.00               | 1.199                  | 0.02             | 0.808                  | 0.969                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Bottom Side   | 5mm      | ON              | 132572 | 1770        | 16.31               | 17.00               | 1.172                  | -0.01            | 0.820                  | 0.961                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 50        | Bottom Side   | 5mm      | ON              | 132572 | 1770        | 15.89               | 17.00               | 1.291                  | -0.04            | 0.683                  | 0.882                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 50        | Bottom Side   | 5mm      | ON              | 132072 | 1720        | 15.82               | 17.00               | 1.312                  | 0                | 0.648                  | 0.850                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 50        | Bottom Side   | 5mm      | ON              | 132322 | 1745        | 15.75               | 17.00               | 1.334                  | 0                | 0.658                  | 0.877                  |
|          | LTE Band 66 | 20M      | QPSK       | 100     | 0         | Bottom Side   | 5mm      | ON              | 132572 | 1770        | 15.83               | 17.00               | 1.309                  | -0.16            | 0.656                  | 0.859                  |
|          | LTE Band 71 | 20M      | QPSK       | 1       | 49        | Front         | 5mm      | OFF             | 133322 | 683         | 22.88               | 24.00               | 1.294                  | -0.1             | 0.188                  | 0.243                  |
|          | LTE Band 71 | 20M      | QPSK       | 50      | 24        | Front         | 5mm      | OFF             | 133322 | 683         | 22.10               | 23.00               | 1.230                  | 0.07             | 0.151                  | 0.186                  |
| 43       | LTE Band 71 | 20M      | QPSK       | 1       | 49        | Back          | 5mm      | OFF             | 133322 | 683         | 22.88               | 24.00               | 1.294                  | -0.09            | 0.334                  | 0.432                  |
|          | LTE Band 71 | 20M      | QPSK       | 50      | 24        | Back          | 5mm      | OFF             | 133322 | 683         | 22.10               | 23.00               | 1.230                  | 0.13             | 0.268                  | 0.330                  |
|          | LTE Band 71 | 20M      | QPSK       | 1       | 49        | Left Side     | 5mm      | OFF             | 133322 | 683         | 22.88               | 24.00               | 1.294                  | -0.05            | 0.264                  | 0.342                  |
|          | LTE Band 71 | 20M      | QPSK       | 50      | 24        | Left Side     | 5mm      | OFF             | 133322 | 683         | 22.10               | 23.00               | 1.230                  | 0.18             | 0.215                  | 0.265                  |
|          | LTE Band 71 | 20M      | QPSK       | 1       | 49        | Right Side    | 5mm      | OFF             | 133322 | 683         | 22.88               | 24.00               | 1.294                  | -0.1             | 0.273                  | 0.353                  |
|          | LTE Band 71 | 20M      | QPSK       | 50      | 24        | Right Side    | 5mm      | OFF             | 133322 | 683         | 22.10               | 23.00               | 1.230                  | 0.18             | 0.219                  | 0.269                  |
|          | LTE Band 71 | 20M      | QPSK       | 1       | 49        | Bottom Side   | 5mm      | OFF             | 133322 | 683         | 22.88               | 24.00               | 1.294                  | -0.11            | 0.061                  | 0.079                  |
|          | LTE Band 71 | 20M      | QPSK       | 50      | 24        | Bottom Side   | 5mm      | OFF             | 133322 | 683         | 22.10               | 23.00               | 1.230                  | -0.08            | 0.048                  | 0.059                  |



**<TDD LTE SAR>**

| Plot No. | Band              | BW (MHz) | Modulation | RB Size | RB offset | Test Position | Gap (mm) | Power Reduction | Ch.           | Freq. (MHz)     | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Duty Cycle % | Duty Cycle Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|-------------------|----------|------------|---------|-----------|---------------|----------|-----------------|---------------|-----------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|------------------------|------------------------|
|          | LTE Band 38       | 20M      | QPSK       | 1       | 99        | Front         | 5mm      | ON              | 38150         | 2610            | 20.23               | 20.50               | 1.064                  | 62.9         | 1.006                     | 0.04             | 0.420                  | 0.450                  |
|          | LTE Band 38       | 20M      | QPSK       | 50      | 50        | Front         | 5mm      | ON              | 38150         | 2610            | 20.04               | 20.50               | 1.112                  | 62.9         | 1.006                     | -0.09            | 0.406                  | 0.454                  |
|          | LTE Band 38       | 20M      | QPSK       | 1       | 99        | Back          | 5mm      | ON              | 38150         | 2610            | 20.23               | 20.50               | 1.064                  | 62.9         | 1.006                     | -0.15            | 1.180                  | 1.263                  |
|          | LTE Band 38       | 20M      | QPSK       | 1       | 99        | Back          | 5mm      | ON              | 37850         | 2580            | 20.09               | 20.50               | 1.099                  | 62.9         | 1.006                     | -0.06            | 1.150                  | 1.271                  |
| 44       | LTE Band 38       | 20M      | QPSK       | 1       | 99        | Back          | 5mm      | ON              | 38000         | 2595            | 20.11               | 20.50               | 1.094                  | 62.9         | 1.006                     | -0.06            | 1.180                  | 1.299                  |
|          | LTE Band 38       | 20M      | QPSK       | 50      | 50        | Back          | 5mm      | ON              | 38150         | 2610            | 20.04               | 20.50               | 1.112                  | 62.9         | 1.006                     | -0.11            | 1.010                  | 1.130                  |
|          | LTE Band 38       | 20M      | QPSK       | 50      | 50        | Back          | 5mm      | ON              | 37850         | 2580            | 20.00               | 20.50               | 1.122                  | 62.9         | 1.006                     | -0.04            | 0.942                  | 1.063                  |
|          | LTE Band 38       | 20M      | QPSK       | 50      | 50        | Back          | 5mm      | ON              | 38000         | 2595            | 19.85               | 20.50               | 1.161                  | 62.9         | 1.006                     | -0.08            | 0.982                  | 1.147                  |
|          | LTE Band 38       | 20M      | QPSK       | 100     | 0         | Back          | 5mm      | ON              | 38150         | 2610            | 20.00               | 20.50               | 1.122                  | 62.9         | 1.006                     | 0.03             | 0.993                  | 1.121                  |
|          | LTE Band 38       | 20M      | QPSK       | 1       | 99        | Left Side     | 5mm      | ON              | 38150         | 2610            | 20.23               | 20.50               | 1.064                  | 62.9         | 1.006                     | -0.03            | 0.039                  | 0.042                  |
|          | LTE Band 38       | 20M      | QPSK       | 50      | 50        | Left Side     | 5mm      | ON              | 38150         | 2610            | 20.04               | 20.50               | 1.112                  | 62.9         | 1.006                     | -0.01            | 0.009                  | 0.010                  |
|          | LTE Band 38       | 20M      | QPSK       | 1       | 99        | Right Side    | 5mm      | ON              | 38150         | 2610            | 20.23               | 20.50               | 1.064                  | 62.9         | 1.006                     | -0.1             | 0.098                  | 0.105                  |
|          | LTE Band 38       | 20M      | QPSK       | 50      | 50        | Right Side    | 5mm      | ON              | 38150         | 2610            | 20.04               | 20.50               | 1.112                  | 62.9         | 1.006                     | 0.05             | 0.106                  | 0.119                  |
|          | LTE Band 38       | 20M      | QPSK       | 1       | 99        | Bottom Side   | 5mm      | ON              | 38150         | 2610            | 20.23               | 20.50               | 1.064                  | 62.9         | 1.006                     | 0.11             | 0.313                  | 0.335                  |
|          | LTE Band 38       | 20M      | QPSK       | 50      | 50        | Bottom Side   | 5mm      | ON              | 38150         | 2610            | 20.04               | 20.50               | 1.112                  | 62.9         | 1.006                     | 0.11             | 0.320                  | 0.358                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 1       | 0         | Front         | 5mm      | ON              | 41055         | 2636.5          | 16.90               | 17.00               | 1.023                  | 62.9         | 1.006                     | 0.04             | 0.431                  | 0.444                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 50      | 50        | Front         | 5mm      | ON              | 39750         | 2506            | 16.82               | 17.00               | 1.042                  | 62.9         | 1.006                     | -0.09            | 0.367                  | 0.385                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | ON              | 41055         | 2636.5          | 16.90               | 17.00               | 1.023                  | 62.9         | 1.006                     | -0.1             | 0.693                  | 0.713                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | ON              | 39750         | 2506            | 16.82               | 17.00               | 1.042                  | 62.9         | 1.006                     | -0.02            | 0.584                  | 0.612                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | ON              | 40185         | 2549.5          | 16.73               | 17.00               | 1.064                  | 62.9         | 1.006                     | -0.09            | 0.586                  | 0.627                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | ON              | 40620         | 2593            | 16.73               | 17.00               | 1.064                  | 62.9         | 1.006                     | -0.02            | 0.595                  | 0.637                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | ON              | 41490         | 2680            | 16.85               | 17.00               | 1.035                  | 62.9         | 1.006                     | 0.01             | 0.753                  | 0.784                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 50      | 50        | Back          | 5mm      | ON              | 39750         | 2506            | 16.53               | 17.00               | 1.114                  | 62.9         | 1.006                     | -0.02            | 0.492                  | 0.552                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 50      | 50        | Back          | 5mm      | ON              | 40185         | 2549.5          | 16.40               | 17.00               | 1.148                  | 62.9         | 1.006                     | 0                | 0.484                  | 0.559                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 50      | 50        | Back          | 5mm      | ON              | 40620         | 2593            | 16.23               | 17.00               | 1.194                  | 62.9         | 1.006                     | -0.01            | 0.499                  | 0.599                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 50      | 50        | Back          | 5mm      | ON              | 41055         | 2636.5          | 16.40               | 17.00               | 1.148                  | 62.9         | 1.006                     | 0.06             | 0.592                  | 0.684                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 50      | 50        | Back          | 5mm      | ON              | 41490         | 2680            | 16.28               | 17.00               | 1.180                  | 62.9         | 1.006                     | 0.09             | 0.620                  | 0.736                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 100     | 0         | Back          | 5mm      | ON              | 39750         | 2506            | 16.45               | 17.00               | 1.135                  | 62.9         | 1.006                     | -0.04            | 0.465                  | 0.531                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 1       | 0         | Left Side     | 5mm      | ON              | 41055         | 2636.5          | 16.90               | 17.00               | 1.023                  | 62.9         | 1.006                     | -0.04            | 0.040                  | 0.041                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 50      | 50        | Left Side     | 5mm      | ON              | 39750         | 2506            | 16.53               | 17.00               | 1.114                  | 62.9         | 1.006                     | 0                | 0.008                  | 0.009                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 1       | 0         | Right Side    | 5mm      | ON              | 41055         | 2636.5          | 16.90               | 17.00               | 1.023                  | 62.9         | 1.006                     | -0.15            | 0.101                  | 0.104                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 50      | 50        | Right Side    | 5mm      | ON              | 39750         | 2506            | 16.53               | 17.00               | 1.114                  | 62.9         | 1.006                     | 0.03             | 0.096                  | 0.108                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 1       | 0         | Bottom Side   | 5mm      | ON              | 41055         | 2636.5          | 16.90               | 17.00               | 1.023                  | 62.9         | 1.006                     | 0.1              | 0.321                  | 0.330                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 50      | 50        | Bottom Side   | 5mm      | ON              | 39750         | 2506            | 16.53               | 17.00               | 1.114                  | 62.9         | 1.006                     | 0.13             | 0.290                  | 0.325                  |
| 45       | LTE Band 41_PC2   | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | ON              | 41490         | 2680            | 19.92               | 21.50               | 1.439                  | 42.9         | 1.009                     | -0.01            | 0.961                  | 1.395                  |
|          | LTE Band 41_PC2   | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | ON              | 39750         | 2506            | 20.01               | 21.50               | 1.409                  | 42.9         | 1.009                     | -0.03            | 0.936                  | 1.331                  |
|          | LTE Band 41_PC2   | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | ON              | 40185         | 2549.5          | 19.99               | 21.50               | 1.416                  | 42.9         | 1.009                     | 0.02             | 0.911                  | 1.301                  |
|          | LTE Band 41_PC2   | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | ON              | 40620         | 2593            | 19.94               | 21.50               | 1.432                  | 42.9         | 1.009                     | 0.05             | 0.905                  | 1.308                  |
|          | LTE Band 41_PC2   | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | ON              | 41055         | 2636.5          | 20.42               | 21.50               | 1.282                  | 42.9         | 1.009                     | -0.11            | 0.923                  | 1.194                  |
|          | LTE Band 41_UL CA | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | ON              | 40185 + 39987 | 2549.5 + 2529.7 | 16.82               | 17.00               | 1.042                  | 62.9         | 1.006                     | 0.13             | 0.760                  | 0.797                  |

PC3: 1CC uplink, Power Class 3  
PC2: 1CC uplink, Power Class 2  
UL CA: 2CC Uplink, Power Class 3



**<WLAN SAR>**

| Plot No. | Band       | Mode          | Test Position | Gap (mm) | Power Reduction | Ch. | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Duty Cycle % | Duty Cycle Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|------------|---------------|---------------|----------|-----------------|-----|-------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|------------------------|------------------------|
|          | WLAN2.4GHz | 802.11b 1Mbps | Front         | 5mm      | OFF             | 1   | 2412        | 18.49               | 18.50               | 1.002                  | 97.62        | 1.024                     | 0.12             | 0.768                  | 0.788                  |
| 46       | WLAN2.4GHz | 802.11b 1Mbps | Back          | 5mm      | OFF             | 1   | 2412        | 18.49               | 18.50               | 1.002                  | 97.62        | 1.024                     | 0.11             | 0.960                  | 0.985                  |
|          | WLAN2.4GHz | 802.11b 1Mbps | Back          | 5mm      | OFF             | 6   | 2437        | 18.46               | 18.50               | 1.009                  | 97.62        | 1.024                     | 0.15             | 0.784                  | 0.810                  |
|          | WLAN2.4GHz | 802.11b 1Mbps | Back          | 5mm      | OFF             | 11  | 2462        | 18.28               | 18.50               | 1.052                  | 97.62        | 1.024                     | 0.01             | 0.789                  | 0.850                  |
|          | WLAN2.4GHz | 802.11b 1Mbps | Left Side     | 5mm      | OFF             | 1   | 2412        | 18.49               | 18.50               | 1.002                  | 97.62        | 1.024                     | 0.09             | 0.038                  | 0.039                  |
|          | WLAN2.4GHz | 802.11b 1Mbps | Right Side    | 5mm      | OFF             | 1   | 2412        | 18.49               | 18.50               | 1.002                  | 97.62        | 1.024                     | 0.11             | 0.385                  | 0.395                  |
|          | WLAN2.4GHz | 802.11b 1Mbps | Top Side      | 5mm      | OFF             | 1   | 2412        | 18.49               | 18.50               | 1.002                  | 97.62        | 1.024                     | -0.02            | 0.542                  | 0.556                  |
|          | WLAN5GHz   | 802.11a 6Mbps | Front         | 5mm      | ON              | 149 | 5745        | 14.44               | 14.50               | 1.013                  | 86.26        | 1.159                     | 0.06             | 0.374                  | 0.439                  |
|          | WLAN5GHz   | 802.11a 6Mbps | Back          | 5mm      | ON              | 149 | 5745        | 14.44               | 14.50               | 1.013                  | 86.26        | 1.159                     | -0.1             | 0.781                  | 0.917                  |
|          | WLAN5GHz   | 802.11a 6Mbps | Back          | 5mm      | ON              | 157 | 5785        | 14.42               | 14.50               | 1.018                  | 86.26        | 1.159                     | -0.11            | 0.751                  | 0.886                  |
|          | WLAN5GHz   | 802.11a 6Mbps | Left Side     | 5mm      | ON              | 149 | 5745        | 14.44               | 14.50               | 1.013                  | 86.26        | 1.159                     | -0.13            | 0.041                  | 0.048                  |
|          | WLAN5GHz   | 802.11a 6Mbps | Right Side    | 5mm      | ON              | 149 | 5745        | 14.44               | 14.50               | 1.013                  | 86.26        | 1.159                     | 0.01             | 0.032                  | 0.038                  |
| 47       | WLAN5GHz   | 802.11a 6Mbps | Top Side      | 5mm      | ON              | 149 | 5745        | 14.44               | 14.50               | 1.013                  | 86.26        | 1.159                     | 0.11             | 1.150                  | 1.351                  |
|          | WLAN5GHz   | 802.11a 6Mbps | Top Side      | 5mm      | ON              | 157 | 5785        | 14.42               | 14.50               | 1.018                  | 86.26        | 1.159                     | 0.14             | 1.090                  | 1.286                  |
|          | WLAN5GHz   | 802.11a 6Mbps | Top Side      | 5mm      | ON              | 165 | 5825        | 14.11               | 14.50               | 1.093                  | 86.26        | 1.159                     | 0.1              | 0.942                  | 1.194                  |

**<Bluetooth SAR>**

| Plot No. | Band      | Mode  | Test Position | Gap (mm) | Ch. | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|-----------|-------|---------------|----------|-----|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | Bluetooth | 1Mbps | Front         | 5mm      | 00  | 2402        | 11.82               | 12.00               | 1.042                  | -0.09            | 0.087                  | 0.091                  |
| 48       | Bluetooth | 1Mbps | Back          | 5mm      | 00  | 2402        | 11.82               | 12.00               | 1.042                  | 0.14             | 0.152                  | 0.158                  |
|          | Bluetooth | 1Mbps | Left Side     | 5mm      | 00  | 2402        | 11.82               | 12.00               | 1.042                  | 0.14             | 0.006                  | 0.007                  |
|          | Bluetooth | 1Mbps | Right Side    | 5mm      | 00  | 2402        | 11.82               | 12.00               | 1.042                  | 0.02             | 0.070                  | 0.073                  |
|          | Bluetooth | 1Mbps | Top Side      | 5mm      | 00  | 2402        | 11.82               | 12.00               | 1.042                  | 0.03             | 0.076                  | 0.079                  |

### 14.3 Body Worn Accessory SAR

#### <GSM SAR>

| Plot No. | Band    | Mode              | Test Position | Gap (mm) | Headset | Power Reduction | Ch. | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|---------|-------------------|---------------|----------|---------|-----------------|-----|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | GSM850  | GPRS (4 Tx slots) | Front         | 5mm      | -       | OFF             | 251 | 848.8       | 26.34               | 27.50               | 1.306                  | -0.19            | 0.452                  | 0.590                  |
| 49       | GSM850  | GPRS (4 Tx slots) | Back          | 5mm      | -       | OFF             | 251 | 848.8       | 26.34               | 27.50               | 1.306                  | 0.06             | 0.910                  | 1.189                  |
|          | GSM850  | GPRS (4 Tx slots) | Back          | 5mm      | -       | OFF             | 128 | 824.2       | 26.25               | 27.50               | 1.334                  | 0.01             | 0.466                  | 0.621                  |
|          | GSM850  | GPRS (4 Tx slots) | Back          | 5mm      | -       | OFF             | 189 | 836.4       | 26.33               | 27.50               | 1.309                  | -0.02            | 0.543                  | 0.711                  |
|          | GSM1900 | GPRS (4 Tx slots) | Front         | 5mm      | -       | ON              | 661 | 1880        | 19.34               | 19.50               | 1.038                  | 0.06             | 0.396                  | 0.411                  |
| 50       | GSM1900 | GPRS (4 Tx slots) | Back          | 5mm      | -       | ON              | 661 | 1880        | 19.34               | 19.50               | 1.038                  | 0.07             | 0.689                  | 0.715                  |

#### <WCDMA SAR>

| Plot No. | Band     | Mode         | Test Position | Gap (mm) | Headset | Power Reduction | Ch.  | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|----------|--------------|---------------|----------|---------|-----------------|------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | WCDMA II | RMC 12.2Kbps | Front         | 5mm      | -       | ON              | 9400 | 1880        | 16.50               | 16.50               | 1.000                  | -0.12            | 0.710                  | 0.710                  |
|          | WCDMA II | RMC 12.2Kbps | Back          | 5mm      | -       | ON              | 9400 | 1880        | 16.50               | 16.50               | 1.000                  | -0.03            | 1.170                  | 1.170                  |
| 51       | WCDMA II | RMC 12.2Kbps | Back          | 5mm      | -       | ON              | 9262 | 1852.4      | 16.20               | 16.50               | 1.072                  | -0.09            | 1.200                  | 1.286                  |
|          | WCDMA II | RMC 12.2Kbps | Back          | 5mm      | -       | ON              | 9538 | 1907.6      | 16.46               | 16.50               | 1.009                  | -0.07            | 1.040                  | 1.050                  |
|          | WCDMA II | RMC 12.2Kbps | Back          | 5mm      | Headset | ON              | 9262 | 1852.4      | 16.50               | 16.50               | 1.000                  | -0.09            | 1.190                  | 1.190                  |
|          | WCDMA IV | RMC 12.2Kbps | Front         | 5mm      | -       | ON              | 1513 | 1752.6      | 15.40               | 16.00               | 1.148                  | 0.02             | 0.682                  | 0.783                  |
| 52       | WCDMA IV | RMC 12.2Kbps | Back          | 5mm      | -       | ON              | 1513 | 1752.6      | 15.40               | 16.00               | 1.148                  | -0.15            | 1.260                  | 1.447                  |
|          | WCDMA IV | RMC 12.2Kbps | Back          | 5mm      | -       | ON              | 1312 | 1712.4      | 15.15               | 16.00               | 1.216                  | -0.12            | 1.020                  | 1.241                  |
|          | WCDMA IV | RMC 12.2Kbps | Back          | 5mm      | -       | ON              | 1413 | 1732.6      | 15.34               | 16.00               | 1.164                  | -0.14            | 1.180                  | 1.374                  |
|          | WCDMA IV | RMC 12.2Kbps | Back          | 5mm      | Headset | ON              | 1513 | 1752.6      | 15.40               | 16.00               | 1.148                  | -0.19            | 1.250                  | 1.435                  |
|          | WCDMA V  | RMC 12.2Kbps | Front         | 5mm      | -       | ON              | 4233 | 846.6       | 22.13               | 22.50               | 1.089                  | -0.01            | 0.724                  | 0.788                  |
| 53       | WCDMA V  | RMC 12.2Kbps | Back          | 5mm      | -       | ON              | 4233 | 846.6       | 22.13               | 22.50               | 1.089                  | -0.08            | 0.967                  | 1.053                  |
|          | WCDMA V  | RMC 12.2Kbps | Back          | 5mm      | -       | ON              | 4132 | 826.4       | 22.12               | 22.50               | 1.091                  | -0.08            | 0.806                  | 0.880                  |
|          | WCDMA V  | RMC 12.2Kbps | Back          | 5mm      | -       | ON              | 4182 | 836.4       | 22.04               | 22.50               | 1.112                  | -0.04            | 0.890                  | 0.989                  |

#### <CDMA SAR>

| Plot No. | Band      | Mode           | Test Position | Gap (mm) | Headset | Power Reduction | Ch.  | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|-----------|----------------|---------------|----------|---------|-----------------|------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | CDMA BC0  | 1xRTT RC3 SO32 | Front         | 5mm      | -       | OFF             | 777  | 848.31      | 23.85               | 24.50               | 1.161                  | -0.04            | 0.648                  | 0.753                  |
| 54       | CDMA BC0  | 1xRTT RC3 SO32 | Back          | 5mm      | -       | OFF             | 777  | 848.31      | 23.85               | 24.50               | 1.161                  | -0.08            | 0.924                  | 1.073                  |
|          | CDMA BC0  | 1xRTT RC3 SO32 | Back          | 5mm      | -       | OFF             | 1013 | 824.7       | 23.68               | 24.50               | 1.208                  | 0                | 0.809                  | 0.977                  |
|          | CDMA BC0  | 1xRTT RC3 SO32 | Back          | 5mm      | -       | OFF             | 384  | 836.52      | 23.81               | 24.50               | 1.172                  | 0.06             | 0.855                  | 1.002                  |
|          | CDMA BC1  | 1xRTT RC3 SO32 | Front         | 5mm      | -       | ON              | 25   | 1851.25     | 18.70               | 19.00               | 1.072                  | -0.05            | 0.690                  | 0.739                  |
|          | CDMA BC1  | 1xRTT RC3 SO32 | Back          | 5mm      | -       | ON              | 25   | 1851.25     | 18.70               | 19.00               | 1.072                  | -0.04            | 1.290                  | 1.382                  |
| 55       | CDMA BC1  | 1xRTT RC3 SO32 | Back          | 5mm      | -       | ON              | 600  | 1880        | 18.56               | 19.00               | 1.107                  | 0.02             | 1.280                  | 1.416                  |
|          | CDMA BC1  | 1xRTT RC3 SO32 | Back          | 5mm      | -       | ON              | 1175 | 1908.75     | 18.25               | 19.00               | 1.189                  | -0.06            | 1.180                  | 1.402                  |
|          | CDMA BC1  | 1xRTT RC3 SO32 | Back          | 5mm      | Headset | ON              | 600  | 1880        | 18.56               | 19.00               | 1.107                  | -0.07            | 1.240                  | 1.372                  |
|          | CDMA BC10 | 1xRTT RC3 SO32 | Front         | 5mm      | -       | OFF             | 580  | 820.5       | 23.91               | 24.50               | 1.146                  | 0.01             | 0.624                  | 0.715                  |
| 56       | CDMA BC10 | 1xRTT RC3 SO32 | Back          | 5mm      | -       | OFF             | 580  | 820.5       | 23.91               | 24.50               | 1.146                  | 0.05             | 0.879                  | 1.007                  |



**<FDD LTE SAR>**

| Plot No. | Band        | BW (MHz) | Modulation | RB Size | RB offset | Test Position | Gap (mm) | Headset | Power Reduction | Ch.   | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|-------------|----------|------------|---------|-----------|---------------|----------|---------|-----------------|-------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | LTE Band 2  | 20M      | QPSK       | 1       | 0         | Front         | 5mm      | -       | ON              | 19100 | 1900        | 16.50               | 16.50               | 1.000                  | -0.11            | 0.587                  | 0.587                  |
|          | LTE Band 2  | 20M      | QPSK       | 50      | 0         | Front         | 5mm      | -       | ON              | 18900 | 1880        | 16.41               | 16.50               | 1.021                  | -0.07            | 0.593                  | 0.605                  |
|          | LTE Band 2  | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | -       | ON              | 19100 | 1900        | 16.50               | 16.50               | 1.000                  | 0.07             | 1.050                  | 1.050                  |
|          | LTE Band 2  | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | -       | ON              | 18700 | 1860        | 16.17               | 16.50               | 1.079                  | -0.08            | 1.010                  | 1.090                  |
|          | LTE Band 2  | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | -       | ON              | 18900 | 1880        | 16.37               | 16.50               | 1.030                  | -0.02            | 0.921                  | 0.949                  |
|          | LTE Band 2  | 20M      | QPSK       | 50      | 0         | Back          | 5mm      | -       | ON              | 18900 | 1880        | 16.41               | 16.50               | 1.021                  | -0.11            | 1.050                  | 1.072                  |
| 57       | LTE Band 2  | 20M      | QPSK       | 50      | 0         | Back          | 5mm      | -       | ON              | 18700 | 1860        | 16.06               | 16.50               | 1.107                  | -0.1             | 1.020                  | 1.129                  |
|          | LTE Band 2  | 20M      | QPSK       | 50      | 0         | Back          | 5mm      | -       | ON              | 19100 | 1900        | 16.37               | 16.50               | 1.030                  | -0.05            | 0.919                  | 0.947                  |
|          | LTE Band 2  | 20M      | QPSK       | 100     | 0         | Back          | 5mm      | -       | ON              | 18900 | 1880        | 16.28               | 16.50               | 1.052                  | 0.01             | 1.050                  | 1.105                  |
|          | LTE Band 4  | 20M      | QPSK       | 1       | 99        | Front         | 5mm      | -       | ON              | 20175 | 1732.5      | 15.79               | 16.50               | 1.178                  | -0.05            | 0.570                  | 0.671                  |
|          | LTE Band 4  | 20M      | QPSK       | 50      | 24        | Front         | 5mm      | -       | ON              | 20175 | 1732.5      | 15.68               | 16.50               | 1.208                  | -0.03            | 0.465                  | 0.562                  |
| 58       | LTE Band 4  | 20M      | QPSK       | 1       | 99        | Back          | 5mm      | -       | ON              | 20175 | 1732.5      | 15.79               | 16.50               | 1.178                  | -0.03            | 0.966                  | 1.138                  |
|          | LTE Band 4  | 20M      | QPSK       | 50      | 24        | Back          | 5mm      | -       | ON              | 20175 | 1732.5      | 15.68               | 16.50               | 1.208                  | -0.04            | 0.806                  | 0.973                  |
|          | LTE Band 4  | 20M      | QPSK       | 100     | 0         | Back          | 5mm      | -       | ON              | 20175 | 1732.5      | 15.76               | 16.50               | 1.186                  | -0.07            | 0.788                  | 0.934                  |
|          | LTE Band 5  | 10M      | QPSK       | 1       | 49        | Front         | 5mm      | -       | ON              | 20525 | 836.5       | 21.95               | 23.00               | 1.274                  | -0.02            | 0.604                  | 0.769                  |
|          | LTE Band 5  | 10M      | QPSK       | 25      | 25        | Front         | 5mm      | -       | ON              | 20525 | 836.5       | 21.76               | 23.00               | 1.330                  | 0.02             | 0.348                  | 0.463                  |
| 59       | LTE Band 5  | 10M      | QPSK       | 1       | 49        | Back          | 5mm      | -       | ON              | 20525 | 836.5       | 21.95               | 23.00               | 1.274                  | 0.05             | 0.792                  | 1.009                  |
|          | LTE Band 5  | 10M      | QPSK       | 25      | 25        | Back          | 5mm      | -       | ON              | 20525 | 836.5       | 21.76               | 23.00               | 1.330                  | -0.05            | 0.491                  | 0.653                  |
|          | LTE Band 5  | 10M      | QPSK       | 50      | 0         | Back          | 5mm      | -       | ON              | 20525 | 836.5       | 21.74               | 23.00               | 1.337                  | -0.1             | 0.472                  | 0.631                  |
|          | LTE Band 7  | 20M      | QPSK       | 1       | 49        | Front         | 5mm      | -       | ON              | 20850 | 2510        | 17.86               | 18.50               | 1.159                  | -0.07            | 0.655                  | 0.759                  |
|          | LTE Band 7  | 20M      | QPSK       | 50      | 50        | Front         | 5mm      | -       | ON              | 21350 | 2560        | 17.85               | 18.50               | 1.161                  | -0.09            | 0.588                  | 0.683                  |
|          | LTE Band 7  | 20M      | QPSK       | 1       | 49        | Back          | 5mm      | -       | ON              | 20850 | 2510        | 17.86               | 18.50               | 1.159                  | -0.06            | 0.877                  | 1.016                  |
|          | LTE Band 7  | 20M      | QPSK       | 1       | 49        | Back          | 5mm      | -       | ON              | 21100 | 2535        | 17.71               | 18.50               | 1.199                  | -0.05            | 0.873                  | 1.047                  |
| 60       | LTE Band 7  | 20M      | QPSK       | 1       | 49        | Back          | 5mm      | -       | ON              | 21350 | 2560        | 17.62               | 18.50               | 1.225                  | -0.06            | 0.913                  | 1.118                  |
|          | LTE Band 7  | 20M      | QPSK       | 50      | 0         | Back          | 5mm      | -       | ON              | 21350 | 2560        | 17.85               | 18.50               | 1.161                  | 0.03             | 0.686                  | 0.797                  |
|          | LTE Band 7  | 20M      | QPSK       | 100     | 0         | Back          | 5mm      | -       | ON              | 20850 | 2510        | 17.82               | 18.50               | 1.169                  | -0.04            | 0.673                  | 0.787                  |
|          | LTE Band 12 | 10M      | QPSK       | 1       | 49        | Front         | 5mm      | -       | OFF             | 23095 | 707.5       | 23.07               | 24.00               | 1.239                  | -0.12            | 0.335                  | 0.415                  |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Front         | 5mm      | -       | OFF             | 23095 | 707.5       | 21.94               | 23.00               | 1.276                  | 0.06             | 0.178                  | 0.227                  |
| 61       | LTE Band 12 | 10M      | QPSK       | 1       | 49        | Back          | 5mm      | -       | OFF             | 23095 | 707.5       | 23.07               | 24.00               | 1.239                  | -0.09            | 0.625                  | 0.774                  |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Back          | 5mm      | -       | OFF             | 23095 | 707.5       | 21.94               | 23.00               | 1.276                  | -0.04            | 0.338                  | 0.431                  |
|          | LTE Band 13 | 10M      | QPSK       | 1       | 49        | Front         | 5mm      | -       | OFF             | 23230 | 782         | 22.94               | 24.00               | 1.276                  | -0.13            | 0.549                  | 0.701                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Front         | 5mm      | -       | OFF             | 23230 | 782         | 21.93               | 23.00               | 1.279                  | -0.03            | 0.292                  | 0.374                  |
| 62       | LTE Band 13 | 10M      | QPSK       | 1       | 49        | Back          | 5mm      | -       | OFF             | 23230 | 782         | 22.94               | 24.00               | 1.276                  | -0.18            | 0.832                  | 1.062                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Back          | 5mm      | -       | OFF             | 23230 | 782         | 21.93               | 23.00               | 1.279                  | -0.05            | 0.431                  | 0.551                  |
|          | LTE Band 13 | 10M      | QPSK       | 50      | 0         | Back          | 5mm      | -       | OFF             | 23230 | 782         | 21.98               | 23.00               | 1.265                  | -0.11            | 0.445                  | 0.563                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Front         | 5mm      | -       | ON              | 26340 | 1880        | 17.03               | 17.50               | 1.114                  | -0.15            | 0.576                  | 0.642                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Front         | 5mm      | -       | ON              | 26340 | 1880        | 17.01               | 17.50               | 1.119                  | -0.07            | 0.594                  | 0.665                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | -       | ON              | 26340 | 1880        | 17.03               | 17.50               | 1.114                  | 0.07             | 1.030                  | 1.148                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | -       | ON              | 26140 | 1860        | 16.91               | 17.50               | 1.146                  | -0.08            | 1.010                  | 1.157                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | -       | ON              | 26590 | 1905        | 17.01               | 17.50               | 1.119                  | -0.02            | 0.948                  | 1.061                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Back          | 5mm      | -       | ON              | 26340 | 1880        | 17.01               | 17.50               | 1.119                  | -0.12            | 1.060                  | 1.187                  |
| 63       | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Back          | 5mm      | -       | ON              | 26140 | 1860        | 16.76               | 17.50               | 1.186                  | -0.1             | 1.020                  | 1.209                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Back          | 5mm      | -       | ON              | 26590 | 1905        | 16.99               | 17.50               | 1.125                  | -0.05            | 0.924                  | 1.039                  |
|          | LTE Band 25 | 20M      | QPSK       | 100     | 0         | Back          | 5mm      | -       | ON              | 26340 | 1880        | 16.96               | 17.50               | 1.132                  | 0.01             | 1.060                  | 1.200                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Back          | 5mm      | Headset | ON              | 26140 | 1860        | 16.76               | 17.50               | 1.186                  | -0.05            | 1.010                  | 1.198                  |
|          | LTE Band 26 | 15M      | QPSK       | 1       | 74        | Front         | 5mm      | -       | OFF             | 26865 | 831.5       | 23.14               | 24.00               | 1.219                  | -0.15            | 0.600                  | 0.731                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Front         | 5mm      | -       | OFF             | 26865 | 831.5       | 22.33               | 23.00               | 1.167                  | 0.01             | 0.345                  | 0.403                  |
| 64       | LTE Band 26 | 15M      | QPSK       | 1       | 74        | Back          | 5mm      | -       | OFF             | 26865 | 831.5       | 23.14               | 24.00               | 1.219                  | -0.05            | 0.965                  | 1.176                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Back          | 5mm      | -       | OFF             | 26865 | 831.5       | 22.33               | 23.00               | 1.167                  | -0.05            | 0.488                  | 0.569                  |
|          | LTE Band 26 | 15M      | QPSK       | 75      | 0         | Back          | 5mm      | -       | OFF             | 26865 | 831.5       | 22.18               | 23.00               | 1.208                  | -0.1             | 0.469                  | 0.566                  |



| Plot No. | Band        | BW (MHz) | Modulation | RB Size | RB offset | Test Position | Gap (mm) | Headset | Power Reduction | Ch.    | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|-------------|----------|------------|---------|-----------|---------------|----------|---------|-----------------|--------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Front         | 5mm      | -       | ON              | 132322 | 1745        | 16.32               | 17.00               | 1.169                  | -0.1             | 0.578                  | 0.676                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 50        | Front         | 5mm      | -       | ON              | 132572 | 1770        | 15.89               | 17.00               | 1.291                  | -0.02            | 0.485                  | 0.626                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Back          | 5mm      | -       | ON              | 132322 | 1745        | 16.32               | 17.00               | 1.169                  | -0.06            | 0.980                  | 1.146                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Back          | 5mm      | -       | ON              | 132072 | 1720        | 16.21               | 17.00               | 1.199                  | -0.07            | 0.936                  | 1.123                  |
| 65       | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Back          | 5mm      | -       | ON              | 132572 | 1770        | 16.31               | 17.00               | 1.172                  | 0                | 1.020                  | 1.196                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 50        | Back          | 5mm      | -       | ON              | 132572 | 1770        | 15.89               | 17.00               | 1.291                  | -0.05            | 0.840                  | 1.085                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 50        | Back          | 5mm      | -       | ON              | 132072 | 1720        | 15.82               | 17.00               | 1.312                  | 0                | 0.759                  | 0.996                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 50        | Back          | 5mm      | -       | ON              | 132322 | 1745        | 15.75               | 17.00               | 1.334                  | 0.01             | 0.780                  | 1.040                  |
|          | LTE Band 66 | 20M      | QPSK       | 100     | 0         | Back          | 5mm      | -       | ON              | 132572 | 1770        | 15.83               | 17.00               | 1.309                  | -0.04            | 0.822                  | 1.076                  |
|          | LTE Band 71 | 20M      | QPSK       | 1       | 49        | Front         | 5mm      | -       | OFF             | 133322 | 683         | 22.88               | 24.00               | 1.294                  | -0.1             | 0.188                  | 0.243                  |
|          | LTE Band 71 | 20M      | QPSK       | 50      | 24        | Front         | 5mm      | -       | OFF             | 133322 | 683         | 22.10               | 23.00               | 1.230                  | 0.07             | 0.151                  | 0.186                  |
| 66       | LTE Band 71 | 20M      | QPSK       | 1       | 49        | Back          | 5mm      | -       | OFF             | 133322 | 683         | 22.88               | 24.00               | 1.294                  | -0.09            | 0.334                  | 0.432                  |
|          | LTE Band 71 | 20M      | QPSK       | 50      | 24        | Back          | 5mm      | -       | OFF             | 133322 | 683         | 22.10               | 23.00               | 1.230                  | 0.13             | 0.268                  | 0.330                  |

## &lt;TDD LTE SAR&gt;

| Plot No. | Band              | BW (MHz) | Modulation | RB Size | RB offset | Test Position | Gap (mm) | Headset | Power Reduction | Ch.                 | Freq. (MHz)           | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Duty Cycle % | Duty Cycle Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|-------------------|----------|------------|---------|-----------|---------------|----------|---------|-----------------|---------------------|-----------------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|------------------------|------------------------|
|          | LTE Band 38       | 20M      | QPSK       | 1       | 99        | Front         | 5mm      | -       | ON              | 38150               | 2610                  | 20.23               | 20.50               | 1.064                  | 62.9         | 1.006                     | 0.04             | 0.420                  | 0.450                  |
|          | LTE Band 38       | 20M      | QPSK       | 50      | 50        | Front         | 5mm      | -       | ON              | 38150               | 2610                  | 20.04               | 20.50               | 1.112                  | 62.9         | 1.006                     | -0.09            | 0.406                  | 0.454                  |
|          | LTE Band 38       | 20M      | QPSK       | 1       | 99        | Back          | 5mm      | -       | ON              | 38150               | 2610                  | 20.23               | 20.50               | 1.064                  | 62.9         | 1.006                     | -0.15            | 1.180                  | 1.263                  |
|          | LTE Band 38       | 20M      | QPSK       | 1       | 99        | Back          | 5mm      | -       | ON              | 37850               | 2580                  | 20.09               | 20.50               | 1.099                  | 62.9         | 1.006                     | -0.06            | 1.150                  | 1.271                  |
| 67       | LTE Band 38       | 20M      | QPSK       | 1       | 99        | Back          | 5mm      | -       | ON              | 38000               | 2595                  | 20.11               | 20.50               | 1.094                  | 62.9         | 1.006                     | -0.06            | 1.180                  | 1.299                  |
|          | LTE Band 38       | 20M      | QPSK       | 50      | 50        | Back          | 5mm      | -       | ON              | 38150               | 2610                  | 20.04               | 20.50               | 1.112                  | 62.9         | 1.006                     | -0.11            | 1.010                  | 1.130                  |
|          | LTE Band 38       | 20M      | QPSK       | 50      | 50        | Back          | 5mm      | -       | ON              | 37850               | 2580                  | 20.00               | 20.50               | 1.122                  | 62.9         | 1.006                     | -0.04            | 0.942                  | 1.063                  |
|          | LTE Band 38       | 20M      | QPSK       | 50      | 50        | Back          | 5mm      | -       | ON              | 38000               | 2595                  | 19.85               | 20.50               | 1.161                  | 62.9         | 1.006                     | -0.08            | 0.982                  | 1.147                  |
|          | LTE Band 38       | 20M      | QPSK       | 100     | 0         | Back          | 5mm      | -       | ON              | 38150               | 2610                  | 20.00               | 20.50               | 1.122                  | 62.9         | 1.006                     | 0.03             | 0.993                  | 1.121                  |
|          | LTE Band 38       | 20M      | QPSK       | 1       | 99        | Back          | 5mm      | Headset | ON              | 38000               | 2595                  | 20.11               | 20.50               | 1.094                  | 62.9         | 1.006                     | -0.19            | 1.160                  | 1.277                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 1       | 0         | Front         | 5mm      | -       | ON              | 41055               | 2636.5                | 16.90               | 17.00               | 1.023                  | 62.9         | 1.006                     | 0.04             | 0.431                  | 0.444                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 50      | 50        | Front         | 5mm      | -       | ON              | 39750               | 2506                  | 16.82               | 17.00               | 1.042                  | 62.9         | 1.006                     | -0.09            | 0.367                  | 0.385                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | -       | ON              | 41055               | 2636.5                | 16.90               | 17.00               | 1.023                  | 62.9         | 1.006                     | -0.1             | 0.693                  | 0.713                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | -       | ON              | 39750               | 2506                  | 16.82               | 17.00               | 1.042                  | 62.9         | 1.006                     | -0.02            | 0.584                  | 0.612                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | -       | ON              | 40185               | 2549.5                | 16.73               | 17.00               | 1.064                  | 62.9         | 1.006                     | -0.09            | 0.586                  | 0.627                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | -       | ON              | 40620               | 2593                  | 16.73               | 17.00               | 1.064                  | 62.9         | 1.006                     | -0.02            | 0.595                  | 0.637                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | -       | ON              | 41490               | 2680                  | 16.85               | 17.00               | 1.035                  | 62.9         | 1.006                     | 0.01             | 0.770                  | 0.802                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 50      | 50        | Back          | 5mm      | -       | ON              | 39750               | 2506                  | 16.53               | 17.00               | 1.114                  | 62.9         | 1.006                     | -0.02            | 0.492                  | 0.552                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 50      | 50        | Back          | 5mm      | -       | ON              | 40185               | 2549.5                | 16.40               | 17.00               | 1.148                  | 62.9         | 1.006                     | 0                | 0.484                  | 0.559                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 50      | 50        | Back          | 5mm      | -       | ON              | 40620               | 2593                  | 16.23               | 17.00               | 1.194                  | 62.9         | 1.006                     | -0.01            | 0.499                  | 0.599                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 50      | 50        | Back          | 5mm      | -       | ON              | 41055               | 2636.5                | 16.40               | 17.00               | 1.148                  | 62.9         | 1.006                     | 0.06             | 0.592                  | 0.684                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 50      | 50        | Back          | 5mm      | -       | ON              | 41490               | 2680                  | 16.28               | 17.00               | 1.180                  | 62.9         | 1.006                     | 0.09             | 0.620                  | 0.736                  |
|          | LTE Band 41_PC3   | 20M      | QPSK       | 100     | 0         | Back          | 5mm      | -       | ON              | 39750               | 2506                  | 16.45               | 17.00               | 1.135                  | 62.9         | 1.006                     | -0.04            | 0.465                  | 0.531                  |
| 68       | LTE Band 41_PC2   | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | -       | ON              | 41490               | 2680                  | 19.92               | 21.50               | 1.439                  | 42.9         | 1.009                     | -0.01            | 0.961                  | 1.395                  |
|          | LTE Band 41_PC2   | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | -       | ON              | 39750               | 2506                  | 20.01               | 21.50               | 1.409                  | 42.9         | 1.009                     | -0.03            | 0.936                  | 1.331                  |
|          | LTE Band 41_PC2   | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | -       | ON              | 40185               | 2549.5                | 19.99               | 21.50               | 1.416                  | 42.9         | 1.009                     | 0.02             | 0.911                  | 1.301                  |
|          | LTE Band 41_PC2   | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | -       | ON              | 40620               | 2593                  | 19.94               | 21.50               | 1.432                  | 42.9         | 1.009                     | 0.05             | 0.905                  | 1.308                  |
|          | LTE Band 41_PC2   | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | -       | ON              | 41055               | 2636.5                | 20.42               | 21.50               | 1.282                  | 42.9         | 1.009                     | -0.11            | 0.923                  | 1.194                  |
|          | LTE Band 41_UL CA | 20M      | QPSK       | 1       | 0         | Back          | 5mm      | -       | ON              | 40185<br>+<br>39987 | 2549.5<br>+<br>2529.7 | 16.82               | 17.00               | 1.042                  | 62.9         | 1.006                     | 0.13             | 0.760                  | 0.797                  |

PC3: 1CC uplink, Power Class 3

PC2: 1CC uplink, Power Class 2

UL CA: 2CC Uplink, Power Class 3

**<WLAN SAR>**

| Plot No. | Band       | Mode          | Test Position | Gap (mm) | Headset | Power Reduction | Ch. | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Duty Cycle % | Duty Cycle Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|------------|---------------|---------------|----------|---------|-----------------|-----|-------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|------------------------|------------------------|
|          | WLAN2.4GHz | 802.11b 1Mbps | Front         | 5mm      | -       | OFF             | 1   | 2412        | 18.49               | 18.50               | 1.002                  | 97.62        | 1.024                     | 0.12             | 0.768                  | 0.788                  |
| 69       | WLAN2.4GHz | 802.11b 1Mbps | Back          | 5mm      | -       | OFF             | 1   | 2412        | 18.49               | 18.50               | 1.002                  | 97.62        | 1.024                     | 0.11             | 0.960                  | 0.985                  |
|          | WLAN2.4GHz | 802.11b 1Mbps | Back          | 5mm      | -       | OFF             | 6   | 2437        | 18.46               | 18.50               | 1.009                  | 97.62        | 1.024                     | 0.15             | 0.784                  | 0.810                  |
|          | WLAN2.4GHz | 802.11b 1Mbps | Back          | 5mm      | -       | OFF             | 11  | 2462        | 18.28               | 18.50               | 1.052                  | 97.62        | 1.024                     | 0.01             | 0.789                  | 0.850                  |
|          | WLAN5GHz   | 802.11a 6Mbps | Front         | 5mm      | -       | ON              | 60  | 5300        | 14.92               | 15.00               | 1.018                  | 86.26        | 1.159                     | -0.03            | 0.280                  | 0.330                  |
| 70       | WLAN5GHz   | 802.11a 6Mbps | Back          | 5mm      | -       | ON              | 60  | 5300        | 14.92               | 15.00               | 1.018                  | 86.26        | 1.159                     | -0.07            | 0.963                  | 1.136                  |
|          | WLAN5GHz   | 802.11a 6Mbps | Back          | 5mm      | -       | ON              | 52  | 5260        | 14.84               | 15.00               | 1.037                  | 86.26        | 1.159                     | -0.1             | 0.769                  | 0.924                  |
|          | WLAN5GHz   | 802.11a 6Mbps | Front         | 5mm      | -       | ON              | 144 | 5720        | 14.97               | 15.00               | 1.006                  | 86.26        | 1.159                     | 0.13             | 0.425                  | 0.496                  |
| 71       | WLAN5GHz   | 802.11a 6Mbps | Back          | 5mm      | -       | ON              | 144 | 5720        | 14.97               | 15.00               | 1.006                  | 86.26        | 1.159                     | -0.06            | 0.985                  | 1.149                  |
|          | WLAN5GHz   | 802.11a 6Mbps | Back          | 5mm      | -       | ON              | 116 | 5580        | 14.88               | 15.00               | 1.028                  | 86.26        | 1.159                     | -0.1             | 0.836                  | 0.996                  |
|          | WLAN5GHz   | 802.11a 6Mbps | Front         | 5mm      | -       | ON              | 165 | 5825        | 14.95               | 15.00               | 1.011                  | 86.26        | 1.159                     | 0.01             | 0.518                  | 0.607                  |
| 72       | WLAN5GHz   | 802.11a 6Mbps | Back          | 5mm      | -       | ON              | 165 | 5825        | 14.95               | 15.00               | 1.011                  | 86.26        | 1.159                     | 0                | 0.668                  | 0.783                  |

**<Bluetooth SAR>**

| Plot No. | Band      | Mode  | Test Position | Gap (mm) | Headset | Ch. | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|-----------|-------|---------------|----------|---------|-----|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | Bluetooth | 1Mbps | Front         | 5mm      | -       | 00  | 2402        | 11.82               | 12.00               | 1.042                  | -0.09            | 0.087                  | 0.091                  |
| 73       | Bluetooth | 1Mbps | Back          | 5mm      | -       | 00  | 2402        | 11.82               | 12.00               | 1.042                  | 0.14             | 0.152                  | 0.158                  |

### **14.4 LTE Band 41 Power Class 2 and Power Class 3 Linearity**

This device support Power Class 2 and Power Class 3 operations for LTE Band 41. The highest available duty cycle for Power Class 2 operation is 43.3% using UL-DL configuration 1. Per FCC Guidance based on the device behavior, all SAR tests were performed using Power Class 3. Power Class 2 is tested using the highest SAR test configuration in Power Class 3 for each LTE configuration and exposure condition combination, according to the highest time averaged power for all applicable uplink-downlink configurations in Power Class 2. When the reported SAR vs. output power is linearly scaled with < 10% discrepancy between power classes and all reported SAR are < 1.4 W/kg, Separate SAR testing for Power Class 2 is not required

**<LTE Band 41 Linearity Data for Head>**

|                                     | LTE Band 41<br>(Power Class 3) | LTE Band 41<br>(Power Class 2) |
|-------------------------------------|--------------------------------|--------------------------------|
| Maximum Tune up Power (dBm)         | 24                             | 25                             |
| Reported 1g SAR (W/kg)              | 0.374                          | 0.323                          |
| Duty Cycle                          | 63.30%                         | 43.30%                         |
| Frame Averaged (mW)                 | 159.00                         | 136.93                         |
| Linearity SAR(W/kg)                 | 0.32                           |                                |
| % deviation from expected linearity |                                | 0.29%                          |

**<LTE Band 41 Linearity Data for Hotspot and Body-worn>**

|                                     | LTE Band 41<br>(Power Class 3) | LTE Band 41<br>(Power Class 2) |
|-------------------------------------|--------------------------------|--------------------------------|
| Maximum Tune up Power (dBm)         | 17                             | 21.5                           |
| Reported 1g SAR (W/kg)              | 0.784                          | 1.395                          |
| Duty Cycle                          | 63.30%                         | 43.30%                         |
| Frame Averaged (mW)                 | 31.73                          | 61.16                          |
| Linearity SAR(W/kg)                 | 1.51                           |                                |
| % deviation from expected linearity |                                | -7.71%                         |



### 14.5 Repeated SAR Measurement

| No. | Band       | Mode          | Test Position | Gap (mm) | Power Reduction | Ch. | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Duty Cycle % | Duty Cycle Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Ratio | Reported 1g SAR (W/kg) |
|-----|------------|---------------|---------------|----------|-----------------|-----|-------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|------------------------|-------|------------------------|
| 1st | WLAN2.4GHz | 802.11b 1Mbps | Left Cheek    | 0mm      | OFF             | 1   | 2412        | 18.49               | 18.50               | 1.002                  | 97.62        | 1.024                     | -0.09            | 1.310                  |       | 1.345                  |
| 2nd | WLAN2.4GHz | 802.11b 1Mbps | Left Cheek    | 0mm      | OFF             | 1   | 2412        | 18.49               | 18.50               | 1.002                  | 97.62        | 1.024                     | -0.05            | 1.310                  | 1.00  | 1.345                  |
| 1st | WLAN5GHz   | 802.11a 6Mbps | Left Cheek    | 0mm      | ON              | 144 | 5720        | 13.96               | 14.00               | 1.009                  | 86.26        | 1.159                     | 0.07             | 1.090                  |       | 1.274                  |
| 2nd | WLAN5GHz   | 802.11a 6Mbps | Left Cheek    | 0mm      | ON              | 144 | 5720        | 13.96               | 14.00               | 1.009                  | 86.26        | 1.159                     | -0.16            | 0.982                  | 1.11  | 1.148                  |
| 1st | WLAN5GHz   | 802.11a 6Mbps | Left Cheek    | 0mm      | ON              | 165 | 5825        | 13.76               | 14.00               | 1.056                  | 86.26        | 1.159                     | -0.02            | 1.160                  |       | 1.420                  |
| 2nd | WLAN5GHz   | 802.11a 6Mbps | Left Cheek    | 0mm      | ON              | 165 | 5825        | 13.76               | 14.00               | 1.056                  | 86.26        | 1.159                     | -0.11            | 1.140                  | 1.02  | 1.396                  |

| No. | Band        | Mode           | Test Position | Gap (mm) | Power Reduction | Ch.   | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Duty Cycle % | Duty Cycle Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Ratio | Reported 1g SAR (W/kg) |
|-----|-------------|----------------|---------------|----------|-----------------|-------|-------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|------------------------|-------|------------------------|
| 1st | WCDMA IV    | RMC 12.2Kbps   | Back          | 5mm      | ON              | 1513  | 1752.6      | 15.40               | 16.00               | 1.148                  | -            | -                         | -0.15            | 1.260                  |       | 1.447                  |
| 2nd | WCDMA IV    | RMC 12.2Kbps   | Back          | 5mm      | ON              | 1513  | 1752.6      | 15.40               | 16.00               | 1.148                  | -            | -                         | -0.04            | 1.210                  | 1.04  | 1.389                  |
| 1st | LTE Band 13 | 10M_QPSK_1_49  | Right Side    | 5mm      | OFF             | 23230 | 782         | 22.94               | 24.00               | 1.276                  | -            | -                         | -0.18            | 0.938                  |       | 1.197                  |
| 2nd | LTE Band 13 | 10M_QPSK_1_49  | Right Side    | 5mm      | OFF             | 23230 | 782         | 22.94               | 24.00               | 1.276                  | -            | -                         | 0.12             | 0.918                  | 1.02  | 1.172                  |
| 1st | LTE Band 26 | 15M_QPSK_1_74  | Right Side    | 5mm      | OFF             | 26865 | 831.5       | 23.14               | 24.00               | 1.219                  | -            | -                         | -0.11            | 0.974                  |       | 1.187                  |
| 2nd | LTE Band 26 | 15M_QPSK_1_74  | Right Side    | 5mm      | OFF             | 26865 | 831.5       | 23.14               | 24.00               | 1.219                  | -            | -                         | -0.03            | 0.966                  | 1.01  | 1.178                  |
| 1st | LTE Band 38 | 20M_QPSK_1_99  | Back          | 5mm      | ON              | 38000 | 2595        | 20.11               | 20.50               | 1.094                  | 62.9         | 1.006                     | -0.06            | 1.180                  |       | 1.299                  |
| 2nd | LTE Band 38 | 20M_QPSK_1_99  | Back          | 5mm      | ON              | 38000 | 2595        | 20.11               | 20.50               | 1.094                  | 62.9         | 1.006                     | -0.15            | 1.160                  | 1.02  | 1.277                  |
| 1st | CDMA BC1    | 1xRTT RC3 SO32 | Back          | 5mm      | ON              | 600   | 1880        | 18.56               | 19.00               | 1.107                  | -            | -                         | 0.02             | 1.280                  |       | 1.416                  |
| 2nd | CDMA BC1    | 1xRTT RC3 SO32 | Back          | 5mm      | ON              | 600   | 1880        | 18.56               | 19.00               | 1.107                  | -            | -                         | -0.08            | 1.260                  | 1.02  | 1.394                  |
| 1st | WLAN5GHz    | 802.11a 6Mbps  | Back          | 5mm      | ON              | 60    | 5300        | 14.92               | 15.00               | 1.018                  | 86.26        | 1.159                     | -0.07            | 0.963                  |       | 1.136                  |
| 2nd | WLAN5GHz    | 802.11a 6Mbps  | Back          | 5mm      | ON              | 60    | 5300        | 14.92               | 15.00               | 1.018                  | 86.26        | 1.159                     | -0.1             | 0.951                  | 1.01  | 1.122                  |

**General Note:**

1. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is  $\geq 0.8\text{W/kg}$ .
2. Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is  $\leq 1.2$  and the measured SAR  $< 1.45\text{W/kg}$ , only one repeated measurement is required.
3. The ratio is the difference in percentage between original and repeated *measured SAR*.
4. All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

## 15. Simultaneous Transmission Analysis

| NO. | Simultaneous Transmission Configurations | Portable Handset |           |         |
|-----|------------------------------------------|------------------|-----------|---------|
|     |                                          | Head             | Body-worn | Hotspot |
| 1.  | GSM Voice + WLAN2.4GHz                   | Yes              | Yes       |         |
| 2.  | GPRS/EDGE + WLAN2.4GHz                   | Yes              | Yes       | Yes     |
| 3.  | WCDMA + WLAN2.4GHz                       | Yes              | Yes       | Yes     |
| 4.  | CDMA + WLAN2.4GHz                        | Yes              | Yes       | Yes     |
| 5.  | LTE + WLAN2.4GHz                         | Yes              | Yes       | Yes     |
| 6.  | GSM Voice + Bluetooth                    | Yes              | Yes       |         |
| 7.  | GPRS/EDGE + Bluetooth                    | Yes              | Yes       | Yes     |
| 8.  | WCDMA+ Bluetooth                         | Yes              | Yes       | Yes     |
| 9.  | CDMA+ Bluetooth                          | Yes              | Yes       | Yes     |
| 10. | LTE + Bluetooth                          | Yes              | Yes       | Yes     |
| 11. | GSM Voice + WLAN5GHz                     | Yes              | Yes       |         |
| 12. | GPRS/EDGE + WLAN5GHz                     | Yes              | Yes       | Yes     |
| 13. | WCDMA + WLAN5GHz                         | Yes              | Yes       | Yes     |
| 14. | CDMA + WLAN5GHz                          | Yes              | Yes       | Yes     |
| 15. | LTE + WLAN5GHz                           | Yes              | Yes       | Yes     |

**General Note:**

1. All licensed modes share the same antenna part and cannot transmit simultaneously.
2. EUT will choose either WLAN 2.4GHz or WLAN 5GHz according to the network signal condition; therefore, 2.4GHz WLAN and 5GHz WLAN will not operate simultaneously at any moment.
3. The Scaled SAR summation is calculated based on the same configuration, test position and test distance. The worst SAR value for each configuration was used for summation, regardless of whether the transmitter is operation in difference power level. Therefore, the following summations represent the absolute worst cases for simultaneous transmission for the device.
4. The Scaled SAR summation is calculated based on the same configuration and test position.
5. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
  - i) Scalar SAR summation < 1.6W/kg.
  - ii)  $SPLSR = (SAR1 + SAR2)^{1.5} / (\min. \text{ separation distance, mm})$ , and the peak separation distance is determined from the square root of  $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$ , where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
  - iii) If  $SPLSR \leq 0.04$ , simultaneously transmission SAR measurement is not necessary.
  - iv) Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.
  - v) The SPLSR calculated results please refer to section 15.3.

**15.1 Head Exposure Conditions**

| WWAN Band |           | Exposure Position | 1                        | 2                                  | 3                                | 4                             | 1+2                        | 1+3                        | 1+4                        | 1+2   | 1+2     | 1+3   | 1+3     |
|-----------|-----------|-------------------|--------------------------|------------------------------------|----------------------------------|-------------------------------|----------------------------|----------------------------|----------------------------|-------|---------|-------|---------|
|           |           |                   | WWAN<br>1g SAR<br>(W/kg) | 2.4GHz<br>WLAN<br>1g SAR<br>(W/kg) | 5GHz<br>WLAN<br>1g SAR<br>(W/kg) | Bluetooth<br>1g SAR<br>(W/kg) | Summed<br>1g SAR<br>(W/kg) | Summed<br>1g SAR<br>(W/kg) | Summed<br>1g SAR<br>(W/kg) | SPLSR | Case No | SPLSR | Case No |
| GSM       | GSM850    | Right Cheek       | 0.477                    | 0.631                              | 1.383                            | 0.108                         | 1.108                      | 1.860                      | 0.585                      |       |         | 0.04  | Case 18 |
|           |           | Right Tilted      | 0.200                    | 0.646                              | 1.122                            | 0.114                         | 0.846                      | 1.322                      | 0.314                      |       |         |       |         |
|           |           | Left Cheek        | 0.478                    | 1.345                              | 1.420                            | 0.225                         | 1.823                      | 1.898                      | 0.703                      | 0.03  | Case 1  | 0.04  | Case 19 |
|           |           | Left Tilted       | 0.221                    | 0.916                              | 1.195                            | 0.165                         | 1.137                      | 1.416                      | 0.386                      |       |         |       |         |
|           | GSM1900   | Right Cheek       | 0.207                    | 0.631                              | 1.383                            | 0.108                         | 0.838                      | 1.590                      | 0.315                      |       |         |       |         |
|           |           | Right Tilted      | 0.149                    | 0.646                              | 1.122                            | 0.114                         | 0.795                      | 1.271                      | 0.263                      |       |         |       |         |
|           |           | Left Cheek        | 0.260                    | 1.345                              | 1.420                            | 0.225                         | 1.605                      | 1.680                      | 0.485                      | 0.02  | Case 2  | 0.02  | Case 21 |
|           |           | Left Tilted       | 0.168                    | 0.916                              | 1.195                            | 0.165                         | 1.084                      | 1.363                      | 0.333                      |       |         |       |         |
| WCDMA     | WCDMA II  | Right Cheek       | 0.326                    | 0.631                              | 1.383                            | 0.108                         | 0.957                      | 1.709                      | 0.434                      |       |         | 0.03  | Case 22 |
|           |           | Right Tilted      | 0.261                    | 0.646                              | 1.122                            | 0.114                         | 0.907                      | 1.383                      | 0.375                      |       |         |       |         |
|           |           | Left Cheek        | 0.494                    | 1.345                              | 1.420                            | 0.225                         | 1.839                      | 1.914                      | 0.719                      | 0.03  | Case 3  | 0.03  | Case 23 |
|           |           | Left Tilted       | 0.280                    | 0.916                              | 1.195                            | 0.165                         | 1.196                      | 1.475                      | 0.445                      |       |         |       |         |
|           | WCDMA IV  | Right Cheek       | 0.337                    | 0.631                              | 1.383                            | 0.108                         | 0.968                      | 1.720                      | 0.445                      |       |         | 0.03  | Case 24 |
|           |           | Right Tilted      | 0.336                    | 0.646                              | 1.122                            | 0.114                         | 0.982                      | 1.458                      | 0.450                      |       |         |       |         |
|           |           | Left Cheek        | 0.482                    | 1.345                              | 1.420                            | 0.225                         | 1.827                      | 1.902                      | 0.707                      | 0.03  | Case 4  | 0.03  | Case 25 |
|           |           | Left Tilted       | 0.241                    | 0.916                              | 1.195                            | 0.165                         | 1.157                      | 1.436                      | 0.406                      |       |         |       |         |
|           | WCDMA V   | Right Cheek       | 0.785                    | 0.631                              | 1.383                            | 0.108                         | 1.416                      | 2.168                      | 0.893                      |       |         | 0.04  | Case 26 |
|           |           | Right Tilted      | 0.377                    | 0.646                              | 1.122                            | 0.114                         | 1.023                      | 1.499                      | 0.491                      |       |         |       |         |
|           |           | Left Cheek        | 0.345                    | 1.345                              | 1.420                            | 0.225                         | 1.690                      | 1.765                      | 0.570                      | 0.03  | Case 5  | 0.03  | Case 27 |
|           |           | Left Tilted       | 0.054                    | 0.916                              | 1.195                            | 0.165                         | 0.970                      | 1.249                      | 0.219                      |       |         |       |         |
| CDMA      | CDMA BC0  | Right Cheek       | 0.596                    | 0.631                              | 1.383                            | 0.108                         | 1.227                      | 1.979                      | 0.704                      |       |         | 0.04  | Case 28 |
|           |           | Right Tilted      | 0.260                    | 0.646                              | 1.122                            | 0.114                         | 0.906                      | 1.382                      | 0.374                      |       |         |       |         |
|           |           | Left Cheek        | 0.582                    | 1.345                              | 1.420                            | 0.225                         | 1.927                      | 2.002                      | 0.807                      | 0.04  | Case 6  | 0.04  | Case 29 |
|           |           | Left Tilted       | 0.306                    | 0.916                              | 1.195                            | 0.165                         | 1.222                      | 1.501                      | 0.471                      |       |         |       |         |
|           | CDMA BC1  | Right Cheek       | 0.376                    | 0.631                              | 1.383                            | 0.108                         | 1.007                      | 1.759                      | 0.484                      |       |         | 0.03  | Case 30 |
|           |           | Right Tilted      | 0.151                    | 0.646                              | 1.122                            | 0.114                         | 0.797                      | 1.273                      | 0.265                      |       |         |       |         |
|           |           | Left Cheek        | 0.386                    | 1.345                              | 1.420                            | 0.225                         | 1.731                      | 1.806                      | 0.611                      | 0.03  | Case 7  | 0.03  | Case 31 |
|           |           | Left Tilted       | 0.250                    | 0.916                              | 1.195                            | 0.165                         | 1.166                      | 1.445                      | 0.415                      |       |         |       |         |
|           | CDMA BC10 | Right Cheek       | 0.581                    | 0.631                              | 1.383                            | 0.108                         | 1.212                      | 1.964                      | 0.689                      |       |         | 0.04  | Case 32 |
|           |           | Right Tilted      | 0.251                    | 0.646                              | 1.122                            | 0.114                         | 0.897                      | 1.373                      | 0.365                      |       |         |       |         |
|           |           | Left Cheek        | 0.558                    | 1.345                              | 1.420                            | 0.225                         | 1.903                      | 1.978                      | 0.783                      | 0.04  | Case 8  | 0.04  | Case 33 |
|           |           | Left Tilted       | 0.344                    | 0.916                              | 1.195                            | 0.165                         | 1.260                      | 1.539                      | 0.509                      |       |         |       |         |



| WWAN Band |             | Exposure Position | 1                        | 2                                  | 3                                | 4                             | 1+2                        | 1+3                        | 1+4                        | 1+2   | 1+2     | 1+3   | 1+3     |
|-----------|-------------|-------------------|--------------------------|------------------------------------|----------------------------------|-------------------------------|----------------------------|----------------------------|----------------------------|-------|---------|-------|---------|
|           |             |                   | WWAN<br>1g SAR<br>(W/kg) | 2.4GHz<br>WLAN<br>1g SAR<br>(W/kg) | 5GHz<br>WLAN<br>1g SAR<br>(W/kg) | Bluetooth<br>1g SAR<br>(W/kg) | Summed<br>1g SAR<br>(W/kg) | Summed<br>1g SAR<br>(W/kg) | Summed<br>1g SAR<br>(W/kg) | SPLSR | Case No | SPLSR | Case No |
| LTE       | LTE Band 2  | Right Cheek       | 0.387                    | 0.631                              | 1.383                            | 0.108                         | 1.018                      | 1.770                      | 0.495                      |       |         | 0.03  | Case 34 |
|           |             | Right Tilted      | 0.208                    | 0.646                              | 1.122                            | 0.114                         | 0.854                      | 1.330                      | 0.322                      |       |         |       |         |
|           |             | Left Cheek        | 0.378                    | 1.345                              | 1.420                            | 0.225                         | 1.723                      | 1.798                      | 0.603                      | 0.02  | Case 9  | 0.03  | Case 35 |
|           |             | Left Tilted       | 0.232                    | 0.916                              | 1.195                            | 0.165                         | 1.148                      | 1.427                      | 0.397                      |       |         |       |         |
|           | LTE Band 4  | Right Cheek       | 0.223                    | 0.631                              | 1.383                            | 0.108                         | 0.854                      | 1.606                      | 0.331                      |       |         | 0.03  | Case 36 |
|           |             | Right Tilted      | 0.214                    | 0.646                              | 1.122                            | 0.114                         | 0.860                      | 1.336                      | 0.328                      |       |         |       |         |
|           |             | Left Cheek        | 0.485                    | 1.345                              | 1.420                            | 0.225                         | 1.830                      | 1.905                      | 0.710                      | 0.03  | Case 10 | 0.03  | Case 37 |
|           |             | Left Tilted       | 0.170                    | 0.916                              | 1.195                            | 0.165                         | 1.086                      | 1.365                      | 0.335                      |       |         |       |         |
|           | LTE Band 5  | Right Cheek       | 0.666                    | 0.631                              | 1.383                            | 0.108                         | 1.297                      | 2.049                      | 0.774                      |       |         | 0.04  | Case 38 |
|           |             | Right Tilted      | 0.266                    | 0.646                              | 1.122                            | 0.114                         | 0.912                      | 1.388                      | 0.380                      |       |         |       |         |
|           |             | Left Cheek        | 0.474                    | 1.345                              | 1.420                            | 0.225                         | 1.819                      | 1.894                      | 0.699                      | 0.04  | Case 11 | 0.04  | Case 39 |
|           |             | Left Tilted       | 0.320                    | 0.916                              | 1.195                            | 0.165                         | 1.236                      | 1.515                      | 0.485                      |       |         |       |         |
|           | LTE Band 7  | Right Cheek       | 0.421                    | 0.631                              | 1.383                            | 0.108                         | 1.052                      | 1.804                      | 0.529                      |       |         | 0.03  | Case 40 |
|           |             | Right Tilted      | 0.094                    | 0.646                              | 1.122                            | 0.114                         | 0.740                      | 1.216                      | 0.208                      |       |         |       |         |
|           |             | Left Cheek        | 0.163                    | 1.345                              | 1.420                            | 0.225                         | 1.508                      | 1.583                      | 0.388                      |       |         |       |         |
|           |             | Left Tilted       | 0.120                    | 0.916                              | 1.195                            | 0.165                         | 1.036                      | 1.315                      | 0.285                      |       |         |       |         |
|           | LTE Band 12 | Right Cheek       | 0.334                    | 0.631                              | 1.383                            | 0.108                         | 0.965                      | 1.717                      | 0.442                      |       |         | 0.03  | Case 41 |
|           |             | Right Tilted      | 0.156                    | 0.646                              | 1.122                            | 0.114                         | 0.802                      | 1.278                      | 0.270                      |       |         |       |         |
|           |             | Left Cheek        | 0.357                    | 1.345                              | 1.420                            | 0.225                         | 1.702                      | 1.777                      | 0.582                      | 0.03  | Case 12 | 0.03  | Case 42 |
|           |             | Left Tilted       | 0.240                    | 0.916                              | 1.195                            | 0.165                         | 1.156                      | 1.435                      | 0.405                      |       |         |       |         |
|           | LTE Band 13 | Right Cheek       | 0.512                    | 0.631                              | 1.383                            | 0.108                         | 1.143                      | 1.895                      | 0.620                      |       |         | 0.04  | Case 43 |
|           |             | Right Tilted      | 0.258                    | 0.646                              | 1.122                            | 0.114                         | 0.904                      | 1.380                      | 0.372                      |       |         |       |         |
|           |             | Left Cheek        | 0.537                    | 1.345                              | 1.420                            | 0.225                         | 1.882                      | 1.957                      | 0.762                      | 0.04  | Case 13 | 0.04  | Case 44 |
|           |             | Left Tilted       | 0.351                    | 0.916                              | 1.195                            | 0.165                         | 1.267                      | 1.546                      | 0.516                      |       |         |       |         |
|           | LTE Band 25 | Right Cheek       | 0.249                    | 0.631                              | 1.383                            | 0.108                         | 0.880                      | 1.632                      | 0.357                      |       |         | 0.03  | Case 47 |
|           |             | Right Tilted      | 0.201                    | 0.646                              | 1.122                            | 0.114                         | 0.847                      | 1.323                      | 0.315                      |       |         |       |         |
|           |             | Left Cheek        | 0.299                    | 1.345                              | 1.420                            | 0.225                         | 1.644                      | 1.719                      | 0.524                      | 0.03  | Case 15 | 0.03  | Case 48 |
|           |             | Left Tilted       | 0.225                    | 0.916                              | 1.195                            | 0.165                         | 1.141                      | 1.420                      | 0.390                      |       |         |       |         |
|           | LTE Band 26 | Right Cheek       | 0.678                    | 0.631                              | 1.383                            | 0.108                         | 1.309                      | 2.061                      | 0.786                      |       |         | 0.04  | Case 49 |
|           |             | Right Tilted      | 0.435                    | 0.646                              | 1.122                            | 0.114                         | 1.081                      | 1.557                      | 0.549                      |       |         |       |         |
|           |             | Left Cheek        | 0.708                    | 1.345                              | 1.420                            | 0.225                         | 2.053                      | 2.128                      | 0.933                      | 0.04  | Case 16 | 0.04  | Case 50 |
|           |             | Left Tilted       | 0.386                    | 0.916                              | 1.195                            | 0.165                         | 1.302                      | 1.581                      | 0.551                      |       |         |       |         |
|           | LTE Band 38 | Right Cheek       | 0.247                    | 0.631                              | 1.383                            | 0.108                         | 0.878                      | 1.630                      | 0.355                      |       |         | 0.03  | Case 51 |
|           |             | Right Tilted      | 0.039                    | 0.646                              | 1.122                            | 0.114                         | 0.685                      | 1.161                      | 0.153                      |       |         |       |         |
|           |             | Left Cheek        | 0.082                    | 1.345                              | 1.420                            | 0.225                         | 1.427                      | 1.502                      | 0.307                      |       |         |       |         |
|           |             | Left Tilted       | 0.032                    | 0.916                              | 1.195                            | 0.165                         | 0.948                      | 1.227                      | 0.197                      |       |         |       |         |
|           | LTE Band 41 | Right Cheek       | 0.374                    | 0.631                              | 1.383                            | 0.108                         | 1.005                      | 1.757                      | 0.482                      |       |         | 0.03  | Case 55 |
|           |             | Right Tilted      | 0.082                    | 0.646                              | 1.122                            | 0.114                         | 0.728                      | 1.204                      | 0.196                      |       |         |       |         |
|           |             | Left Cheek        | 0.217                    | 1.345                              | 1.420                            | 0.225                         | 1.562                      | 1.637                      | 0.442                      |       |         | 0.04  | Case 56 |
|           |             | Left Tilted       | 0.157                    | 0.916                              | 1.195                            | 0.165                         | 1.073                      | 1.352                      | 0.322                      |       |         |       |         |
|           | LTE Band 66 | Right Cheek       | 0.205                    | 0.631                              | 1.383                            | 0.108                         | 0.836                      | 1.588                      | 0.313                      |       |         |       |         |
|           |             | Right Tilted      | 0.198                    | 0.646                              | 1.122                            | 0.114                         | 0.844                      | 1.320                      | 0.312                      |       |         |       |         |
|           |             | Left Cheek        | 0.290                    | 1.345                              | 1.420                            | 0.225                         | 1.635                      | 1.710                      | 0.515                      | 0.02  | Case 17 | 0.04  | Case 52 |
|           |             | Left Tilted       | 0.033                    | 0.916                              | 1.195                            | 0.165                         | 0.949                      | 1.228                      | 0.198                      |       |         |       |         |
|           | LTE Band 71 | Right Cheek       | 0.166                    | 0.631                              | 1.383                            | 0.108                         | 0.797                      | 1.549                      | 0.274                      |       |         |       |         |
|           |             | Right Tilted      | 0.092                    | 0.646                              | 1.122                            | 0.114                         | 0.738                      | 1.214                      | 0.206                      |       |         |       |         |
|           |             | Left Cheek        | 0.172                    | 1.345                              | 1.420                            | 0.225                         | 1.517                      | 1.592                      | 0.397                      |       |         |       |         |
|           |             | Left Tilted       | 0.088                    | 0.916                              | 1.195                            | 0.165                         | 1.004                      | 1.283                      | 0.253                      |       |         |       |         |



**15.2 Hotspot & Body-worn Exposure Conditions**

| WWAN Band |           | Exposure Position | 1                        | 2                                  | 3                                | 4                             | 1+2                        | 1+3                        | 1+4                        | 1+2   | 1+2     | 1+3   | 1+3     | 1+4   | 1+4      |
|-----------|-----------|-------------------|--------------------------|------------------------------------|----------------------------------|-------------------------------|----------------------------|----------------------------|----------------------------|-------|---------|-------|---------|-------|----------|
|           |           |                   | WWAN<br>1g SAR<br>(W/kg) | 2.4GHz<br>WLAN<br>1g SAR<br>(W/kg) | 5GHz<br>WLAN<br>1g SAR<br>(W/kg) | Bluetooth<br>1g SAR<br>(W/kg) | Summed<br>1g SAR<br>(W/kg) | Summed<br>1g SAR<br>(W/kg) | Summed<br>1g SAR<br>(W/kg) | SPLSR | Case No | SPLSR | Case No | SPLSR | Case No  |
| GSM       | GSM850    | Front             | 0.590                    | 0.788                              | 0.607                            | 0.091                         | 1.378                      | 1.197                      | 0.681                      |       |         |       |         |       |          |
|           |           | Back              | 1.189                    | 0.985                              | 1.149                            | 0.158                         | 2.174                      | 2.338                      | 1.347                      | 0.03  | Case 57 | 0.03  | Case 81 |       |          |
|           |           | Left side         | 0.674                    |                                    |                                  |                               | 0.674                      | 0.674                      | 0.674                      |       |         |       |         |       |          |
|           |           | Right side        | 0.728                    | 0.395                              | 0.038                            | 0.073                         | 1.123                      | 0.766                      | 0.801                      |       |         |       |         |       |          |
|           |           | Bottom side       | 0.148                    |                                    |                                  |                               | 0.148                      | 0.148                      | 0.148                      |       |         |       |         |       |          |
|           | GSM1900   | Front             | 0.411                    | 0.788                              | 0.607                            | 0.091                         | 1.199                      | 1.018                      | 0.502                      |       |         |       |         |       |          |
|           |           | Back              | 0.715                    | 0.985                              | 1.149                            | 0.158                         | 1.700                      | 1.864                      | 0.873                      | 0.02  | Case 58 | 0.02  | Case 82 |       |          |
|           |           | Left side         | 0.064                    |                                    |                                  |                               | 0.064                      | 0.064                      | 0.064                      |       |         |       |         |       |          |
|           |           | Right side        | 0.055                    | 0.395                              | 0.038                            | 0.073                         | 0.450                      | 0.093                      | 0.128                      |       |         |       |         |       |          |
|           |           | Bottom side       | 0.575                    |                                    |                                  |                               | 0.575                      | 0.575                      | 0.575                      |       |         |       |         |       |          |
| WCDMA     | WCDMA II  | Front             | 0.710                    | 0.788                              | 0.607                            | 0.091                         | 1.498                      | 1.317                      | 0.801                      |       |         |       |         |       |          |
|           |           | Back              | 1.286                    | 0.985                              | 1.149                            | 0.158                         | 2.271                      | 2.435                      | 1.444                      | 0.03  | Case 59 | 0.03  | Case 83 |       |          |
|           |           | Left side         | 0.106                    |                                    |                                  |                               | 0.106                      | 0.106                      | 0.106                      |       |         |       |         |       |          |
|           |           | Right side        | 0.089                    | 0.395                              | 0.038                            | 0.073                         | 0.484                      | 0.127                      | 0.162                      |       |         |       |         |       |          |
|           |           | Bottom side       | 1.040                    |                                    |                                  |                               | 1.040                      | 1.040                      | 1.040                      |       |         |       |         |       |          |
|           | WCDMA IV  | Front             | 0.783                    | 0.788                              | 0.607                            | 0.091                         | 1.571                      | 1.390                      | 0.874                      |       |         |       |         |       |          |
|           |           | Back              | 1.447                    | 0.985                              | 1.149                            | 0.158                         | 2.432                      | 2.596                      | 1.605                      | 0.03  | Case 61 | 0.02  | Case 84 | 0.020 | Case 100 |
|           |           | Left side         | 0.131                    |                                    |                                  |                               | 0.131                      | 0.131                      | 0.131                      |       |         |       |         |       |          |
|           |           | Right side        | 0.071                    | 0.395                              | 0.038                            | 0.073                         | 0.466                      | 0.109                      | 0.144                      |       |         |       |         |       |          |
|           | WCDMA V   | Front             | 0.788                    | 0.788                              | 0.607                            | 0.091                         | 1.576                      | 1.395                      | 0.879                      |       |         |       |         |       |          |
|           |           | Back              | 1.053                    | 0.985                              | 1.149                            | 0.158                         | 2.038                      | 2.202                      | 1.211                      | 0.02  | Case 63 | 0.02  | Case 85 |       |          |
|           |           | Left side         | 0.759                    |                                    |                                  |                               | 0.759                      | 0.759                      | 0.759                      |       |         |       |         |       |          |
|           |           | Right side        | 0.885                    | 0.395                              | 0.038                            | 0.073                         | 1.280                      | 0.923                      | 0.958                      |       |         |       |         |       |          |
|           |           | Bottom side       | 0.195                    |                                    |                                  |                               | 0.195                      | 0.195                      | 0.195                      |       |         |       |         |       |          |
| CDMA      | CDMA BC0  | Front             | 0.766                    | 0.788                              | 0.607                            | 0.091                         | 1.554                      | 1.373                      | 0.857                      |       |         |       |         |       |          |
|           |           | Back              | 1.073                    | 0.985                              | 1.149                            | 0.158                         | 2.058                      | 2.222                      | 1.231                      | 0.02  | Case 65 | 0.03  | Case 86 |       |          |
|           |           | Left side         | 0.866                    |                                    |                                  |                               | 0.866                      | 0.866                      | 0.866                      |       |         |       |         |       |          |
|           |           | Right side        | 1.087                    | 0.395                              | 0.038                            | 0.073                         | 1.482                      | 1.125                      | 1.160                      |       |         |       |         |       |          |
|           |           | Bottom side       | 0.145                    |                                    |                                  |                               | 0.145                      | 0.145                      | 0.145                      |       |         |       |         |       |          |
|           | CDMA BC1  | Front             | 0.739                    | 0.788                              | 0.607                            | 0.091                         | 1.527                      | 1.346                      | 0.830                      |       |         |       |         |       |          |
|           |           | Back              | 1.416                    | 0.985                              | 1.149                            | 0.158                         | 2.401                      | 2.565                      | 1.574                      | 0.03  | Case 67 | 0.03  | Case 87 |       |          |
|           |           | Left side         | 0.103                    |                                    |                                  |                               | 0.103                      | 0.103                      | 0.103                      |       |         |       |         |       |          |
|           |           | Right side        | 0.102                    | 0.395                              | 0.038                            | 0.073                         | 0.497                      | 0.140                      | 0.175                      |       |         |       |         |       |          |
|           |           | Bottom side       | 1.071                    |                                    |                                  |                               | 1.071                      | 1.071                      | 1.071                      |       |         |       |         |       |          |
|           | CDMA BC10 | Front             | 0.715                    | 0.788                              | 0.607                            | 0.091                         | 1.503                      | 1.322                      | 0.806                      |       |         |       |         |       |          |
|           |           | Back              | 1.007                    | 0.985                              | 1.149                            | 0.158                         | 1.992                      | 2.156                      | 1.165                      | 0.02  | Case 68 | 0.02  | Case 88 |       |          |
|           |           | Left side         | 0.864                    |                                    |                                  |                               | 0.864                      | 0.864                      | 0.864                      |       |         |       |         |       |          |
|           |           | Right side        | 1.099                    | 0.395                              | 0.038                            | 0.073                         | 1.494                      | 1.137                      | 1.172                      |       |         |       |         |       |          |
|           |           | Bottom side       | 0.119                    |                                    |                                  |                               | 0.119                      | 0.119                      | 0.119                      |       |         |       |         |       |          |



| WWAN Band |             | Exposure Position | 1<br>WWAN<br>1g SAR<br>(W/kg) | 2<br>2.4GHz<br>WLAN<br>1g SAR<br>(W/kg) | 3<br>5GHz<br>WLAN<br>1g SAR<br>(W/kg) | 4<br>Bluetooth<br>1g SAR<br>(W/kg) | 1+2<br>Summed<br>1g SAR<br>(W/kg) | 1+3<br>Summed<br>1g SAR<br>(W/kg) | 1+4<br>Summed<br>1g SAR<br>(W/kg) | 1+2<br>SPLSR | 1+2<br>Case No | 1+3<br>SPLSR | 1+3<br>Case No | 1+4<br>SPLSR | 1+4<br>Case No |
|-----------|-------------|-------------------|-------------------------------|-----------------------------------------|---------------------------------------|------------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|--------------|----------------|--------------|----------------|--------------|----------------|
| LTE       | LTE Band 2  | Front             | 0.605                         | 0.788                                   | 0.607                                 | 0.091                              | 1.393                             | 1.212                             | 0.696                             |              |                |              |                |              |                |
|           |             | Back              | 1.129                         | 0.985                                   | 1.149                                 | 0.158                              | 2.114                             | 2.278                             | 1.287                             | 0.02         | Case 69        | 0.02         | Case 89        |              |                |
|           |             | Left side         | 0.067                         |                                         |                                       |                                    | 0.067                             | 0.067                             | 0.067                             |              |                |              |                |              |                |
|           |             | Right side        | 0.084                         | 0.395                                   | 0.038                                 | 0.073                              | 0.479                             | 0.122                             | 0.157                             |              |                |              |                |              |                |
|           |             | Bottom side       | 0.897                         |                                         |                                       |                                    | 0.897                             | 0.897                             | 0.897                             |              |                |              |                |              |                |
|           | LTE Band 4  | Front             | 0.671                         | 0.788                                   | 0.607                                 | 0.091                              | 1.459                             | 1.278                             | 0.762                             |              |                |              |                |              |                |
|           |             | Back              | 1.138                         | 0.985                                   | 1.149                                 | 0.158                              | 2.123                             | 2.287                             | 1.296                             | 0.02         | Case 70        | 0.02         | Case 90        |              |                |
|           |             | Left side         | 0.119                         |                                         |                                       |                                    | 0.119                             | 0.119                             | 0.119                             |              |                |              |                |              |                |
|           |             | Right side        | 0.062                         | 0.395                                   | 0.038                                 | 0.073                              | 0.457                             | 0.100                             | 0.135                             |              |                |              |                |              |                |
|           |             | Bottom side       | 0.950                         |                                         |                                       |                                    | 0.950                             | 0.950                             | 0.950                             |              |                |              |                |              |                |
|           | LTE Band 5  | Front             | 0.769                         | 0.788                                   | 0.607                                 | 0.091                              | 1.557                             | 1.376                             | 0.860                             |              |                |              |                |              |                |
|           |             | Back              | 1.009                         | 0.985                                   | 1.149                                 | 0.158                              | 1.994                             | 2.158                             | 1.167                             | 0.02         | Case 72        | 0.02         | Case 91        |              |                |
|           |             | Left side         | 0.894                         |                                         |                                       |                                    | 0.894                             | 0.894                             | 0.894                             |              |                |              |                |              |                |
|           |             | Right side        | 1.063                         | 0.395                                   | 0.038                                 | 0.073                              | 1.458                             | 1.101                             | 1.136                             |              |                |              |                |              |                |
|           |             | Bottom side       | 0.163                         |                                         |                                       |                                    | 0.163                             | 0.163                             | 0.163                             |              |                |              |                |              |                |
|           | LTE Band 7  | Front             | 0.759                         | 0.788                                   | 0.607                                 | 0.091                              | 1.547                             | 1.366                             | 0.850                             |              |                |              |                |              |                |
|           |             | Back              | 1.118                         | 0.985                                   | 1.149                                 | 0.158                              | 2.103                             | 2.267                             | 1.276                             | 0.02         | Case 74        | 0.02         | Case 92        |              |                |
|           |             | Left side         | 0.043                         |                                         |                                       |                                    | 0.043                             | 0.043                             | 0.043                             |              |                |              |                |              |                |
|           |             | Right side        | 0.240                         | 0.395                                   | 0.038                                 | 0.073                              | 0.635                             | 0.278                             | 0.313                             |              |                |              |                |              |                |
|           |             | Bottom side       | 0.710                         |                                         |                                       |                                    | 0.710                             | 0.710                             | 0.710                             |              |                |              |                |              |                |
|           | LTE Band 12 | Front             | 0.415                         | 0.788                                   | 0.607                                 | 0.091                              | 1.203                             | 1.022                             | 0.506                             |              |                |              |                |              |                |
|           |             | Back              | 0.774                         | 0.985                                   | 1.149                                 | 0.158                              | 1.759                             | 1.923                             | 0.932                             | 0.02         | Case 75        | 0.02         | Case 93        |              |                |
|           |             | Left side         | 0.706                         |                                         |                                       |                                    | 0.706                             | 0.706                             | 0.706                             |              |                |              |                |              |                |
|           |             | Right side        | 0.762                         | 0.395                                   | 0.038                                 | 0.073                              | 1.157                             | 0.800                             | 0.835                             |              |                |              |                |              |                |
|           |             | Bottom side       | 0.138                         |                                         |                                       |                                    | 0.138                             | 0.138                             | 0.138                             |              |                |              |                |              |                |
|           | LTE Band 13 | Front             | 0.701                         | 0.788                                   | 0.607                                 | 0.091                              | 1.489                             | 1.308                             | 0.792                             |              |                |              |                |              |                |
|           |             | Back              | 1.062                         | 0.985                                   | 1.149                                 | 0.158                              | 2.047                             | 2.211                             | 1.220                             | 0.02         | Case 76        | 0.02         | Case 94        |              |                |
|           |             | Left side         | 1.056                         |                                         |                                       |                                    | 1.056                             | 1.056                             | 1.056                             |              |                |              |                |              |                |
|           |             | Right side        | 1.197                         | 0.395                                   | 0.038                                 | 0.073                              | 1.592                             | 1.235                             | 1.270                             |              |                |              |                |              |                |
|           |             | Bottom side       | 0.158                         |                                         |                                       |                                    | 0.158                             | 0.158                             | 0.158                             |              |                |              |                |              |                |
|           | LTE Band 25 | Front             | 0.665                         | 0.788                                   | 0.607                                 | 0.091                              | 1.453                             | 1.272                             | 0.756                             |              |                |              |                |              |                |
|           |             | Back              | 1.209                         | 0.985                                   | 1.149                                 | 0.158                              | 2.194                             | 2.358                             | 1.367                             | 0.02         | Case 77        | 0.02         | Case 95        |              |                |
|           |             | Left side         | 0.074                         |                                         |                                       |                                    | 0.074                             | 0.074                             | 0.074                             |              |                |              |                |              |                |
|           |             | Right side        | 0.092                         | 0.395                                   | 0.038                                 | 0.073                              | 0.487                             | 0.130                             | 0.165                             |              |                |              |                |              |                |
|           |             | Bottom side       | 0.964                         |                                         |                                       |                                    | 0.964                             | 0.964                             | 0.964                             |              |                |              |                |              |                |
|           | LTE Band 26 | Front             | 0.731                         | 0.788                                   | 0.607                                 | 0.091                              | 1.519                             | 1.338                             | 0.822                             |              |                |              |                |              |                |
|           |             | Back              | 1.176                         | 0.985                                   | 1.149                                 | 0.158                              | 2.161                             | 2.325                             | 1.334                             | 0.03         | Case 78        | 0.03         | Case 96        |              |                |
|           |             | Left side         | 1.168                         |                                         |                                       |                                    | 1.168                             | 1.168                             | 1.168                             |              |                |              |                |              |                |
|           |             | Right side        | 1.187                         | 0.395                                   | 0.038                                 | 0.073                              | 1.582                             | 1.225                             | 1.260                             |              |                |              |                |              |                |
|           |             | Bottom side       | 0.155                         |                                         |                                       |                                    | 0.155                             | 0.155                             | 0.155                             |              |                |              |                |              |                |



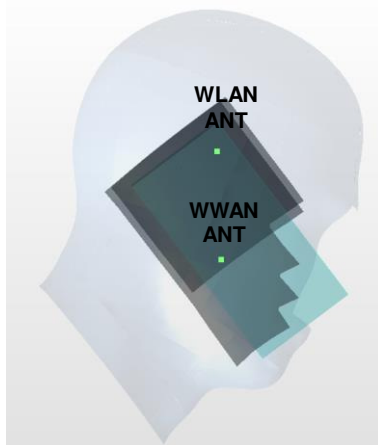
| WWAN Band |             | Exposure Position | 1                        | 2                                  | 3                                | 4                             | 1+2 Summed<br>1g SAR<br>(W/kg) | 1+3 Summed<br>1g SAR<br>(W/kg) | 1+4 Summed<br>1g SAR<br>(W/kg) | 1+2 SPLSR | 1+2 Case No | 1+3 SPLSR | 1+3 Case No | 1+4 SPLSR | 1+4 Case No |
|-----------|-------------|-------------------|--------------------------|------------------------------------|----------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|-----------|-------------|-----------|-------------|-----------|-------------|
|           |             |                   | WWAN<br>1g SAR<br>(W/kg) | 2.4GHz<br>WLAN<br>1g SAR<br>(W/kg) | 5GHz<br>WLAN<br>1g SAR<br>(W/kg) | Bluetooth<br>1g SAR<br>(W/kg) |                                |                                |                                |           |             |           |             |           |             |
| LTE       | LTE Band 38 | Front             | 0.454                    | 0.788                              | 0.607                            | 0.091                         | 1.242                          | 1.061                          | 0.545                          |           |             |           |             |           |             |
|           |             | Back              | 1.299                    | 0.985                              | 1.149                            | 0.158                         | 2.284                          | 2.448                          | 1.457                          | 0.03      | Case 80     | 0.03      | Case 98     |           |             |
|           |             | Left side         | 0.042                    |                                    |                                  |                               | 0.042                          | 0.042                          | 0.042                          |           |             |           |             |           |             |
|           |             | Right side        | 0.119                    | 0.395                              | 0.038                            | 0.073                         | 0.514                          | 0.157                          | 0.192                          |           |             |           |             |           |             |
|           |             | Bottom side       | 0.358                    |                                    |                                  |                               | 0.358                          | 0.358                          | 0.358                          |           |             |           |             |           |             |
|           | LTE Band 41 | Front             | 0.444                    | 0.788                              | 0.607                            | 0.091                         | 1.232                          | 1.051                          | 0.535                          |           |             |           |             |           |             |
|           |             | Back              | 1.395                    | 0.985                              | 1.149                            | 0.158                         | 2.380                          | 2.544                          | 1.553                          | 0.03      | Case 103    | 0.03      | Case 99     |           |             |
|           |             | Left side         | 0.041                    |                                    |                                  |                               | 0.041                          | 0.041                          | 0.041                          |           |             |           |             |           |             |
|           |             | Right side        | 0.108                    | 0.395                              | 0.038                            | 0.073                         | 0.503                          | 0.146                          | 0.181                          |           |             |           |             |           |             |
|           |             | Bottom side       | 0.330                    |                                    |                                  |                               | 0.330                          | 0.330                          | 0.330                          |           |             |           |             |           |             |
|           | LTE Band 66 | Front             | 0.676                    | 0.788                              | 0.607                            | 0.091                         | 1.464                          | 1.283                          | 0.767                          |           |             |           |             |           |             |
|           |             | Back              | 1.196                    | 0.985                              | 1.149                            | 0.158                         | 2.181                          | 2.345                          | 1.354                          | 0.03      | Case 79     | 0.03      | Case 97     |           |             |
|           |             | Left side         | 0.119                    |                                    |                                  |                               | 0.119                          | 0.119                          | 0.119                          |           |             |           |             |           |             |
|           |             | Right side        | 0.063                    | 0.395                              | 0.038                            | 0.073                         | 0.458                          | 0.101                          | 0.136                          |           |             |           |             |           |             |
|           |             | Bottom side       | 0.969                    |                                    |                                  |                               | 0.969                          | 0.969                          | 0.969                          |           |             |           |             |           |             |
|           | LTE Band 71 | Front             | 0.243                    | 0.788                              | 0.607                            | 0.091                         | 1.031                          | 0.850                          | 0.334                          |           |             |           |             |           |             |
|           |             | Back              | 0.432                    | 0.985                              | 1.149                            | 0.158                         | 1.417                          | 1.581                          | 0.590                          |           |             |           |             |           |             |
|           |             | Left side         | 0.342                    |                                    |                                  |                               | 0.342                          | 0.342                          | 0.342                          |           |             |           |             |           |             |
|           |             | Right side        | 0.353                    | 0.395                              | 0.038                            | 0.073                         | 0.748                          | 0.391                          | 0.426                          |           |             |           |             |           |             |
|           |             | Bottom side       | 0.079                    |                                    |                                  |                               | 0.079                          | 0.079                          | 0.079                          |           |             |           |             |           |             |

### 15.3 SPLSR Evaluation and Analysis

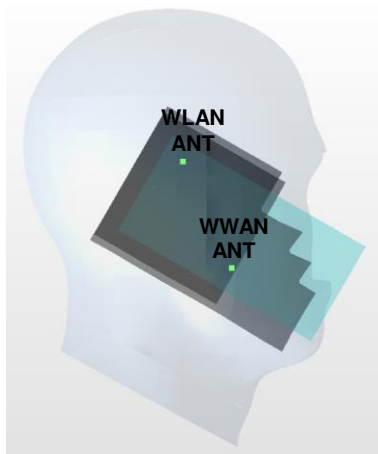
**General Note:**

1.  $SPLSR = (SAR_1 + SAR_2)^{1.5} / (\text{min. separation distance, mm})$ . If  $SPLSR \leq 0.04$ , simultaneously transmission SAR measurement is not necessary

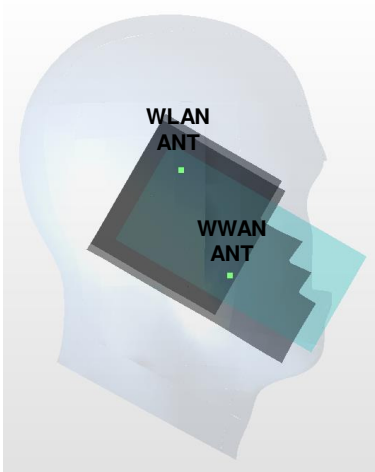
| Case1 | Band     | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|-------|----------|------------|------------|----------|-----------------------|--------|-------|------------------|-------------------|---------------|------------------|
|       |          |            |            |          | X                     | Y      | Z     |                  |                   |               |                  |
|       | GSM850   | Left Cheek | 0.478      | 0        | 46.6                  | -44.72 | -3.02 | 74.3             | 1.82              | 0.03          | Not required     |
|       | WLAN2.4G |            | 1.345      | 0        | 16.33                 | 23.08  | -0.75 |                  |                   |               |                  |



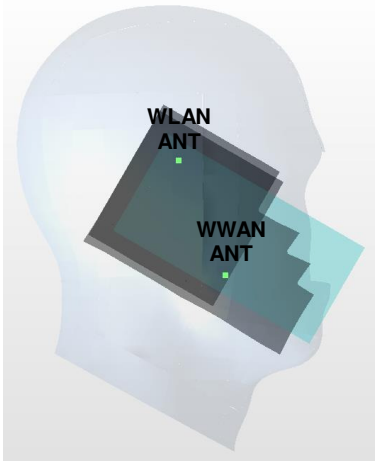
| Case2 | Band     | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|-------|----------|------------|------------|----------|-----------------------|--------|-------|------------------|-------------------|---------------|------------------|
|       |          |            |            |          | X                     | Y      | Z     |                  |                   |               |                  |
|       | GSM1900  | Left Cheek | 0.26       | 0        | 49.27                 | -59.01 | -1.53 | 88.5             | 1.61              | 0.02          | Not required     |
|       | WLAN2.4G |            | 1.345      | 0        | 16.33                 | 23.08  | -0.75 |                  |                   |               |                  |



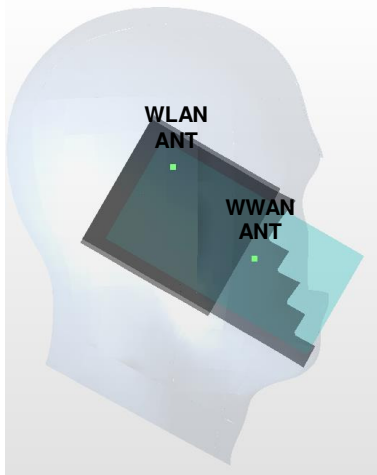
| Case3 | Band     | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|-------|----------|------------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|       | WCDMA II | Left Cheek | 0.494      | 0        | X                     | Y     | Z     | 86.6             | 1.84              | 0.03          | Not required     |
|       | WLAN2.4G |            | 1.345      | 0        | 16.33                 | 23.08 | -0.75 |                  |                   |               |                  |

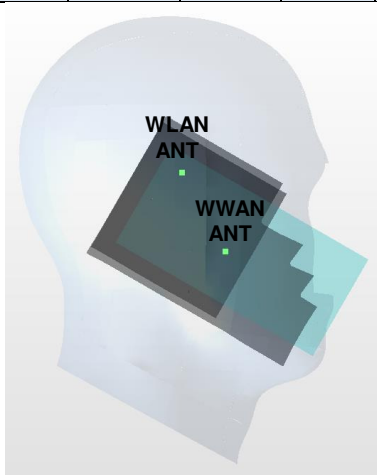
| Case4 | Band     | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|-------|----------|------------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|       | WCDMA IV | Left Cheek | 0.482      | 0        | X                     | Y     | Z     | 86.8             | 1.83              | 0.03          | Not required     |
|       | WLAN2.4G |            | 1.345      | 0        | 16.33                 | 23.08 | -0.75 |                  |                   |               |                  |

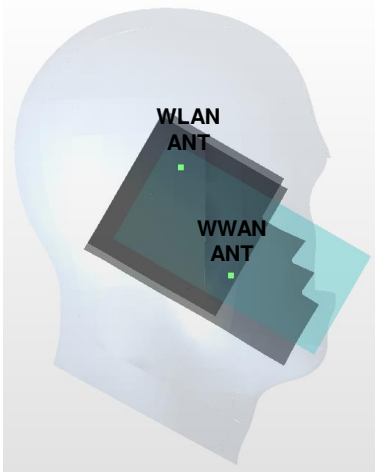
| Case5 | Band     | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|-------|----------|------------|------------|----------|-----------------------|--------|-------|------------------|-------------------|---------------|------------------|
|       |          |            |            |          | X                     | Y      | Z     |                  |                   |               |                  |
|       | WCDMA V  | Left Cheek | 0.345      | 0        | 59.73                 | -31.16 | -1.22 | 69.5             | 1.69              | 0.03          | Not required     |
|       | WLAN2.4G |            | 1.345      | 0        | 16.33                 | 23.08  | -0.75 |                  |                   |               |                  |



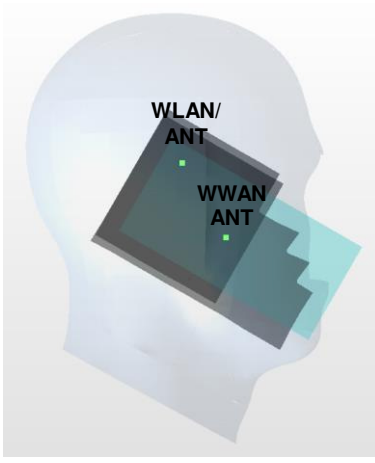
| Case6 | Band     | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|-------|----------|------------|------------|----------|-----------------------|--------|-------|------------------|-------------------|---------------|------------------|
|       |          |            |            |          | X                     | Y      | Z     |                  |                   |               |                  |
|       | CDMA BC0 | Left Cheek | 0.582      | 0        | 52.82                 | -24.86 | -3.86 | 60.3             | 1.93              | 0.04          | Not required     |
|       | WLAN2.4G |            | 1.345      | 0        | 16.33                 | 23.08  | -0.75 |                  |                   |               |                  |



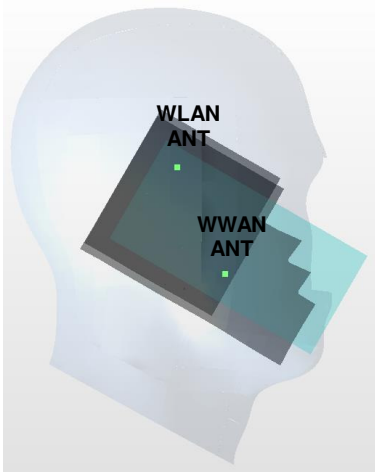
| Case7 | Band     | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|-------|----------|------------|------------|----------|-----------------------|--------|-------|------------------|-------------------|---------------|------------------|
|       |          |            |            |          | X                     | Y      | Z     |                  |                   |               |                  |
|       | CDMA BC1 | Left Cheek | 0.386      | 0        | 51.45                 | -58.48 | -1.16 | 88.8             | 1.73              | 0.03          | Not required     |
|       | WLAN2.4G |            | 1.345      | 0        | 16.33                 | 23.08  | -0.75 |                  |                   |               |                  |

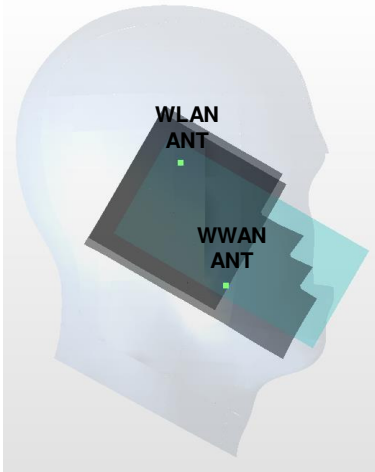
| Case8 | Band      | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|-------|-----------|------------|------------|----------|-----------------------|--------|-------|------------------|-------------------|---------------|------------------|
|       |           |            |            |          | X                     | Y      | Z     |                  |                   |               |                  |
|       | CDMA BC10 | Left Cheek | 0.558      | 0        | 47.11                 | -38.65 | -3.28 | 69.0             | 1.90              | 0.04          | Not required     |
|       | WLAN2.4G  |            | 1.345      | 0        | 16.33                 | 23.08  | -0.75 |                  |                   |               |                  |

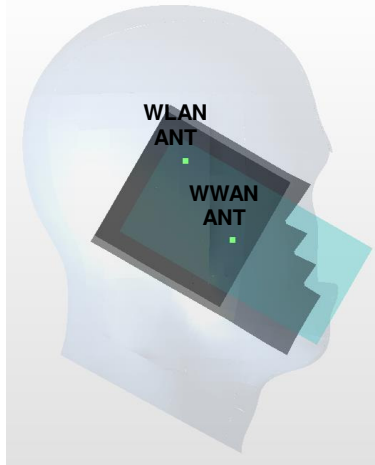
| Case9 | Band       | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|-------|------------|------------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|       |            |            |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|       | LTE Band 2 | Left Cheek | 0.378      | 0        | 54.24                 | -60.1 | -0.59 | 91.4             | 1.72              | 0.02          | Not required     |
|       | WLAN2.4G   |            | 1.345      | 0        | 16.33                 | 23.08 | -0.75 |                  |                   |               |                  |

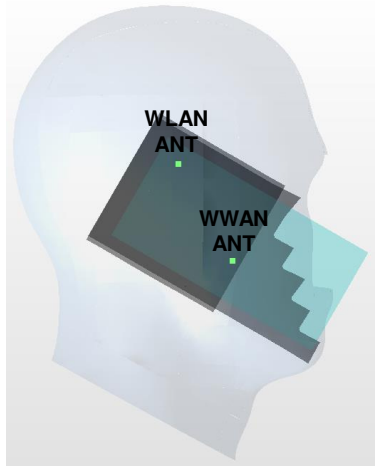
| Case10 | Band       | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|------------|------------|------------|----------|-----------------------|--------|-------|------------------|-------------------|---------------|------------------|
|        |            |            |            |          | X                     | Y      | Z     |                  |                   |               |                  |
|        | LTE Band 4 | Left Cheek | 0.485      | 0        | 49.28                 | -62.04 | -0.98 | 91.3             | 1.83              | 0.03          | Not required     |
|        | WLAN2.4G   |            | 1.345      | 0        | 16.33                 | 23.08  | -0.75 |                  |                   |               |                  |

| Case11 | Band       | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|------------|------------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        | LTE Band 5 | Left Cheek | 0.474      | 0        | X                     | Y     | Z     | 54.9             | 1.82              | 0.04          | Not required     |
|        | WLAN2.4G   |            | 1.345      | 0        | 16.33                 | 23.08 | -0.75 |                  |                   |               |                  |



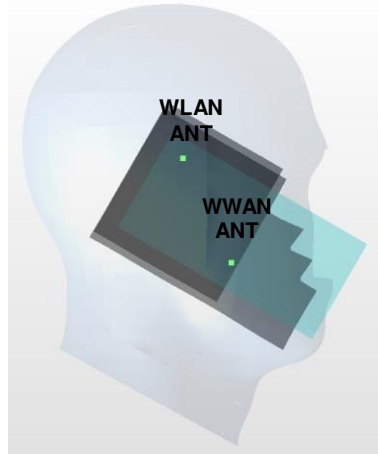
| Case12 | Band        | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|-------------|------------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        | LTE Band 12 | Left Cheek | 0.357      | 0        | X                     | Y     | Z     | 67.1             | 1.70              | 0.03          | Not required     |
|        | WLAN2.4G    |            | 1.345      | 0        | 16.33                 | 23.08 | -0.75 |                  |                   |               |                  |



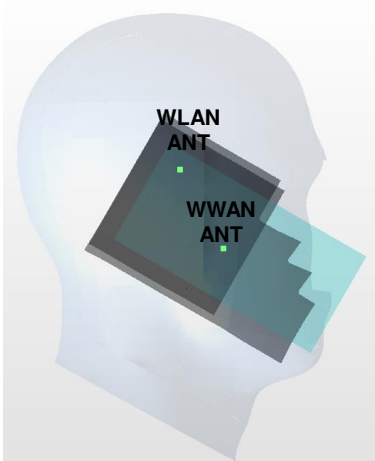
| Case13 | Band        | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|-------------|------------|------------|----------|-----------------------|--------|-------|------------------|-------------------|---------------|------------------|
|        |             |            |            |          | X                     | Y      | Z     |                  |                   |               |                  |
|        | LTE Band 13 | Left Cheek | 0.537      | 0        | 48.14                 | -33.99 | -3.41 | 65.4             | 1.88              | 0.04          | Not required     |
|        | WLAN2.4G    |            | 1.345      | 0        | 16.33                 | 23.08  | -0.75 |                  |                   |               |                  |



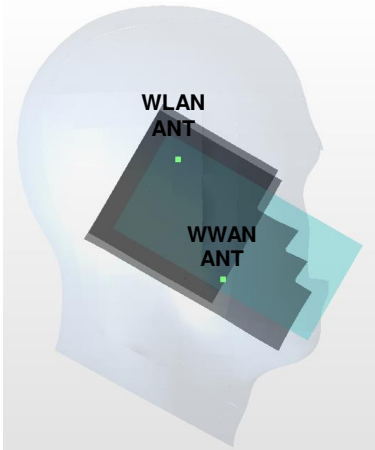
| Case15 | Band        | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|-------------|------------|------------|----------|-----------------------|--------|-------|------------------|-------------------|---------------|------------------|
|        |             |            |            |          | X                     | Y      | Z     |                  |                   |               |                  |
|        | LTE Band 25 | Left Cheek | 0.299      | 0        | 47.26                 | -46.81 | -2.93 | 76.5             | 1.64              | 0.03          | Not required     |
|        | WLAN2.4G    |            | 1.345      | 0        | 16.33                 | 23.08  | -0.75 |                  |                   |               |                  |



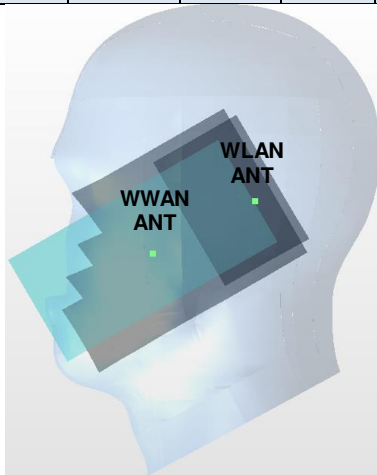
| Case16 | Band        | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|-------------|------------|------------|----------|-----------------------|--------|-------|------------------|-------------------|---------------|------------------|
|        |             |            |            |          | X                     | Y      | Z     |                  |                   |               |                  |
|        | LTE Band 26 | Left Cheek | 0.708      | 0        | 57.36                 | -28.03 | -3.76 | 65.6             | 2.05              | 0.04          | Not required     |
|        | WLAN2.4G    |            | 1.345      | 0        | 16.33                 | 23.08  | -0.75 |                  |                   |               |                  |

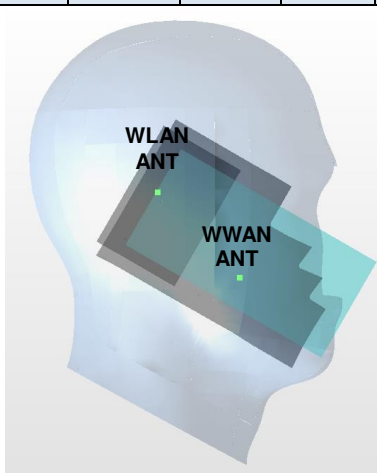
| Case17 | Band        | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|-------------|------------|------------|----------|-----------------------|--------|-------|------------------|-------------------|---------------|------------------|
|        |             |            |            |          | X                     | Y      | Z     |                  |                   |               |                  |
|        | LTE Band 66 | Left Cheek | 0.29       | 0        | 51.45                 | -61.41 | -0.6  | 91.5             | 1.64              | 0.02          | Not required     |
|        | WLAN2.4G    |            | 1.345      | 0        | 16.33                 | 23.08  | -0.75 |                  |                   |               |                  |

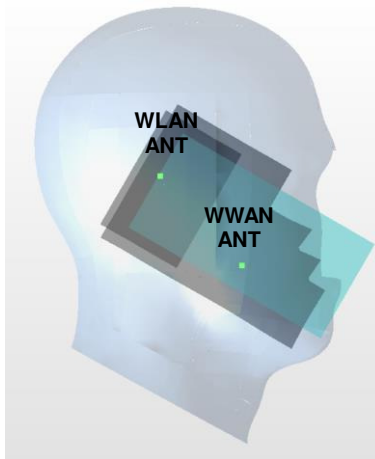
| Case18 | Band   | Position    | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|--------|-------------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |        |             |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | GSM850 | Right Cheek | 0.477      | 0        | 50.11                 | 42.65 | -2.77 | 71.6             | 1.86              | 0.04          | Not required     |
|        | WLAN5G |             | 1.383      | 0        | -10.45                | 4.58  | 1.31  |                  |                   |               |                  |



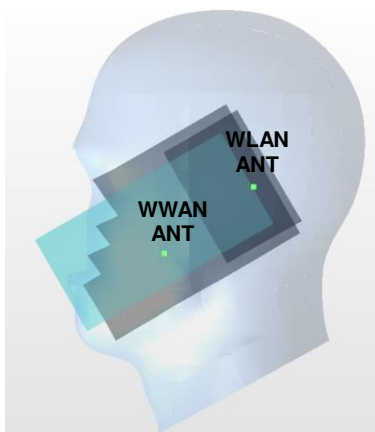
| Case19 | Band   | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|--------|------------|------------|----------|-----------------------|--------|-------|------------------|-------------------|---------------|------------------|
|        |        |            |            |          | X                     | Y      | Z     |                  |                   |               |                  |
|        | GSM850 | Left Cheek | 0.478      | 0        | 46.6                  | -44.72 | -3.02 | 72.5             | 1.90              | 0.04          | Not required     |
|        | WLAN5G |            | 1.42       | 0        | -2.09                 | 8.82   | 0.42  |                  |                   |               |                  |



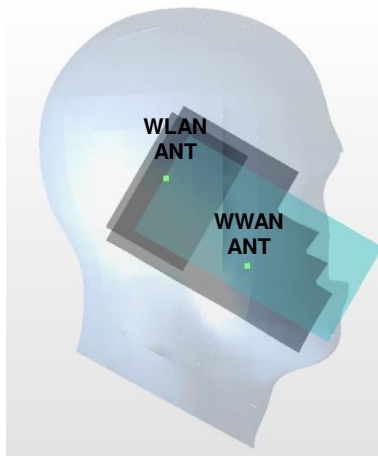
| Case21 | Band    | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|---------|------------|------------|----------|-----------------------|--------|-------|------------------|-------------------|---------------|------------------|
|        |         |            |            |          | X                     | Y      | Z     |                  |                   |               |                  |
|        |         |            |            |          |                       |        |       |                  |                   |               |                  |
|        | GSM1900 | Left Cheek | 0.26       | 0        | 49.27                 | -59.01 | -1.53 | 87.3             | 1.68              | 0.02          | Not required     |
|        | WLAN5G  |            | 1.42       | 0        | -10.45                | 4.58   | 1.31  |                  |                   |               |                  |



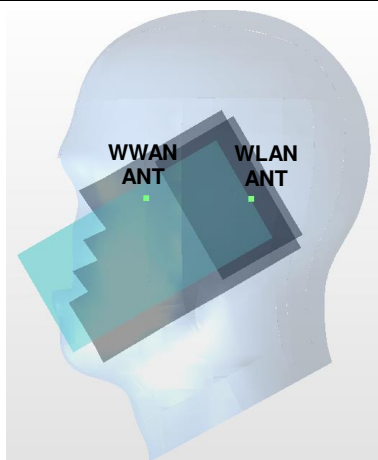
| Case22 | Band     | Position    | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |      | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|-------------|------------|----------|-----------------------|-------|------|------------------|-------------------|---------------|------------------|
|        |          |             |            |          | X                     | Y     | Z    |                  |                   |               |                  |
|        |          |             |            |          |                       |       |      |                  |                   |               |                  |
|        | WCDMA II | Right Cheek | 0.326      | 0        | 51.92                 | 48.34 | -2.2 | 76.3             | 1.71              | 0.03          | Not required     |
|        | WLAN5G   |             | 1.383      | 0        | -10.45                | 4.58  | 1.31 |                  |                   |               |                  |



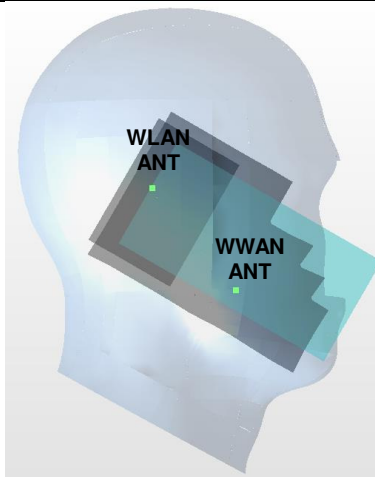
| Case23 | Band     | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|------------|------------|----------|-----------------------|--------|-------|------------------|-------------------|---------------|------------------|
|        |          |            |            |          | X                     | Y      | Z     |                  |                   |               |                  |
|        | WCDMA II | Left Cheek | 0.494      | 0        | 50.89                 | -56.31 | -1.53 | 84.0             | 1.91              | 0.03          | Not required     |
|        | WLAN5G   |            | 1.42       | 0        | -2.09                 | 8.82   | 0.42  |                  |                   |               |                  |



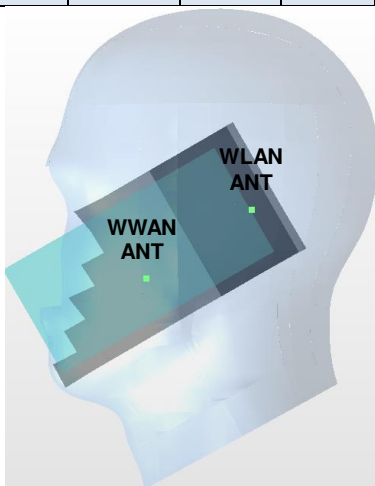
| Case24 | Band     | Position    | SAR (W/kg) | Gap (cm) | SAR peak location (m) |      |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|-------------|------------|----------|-----------------------|------|-------|------------------|-------------------|---------------|------------------|
|        |          |             |            |          | X                     | Y    | Z     |                  |                   |               |                  |
|        | WCDMA IV | Right Cheek | 0.337      | 0        | 57.39                 | 2.86 | -1.65 | 67.9             | 1.72              | 0.03          | Not required     |
|        | WLAN5G   |             | 1.383      | 0        | -10.45                | 4.58 | 1.31  |                  |                   |               |                  |



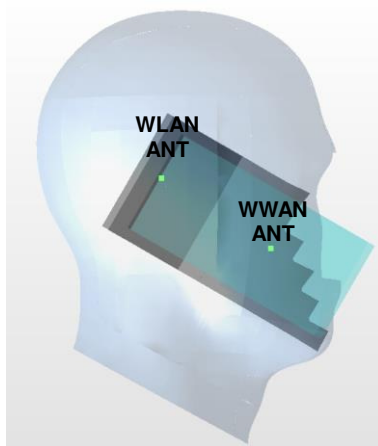
| Case25 | Band     | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |      |      | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|------------|------------|----------|-----------------------|------|------|------------------|-------------------|---------------|------------------|
|        | WCDMA IV | Left Cheek | 0.482      | 0        | X                     | Y    | Z    | 82.7             | 1.90              | 0.03          | Not required     |
|        | WLAN5G   |            | 1.42       | 0        | -2.09                 | 8.82 | 0.42 |                  |                   |               |                  |



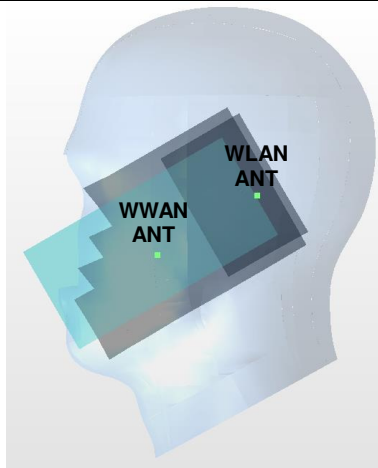
| Case26 | Band    | Position    | SAR (W/kg) | Gap (cm) | SAR peak location (m) |      |      | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|---------|-------------|------------|----------|-----------------------|------|------|------------------|-------------------|---------------|------------------|
|        | WCDMA V | Right Cheek | 0.785      | 0        | X                     | Y    | Z    | 71.4             | 2.17              | 0.04          | Not required     |
|        | WLAN5G  |             | 1.383      | 0        | -10.45                | 4.58 | 1.31 |                  |                   |               |                  |



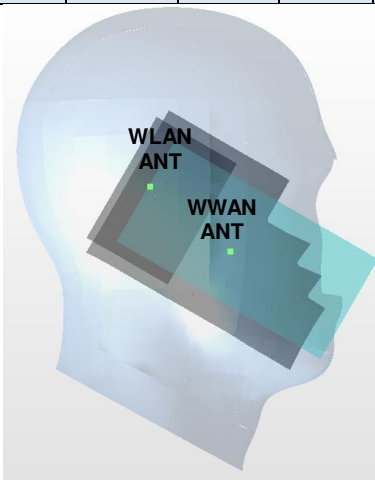
| Case27 | Band    | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|---------|------------|------------|----------|-----------------------|--------|-------|------------------|-------------------|---------------|------------------|
|        |         |            |            |          | X                     | Y      | Z     |                  |                   |               |                  |
|        | WCDMA V | Left Cheek | 0.345      | 0        | 59.73                 | -31.16 | -1.22 | 73.6             | 1.77              | 0.03          | Not required     |
|        | WLAN5G  |            | 1.42       | 0        | -2.09                 | 8.82   | 0.42  |                  |                   |               |                  |



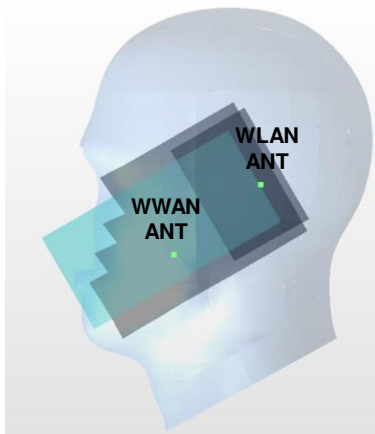
| Case28 | Band     | Position    | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|-------------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |          |             |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | CDMA BC0 | Right Cheek | 0.596      | 0        | 49.78                 | 45.83 | -2.62 | 73.1             | 1.98              | 0.04          | Not required     |
|        | WLAN5G   |             | 1.383      | 0        | -10.45                | 4.58  | 1.31  |                  |                   |               |                  |



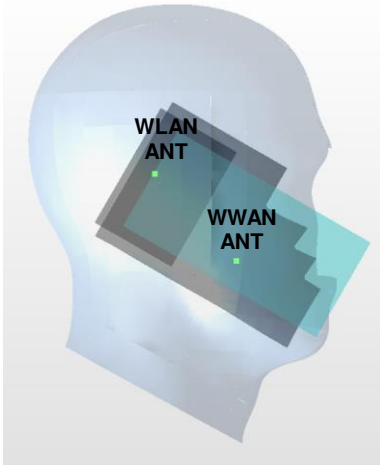
| Case29 | Band     | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|------------|------------|----------|-----------------------|--------|-------|------------------|-------------------|---------------|------------------|
|        |          |            |            |          | X                     | Y      | Z     |                  |                   |               |                  |
|        | CDMA BC0 | Left Cheek | 0.582      | 0        | 52.82                 | -24.86 | -3.86 | 64.6             | 2.00              | 0.04          | Not required     |
|        | WLAN5G   |            | 1.42       | 0        | -2.09                 | 8.82   | 0.42  |                  |                   |               |                  |



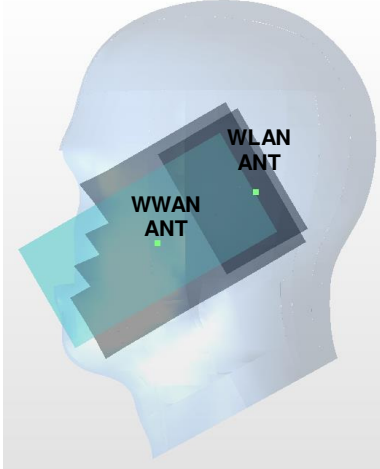
| Case30 | Band     | Position    | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |      | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|-------------|------------|----------|-----------------------|-------|------|------------------|-------------------|---------------|------------------|
|        |          |             |            |          | X                     | Y     | Z    |                  |                   |               |                  |
|        | CDMA BC1 | Right Cheek | 0.376      | 0        | 48.51                 | 57.27 | -1.7 | 79.1             | 1.76              | 0.03          | Not required     |
|        | WLAN5G   |             | 1.383      | 0        | -10.45                | 4.58  | 1.31 |                  |                   |               |                  |



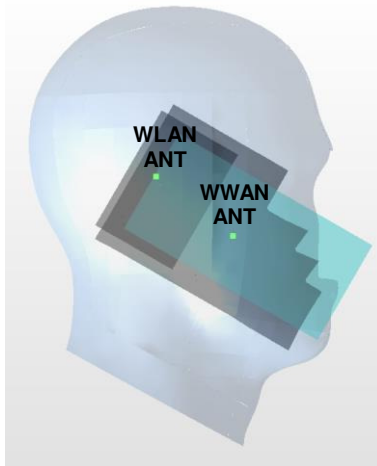
| Case31 | Band     | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|------------|------------|----------|-----------------------|--------|-------|------------------|-------------------|---------------|------------------|
|        |          |            |            |          | X                     | Y      | Z     |                  |                   |               |                  |
|        | CDMA BC1 | Left Cheek | 0.386      | 0        | 51.45                 | -58.48 | -1.16 | 86.0             | 1.81              | 0.03          | Not required     |
|        | WLAN5G   |            | 1.42       | 0        | -2.09                 | 8.82   | 0.42  |                  |                   |               |                  |

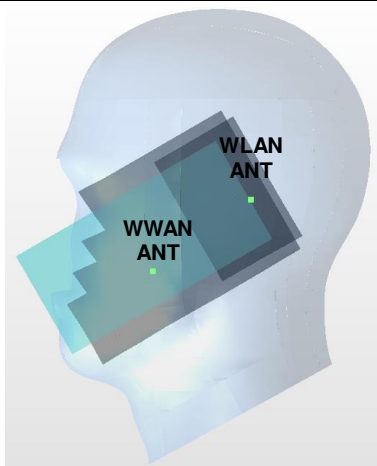
| Case32 | Band      | Position    | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|-----------|-------------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |           |             |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | CDMA BC10 | Right Cheek | 0.581      | 0        | 46.35                 | 33.11 | -3.65 | 63.8             | 1.96              | 0.04          | Not required     |
|        | WLAN5G    |             | 1.383      | 0        | -10.45                | 4.58  | 1.31  |                  |                   |               |                  |

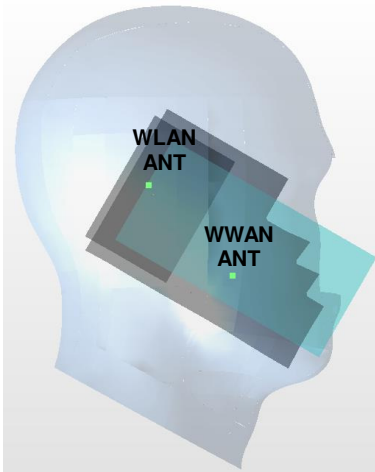
| Case33 | Band      | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|-----------|------------|------------|----------|-----------------------|--------|-------|------------------|-------------------|---------------|------------------|
|        |           |            |            |          | X                     | Y      | Z     |                  |                   |               |                  |
|        | CDMA BC10 | Left Cheek | 0.558      | 0        | 47.11                 | -38.65 | -3.28 | 68.5             | 1.98              | 0.04          | Not required     |
|        | WLAN5G    |            | 1.42       | 0        | -2.09                 | 8.82   | 0.42  |                  |                   |               |                  |



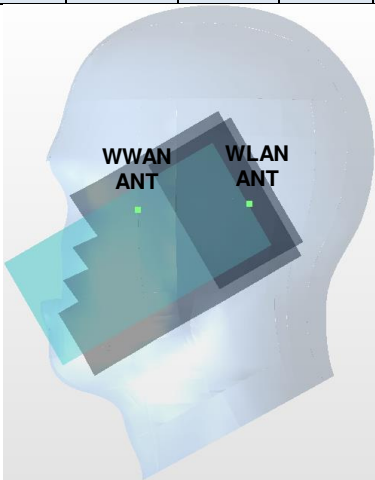
| Case34 | Band       | Position    | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|------------|-------------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |            |             |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | LTE Band 2 | Right Cheek | 0.387      | 0        | 49.23                 | 56.04 | -1.85 | 78.9             | 1.77              | 0.03          | Not required     |
|        | WLAN5G     |             | 1.383      | 0        | -10.45                | 4.58  | 1.31  |                  |                   |               |                  |



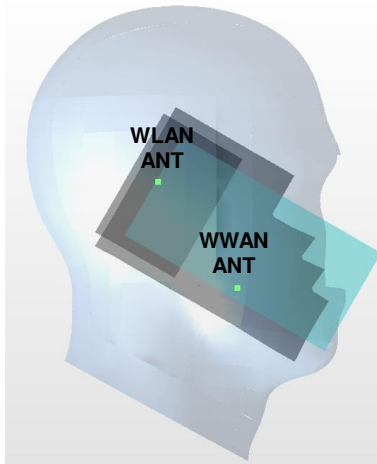
| Case35 | Band       | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |      |      | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|------------|------------|------------|----------|-----------------------|------|------|------------------|-------------------|---------------|------------------|
|        | LTE Band 2 | Left Cheek | 0.378      | 0        | X                     | Y    | Z    | 89.0             | 1.80              | 0.03          | Not required     |
|        | WLAN5G     |            | 1.42       | 0        | -2.09                 | 8.82 | 0.42 |                  |                   |               |                  |

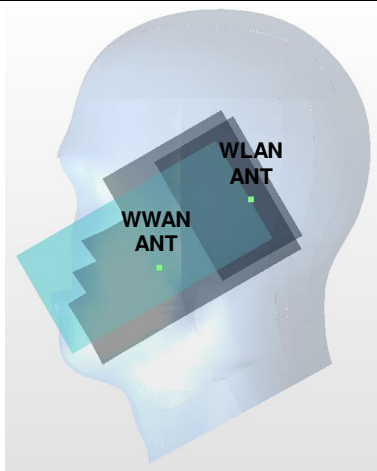
| Case36 | Band       | Position    | SAR (W/kg) | Gap (cm) | SAR peak location (m) |      |      | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|------------|-------------|------------|----------|-----------------------|------|------|------------------|-------------------|---------------|------------------|
|        | LTE Band 4 | Right Cheek | 0.223      | 0        | X                     | Y    | Z    | 69.7             | 1.61              | 0.03          | Not required     |
|        | WLAN5G     |             | 1.383      | 0        | -10.45                | 4.58 | 1.31 |                  |                   |               |                  |

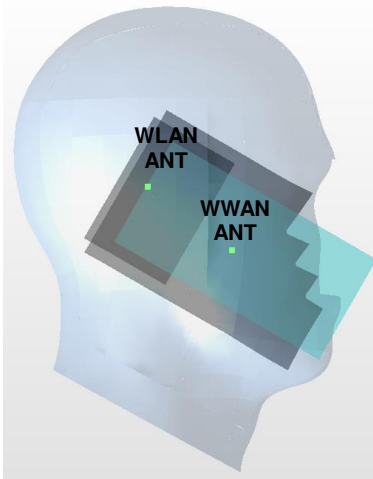
| Case37 | Band       | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|------------|------------|------------|----------|-----------------------|--------|-------|------------------|-------------------|---------------|------------------|
|        |            |            |            |          | X                     | Y      | Z     |                  |                   |               |                  |
|        | LTE Band 4 | Left Cheek | 0.485      | 0        | 49.28                 | -62.04 | -0.98 | 87.5             | 1.91              | 0.03          | Not required     |
|        | WLAN5G     |            | 1.42       | 0        | -2.09                 | 8.82   | 0.42  |                  |                   |               |                  |



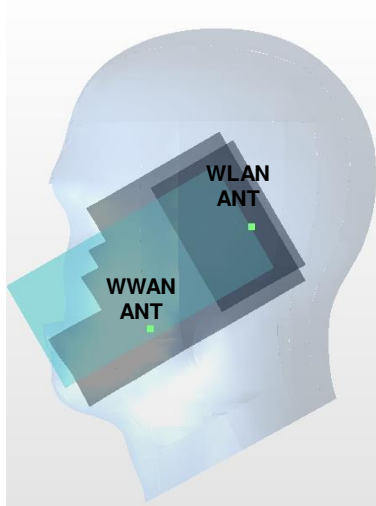
| Case38 | Band       | Position    | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|------------|-------------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |            |             |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | LTE Band 5 | Right Cheek | 0.666      | 0        | 51.78                 | 42.69 | -2.92 | 73.1             | 2.05              | 0.04          | Not required     |
|        | WLAN5G     |             | 1.383      | 0        | -10.45                | 4.58  | 1.31  |                  |                   |               |                  |



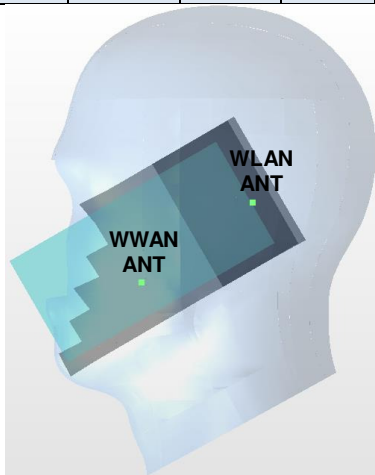
| Case39 | Band       | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|------------|------------|------------|----------|-----------------------|--------|-------|------------------|-------------------|---------------|------------------|
|        |            |            |            |          | X                     | Y      | Z     |                  |                   |               |                  |
|        | LTE Band 5 | Left Cheek | 0.474      | 0        | 52.73                 | -17.95 | -2.84 | 61.1             | 1.89              | 0.04          | Not required     |
|        | WLAN5G     |            | 1.42       | 0        | -2.09                 | 8.82   | 0.42  |                  |                   |               |                  |



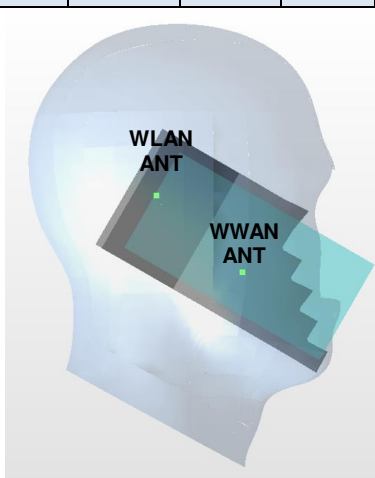
| Case40 | Band       | Position    | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|------------|-------------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |            |             |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | LTE Band 7 | Right Cheek | 0.421      | 0        | 49.24                 | 64.65 | -1.06 | 84.7             | 1.80              | 0.03          | Not required     |
|        | WLAN5G     |             | 1.383      | 0        | -10.45                | 4.58  | 1.31  |                  |                   |               |                  |



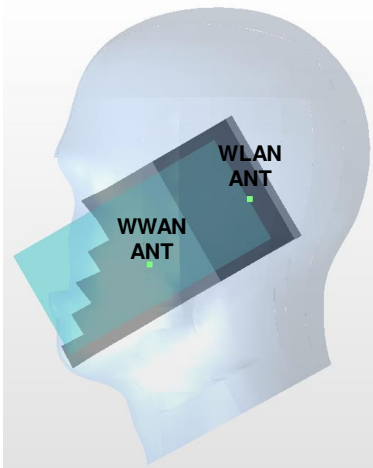
| Case41 | Band        | Position    | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|-------------|-------------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |             |             |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | LTE Band 12 | Right Cheek | 0.334      | 0        | 53.28                 | 32.41 | -2.82 | 69.7             | 1.72              | 0.03          | Not required     |
|        | WLAN5G      |             | 1.383      | 0        | -10.45                | 4.58  | 1.31  |                  |                   |               |                  |



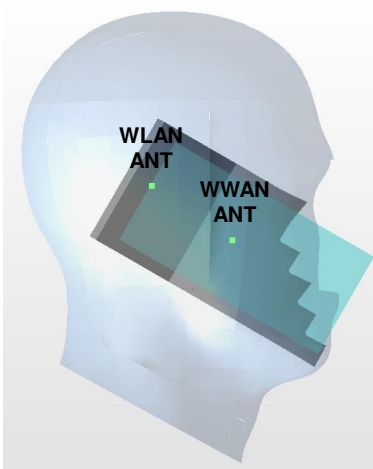
| Case42 | Band        | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|-------------|------------|------------|----------|-----------------------|--------|-------|------------------|-------------------|---------------|------------------|
|        |             |            |            |          | X                     | Y      | Z     |                  |                   |               |                  |
|        | LTE Band 12 | Left Cheek | 0.357      | 0        | 50.67                 | -34.53 | -3.04 | 68.4             | 1.78              | 0.03          | Not required     |
|        | WLAN5G      |            | 1.42       | 0        | -2.09                 | 8.82   | 0.42  |                  |                   |               |                  |



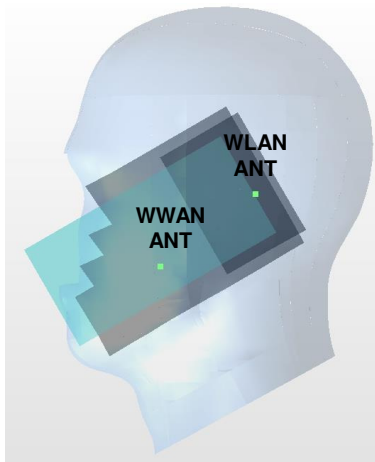
| Case43 | Band        | Position    | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|-------------|-------------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |             |             |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | LTE Band 13 | Right Cheek | 0.512      | 0        | 53.06                 | 27.12 | -2.92 | 67.5             | 1.90              | 0.04          | Not required     |
|        | WLAN5G      |             | 1.383      | 0        | -10.45                | 4.58  | 1.31  |                  |                   |               |                  |



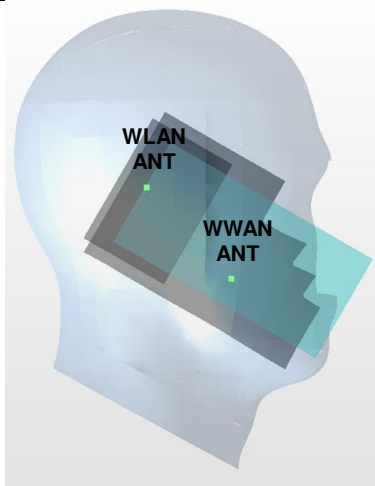
| Case44 | Band        | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|-------------|------------|------------|----------|-----------------------|--------|-------|------------------|-------------------|---------------|------------------|
|        |             |            |            |          | X                     | Y      | Z     |                  |                   |               |                  |
|        | LTE Band 13 | Left Cheek | 0.537      | 0        | 48.14                 | -33.99 | -3.41 | 66.1             | 1.96              | 0.04          | Not required     |
|        | WLAN5G      |            | 1.42       | 0        | -2.09                 | 8.82   | 0.42  |                  |                   |               |                  |



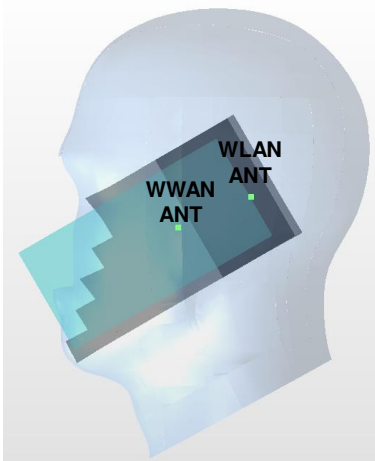
| Case47 | Band        | Position    | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|-------------|-------------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |             |             |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | LTE Band 25 | Right Cheek | 0.249      | 0        | 54.88                 | 46.22 | -1.84 | 77.5             | 1.63              | 0.03          | Not required     |
|        | WLAN5G      |             | 1.383      | 0        | -10.45                | 4.58  | 1.31  |                  |                   |               |                  |



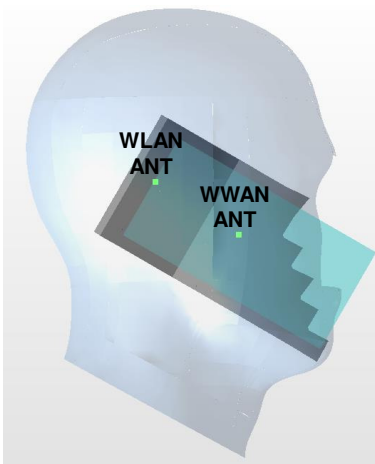
| Case48 | Band        | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|-------------|------------|------------|----------|-----------------------|--------|-------|------------------|-------------------|---------------|------------------|
|        |             |            |            |          | X                     | Y      | Z     |                  |                   |               |                  |
|        | LTE Band 25 | Left Cheek | 0.299      | 0        | 47.26                 | -46.81 | -2.93 | 74.4             | 1.72              | 0.03          | Not required     |
|        | WLAN5G      |            | 1.42       | 0        | -2.09                 | 8.82   | 0.42  |                  |                   |               |                  |



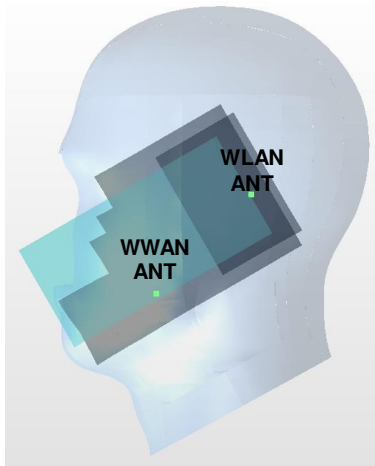
| Case49 | Band        | Position    | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |      | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|-------------|-------------|------------|----------|-----------------------|-------|------|------------------|-------------------|---------------|------------------|
|        |             |             |            |          | X                     | Y     | Z    |                  |                   |               |                  |
|        | LTE Band 26 | Right Cheek | 0.678      | 0        | 46.36                 | 38.87 | -3.6 | 66.5             | 2.06              | 0.04          | Not required     |
|        | WLAN5G      |             | 1.383      | 0        | -10.45                | 4.58  | 1.31 |                  |                   |               |                  |



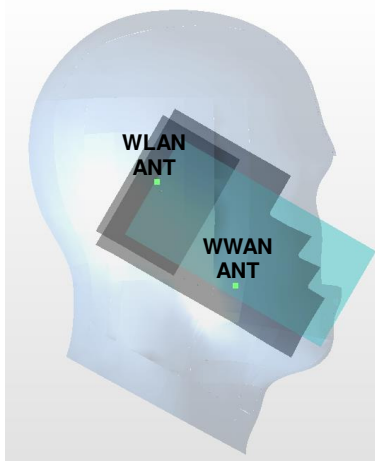
| Case50 | Band        | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |        |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|-------------|------------|------------|----------|-----------------------|--------|-------|------------------|-------------------|---------------|------------------|
|        |             |            |            |          | X                     | Y      | Z     |                  |                   |               |                  |
|        | LTE Band 26 | Left Cheek | 0.708      | 0        | 57.36                 | -28.03 | -3.76 | 70.1             | 2.13              | 0.04          | Not required     |
|        | WLAN5G      |            | 1.42       | 0        | -2.09                 | 8.82   | 0.42  |                  |                   |               |                  |



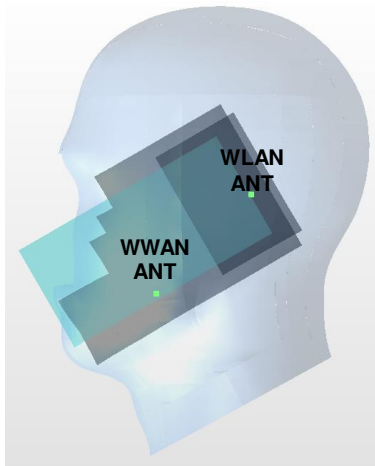
| Case51 | Band        | Position    | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|-------------|-------------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |             |             |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | LTE Band 38 | Right Cheek | 0.247      | 0        | 48.06                 | 66.77 | -0.98 | 85.4             | 1.63              | 0.02          | Not required     |
|        | WLAN5G      |             | 1.383      | 0        | -10.45                | 4.58  | 1.31  |                  |                   |               |                  |



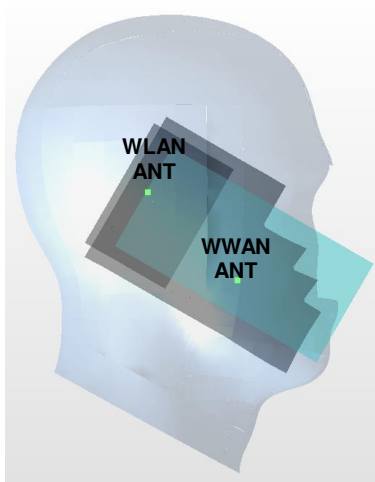
| Case52 | Band        | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |        |      | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|-------------|------------|------------|----------|-----------------------|--------|------|------------------|-------------------|---------------|------------------|
|        |             |            |            |          | X                     | Y      | Z    |                  |                   |               |                  |
|        | LTE Band 66 | Left Cheek | 0.29       | 0        | 51.45                 | -61.41 | -0.6 | 88.3             | 1.71              | 0.03          | Not required     |
|        | WLAN5G      |            | 1.42       | 0        | -2.09                 | 8.82   | 0.42 |                  |                   |               |                  |



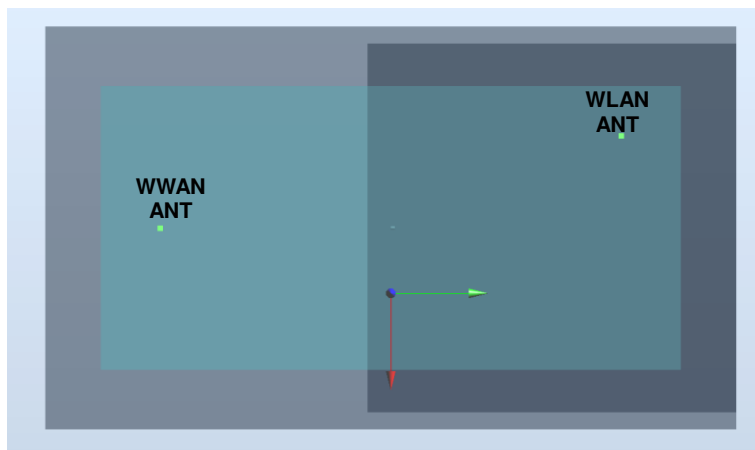
| Case55 | Band        | Position    | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|-------------|-------------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |             |             |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | LTE Band 41 | Right Cheek | 0.374      | 0        | 47.48                 | 62.67 | -1.48 | 82.1             | 1.76              | 0.03          | Not required     |
|        | WLAN5G      |             | 1.383      | 0        | -10.45                | 4.58  | 1.31  |                  |                   |               |                  |



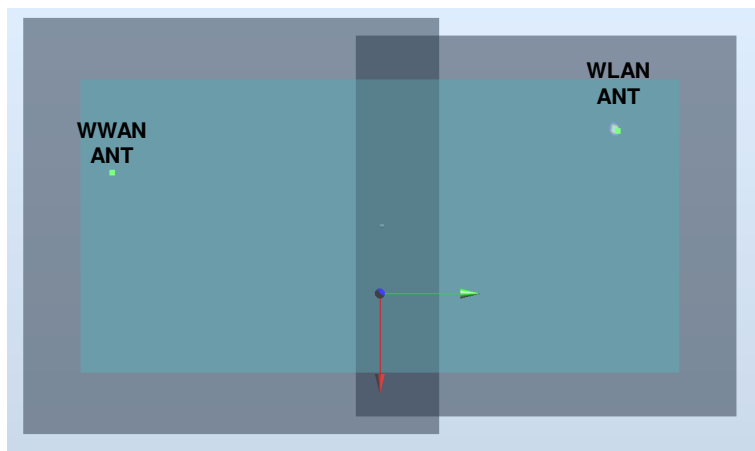
| Case56 | Band        | Position   | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|-------------|------------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |             |            |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | LTE Band 41 | Left Cheek | 0.217      | 0        | 57.72                 | -0.77 | -1.13 | 60.6             | 1.64              | 0.03          | Not required     |
|        | WLAN5G      |            | 1.42       | 0        | -2.09                 | 8.82  | 0.42  |                  |                   |               |                  |



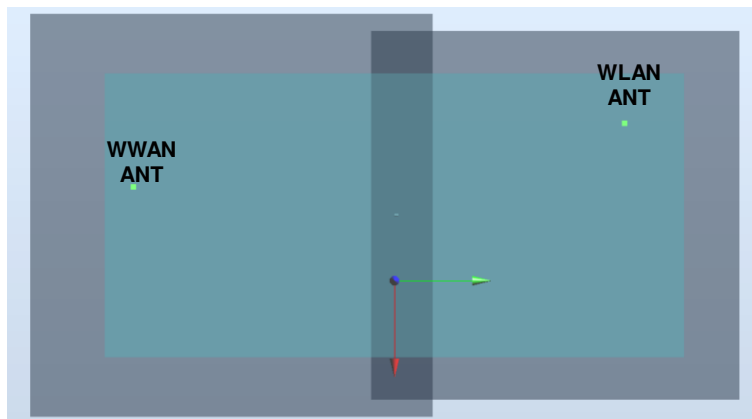
| Case57 | Band     | Position | SAR<br>(W/kg) | Gap<br>(cm) | SAR peak location (m) |       |       | 3D<br>distance<br>(mm) | Summed<br>SAR<br>(W/kg) | SPLSR<br>Results | Simultaneous<br>SAR |
|--------|----------|----------|---------------|-------------|-----------------------|-------|-------|------------------------|-------------------------|------------------|---------------------|
|        |          |          |               |             | X                     | Y     | Z     |                        |                         |                  |                     |
|        | GSM850   | Back     | 1.189         | 5           | -4.2                  | -63.8 | -1.54 | 124.9                  | 2.17                    | 0.03             | Not required        |
|        | WLAN2.4G |          | 0.985         | 5           | -27                   | 59    | -0.88 |                        |                         |                  |                     |



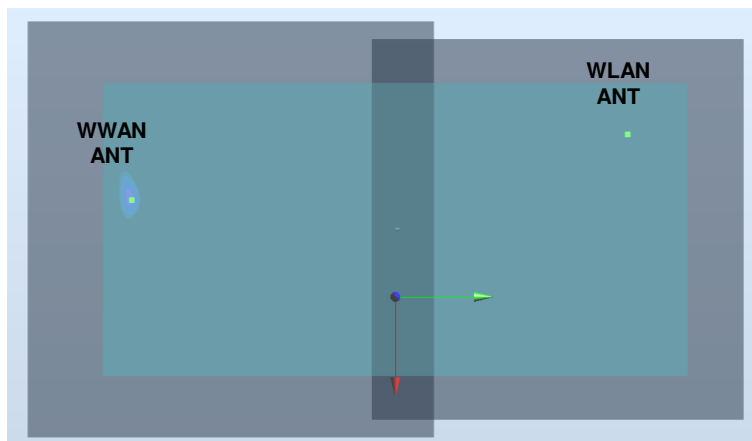
| Case58 | Band     | Position | SAR<br>(W/kg) | Gap<br>(cm) | SAR peak location (m) |       |       | 3D<br>distance<br>(mm) | Summed<br>SAR<br>(W/kg) | SPLSR<br>Results | Simultaneous<br>SAR |
|--------|----------|----------|---------------|-------------|-----------------------|-------|-------|------------------------|-------------------------|------------------|---------------------|
|        |          |          |               |             | X                     | Y     | Z     |                        |                         |                  |                     |
|        | GSM1900  | Back     | 0.715         | 5           | -17.7                 | -66.5 | -0.87 | 125.8                  | 1.70                    | 0.02             | Not required        |
|        | WLAN2.4G |          | 0.985         | 5           | -27                   | 59    | -0.88 |                        |                         |                  |                     |



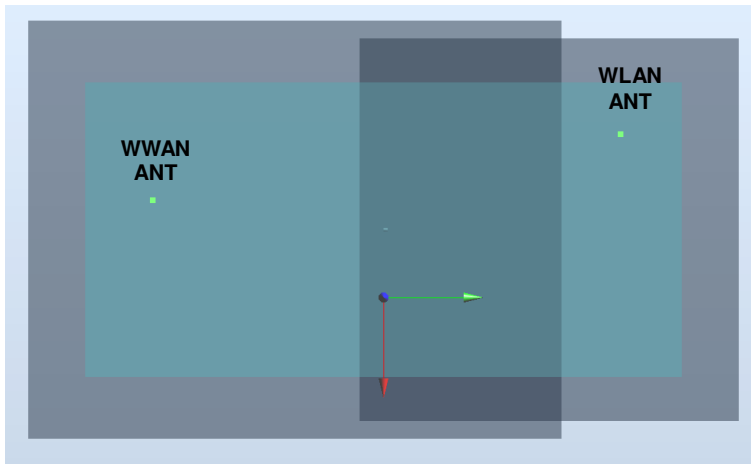
| Case59 | Band     | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|----------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |          |          |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | WCDMA II | Back     | 1.286      | 5        | -16.5                 | -70.2 | -1.13 | 129.6            | 2.27              | 0.03          | Not required     |
|        | WLAN2.4G |          | 0.985      | 5        | -27                   | 59    | -0.88 |                  |                   |               |                  |



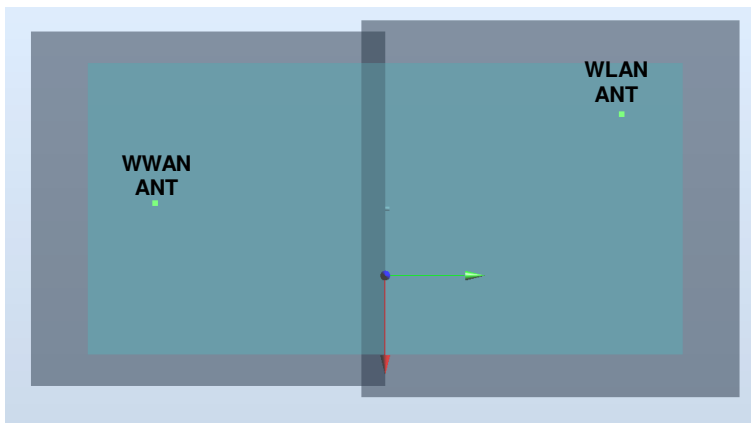
| Case61 | Band     | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|----------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |          |          |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | WCDMA IV | Back     | 1.447      | 5        | -14.9                 | -70.2 | -1.12 | 129.8            | 2.43              | 0.03          | Not required     |
|        | WLAN2.4G |          | 0.985      | 5        | -27                   | 59    | -0.88 |                  |                   |               |                  |



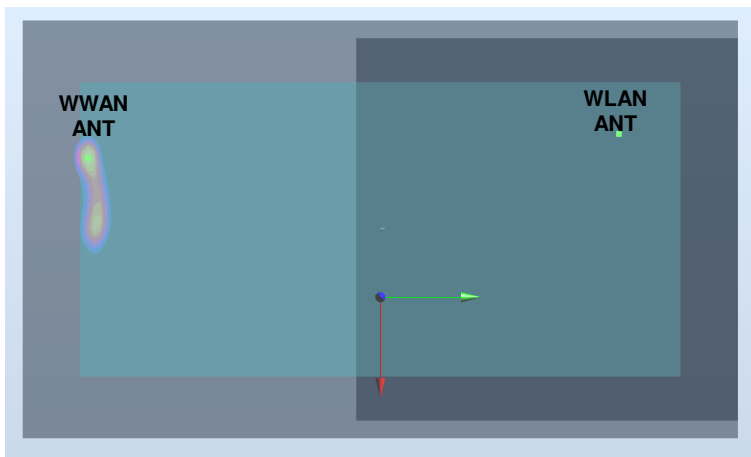
| Case63 | Band     | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|----------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |          |          |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | WCDMA V  | Back     | 1.053      | 5        | -6.9                  | -63.9 | -1.36 | 124.5            | 2.04              | 0.02          | Not required     |
|        | WLAN2.4G |          | 0.985      | 5        | -27                   | 59    | -0.88 |                  |                   |               |                  |



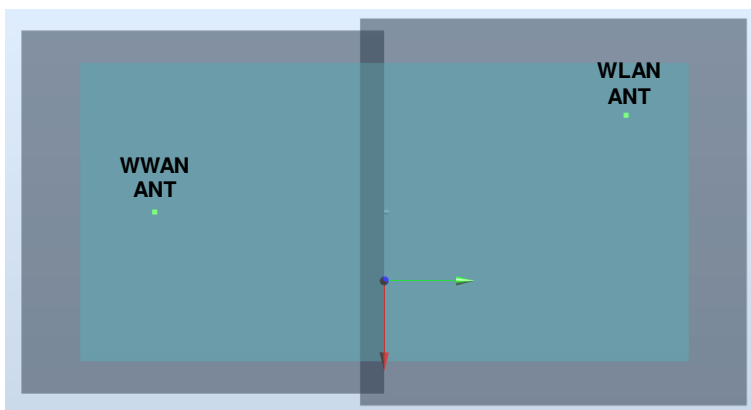
| Case65 | Band     | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|----------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |          |          |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | BC0      | Back     | 1.073      | 5        | -2.5                  | -63.9 | -1.59 | 125.3            | 2.06              | 0.02          | Not required     |
|        | WLAN2.4G |          | 0.985      | 5        | -27                   | 59    | -0.88 |                  |                   |               |                  |



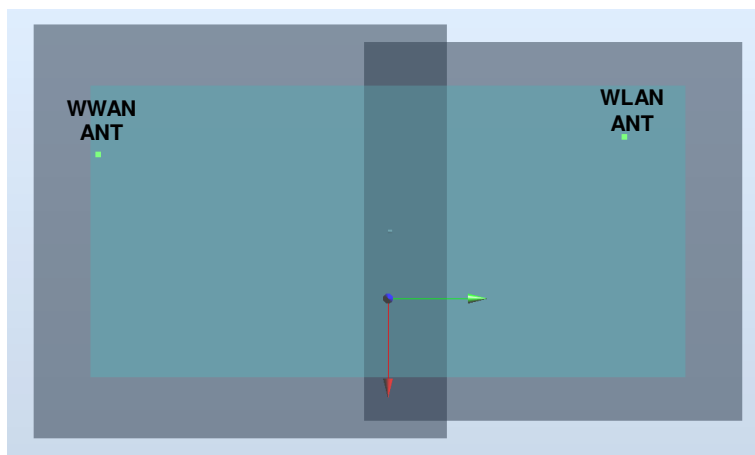
| Case67 | Band     | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|----------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |          |          |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | BC1      | Back     | 1.416      | 5        | -14.2                 | -69.3 | -1.01 | 128.9            | 2.40              | 0.03          | Not required     |
|        | WLAN2.4G |          | 0.985      | 5        | -27                   | 59    | -0.88 |                  |                   |               |                  |



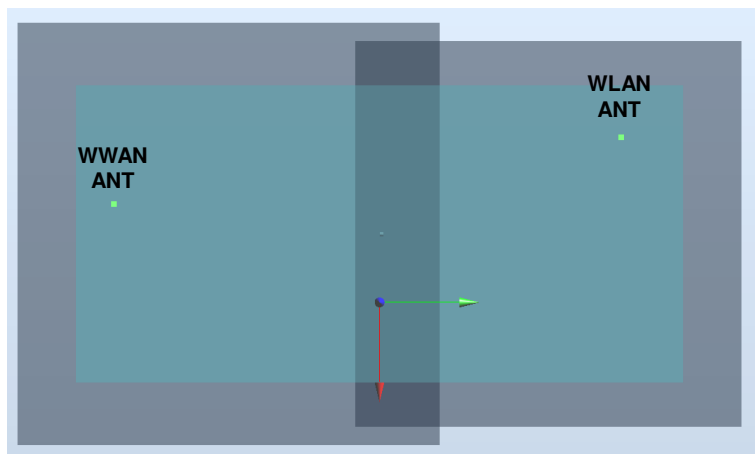
| Case68 | Band     | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|----------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |          |          |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | BC10     | Back     | 1.007      | 5        | 0.6                   | -62.4 | -1.57 | 124.5            | 1.99              | 0.02          | Not required     |
|        | WLAN2.4G |          | 0.985      | 5        | -27                   | 59    | -0.88 |                  |                   |               |                  |



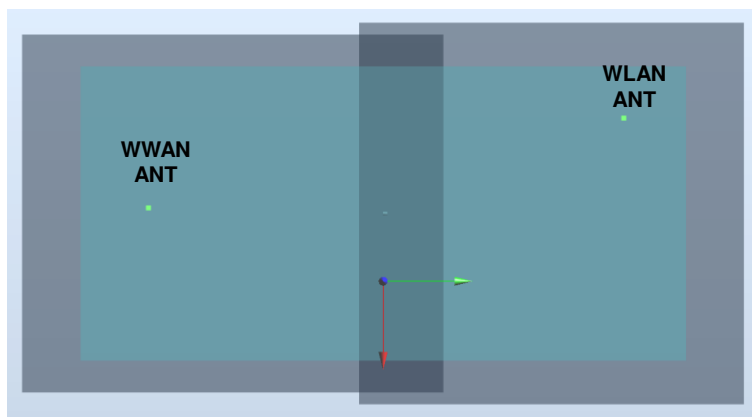
| Case69 | Band     | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |        | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|----------|------------|----------|-----------------------|-------|--------|------------------|-------------------|---------------|------------------|
|        |          |          |            |          | X                     | Y     | Z      |                  |                   |               |                  |
|        | LTE B2   | Back     | 1.129      | 5        | -17.3                 | -70.9 | -0.088 | 130.3            | 2.11              | 0.02          | Not required     |
|        | WLAN2.4G |          | 0.985      | 5        | -27                   | 59    | -0.88  |                  |                   |               |                  |



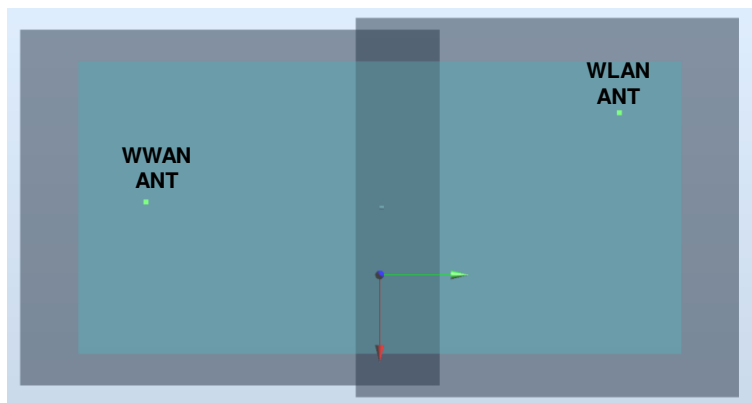
| Case70 | Band     | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|----------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |          |          |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | LTE B4   | Back     | 1.138      | 5        | -14.9                 | -66.6 | -0.95 | 126.2            | 2.12              | 0.02          | Not required     |
|        | WLAN2.4G |          | 0.985      | 5        | -27                   | 59    | -0.88 |                  |                   |               |                  |



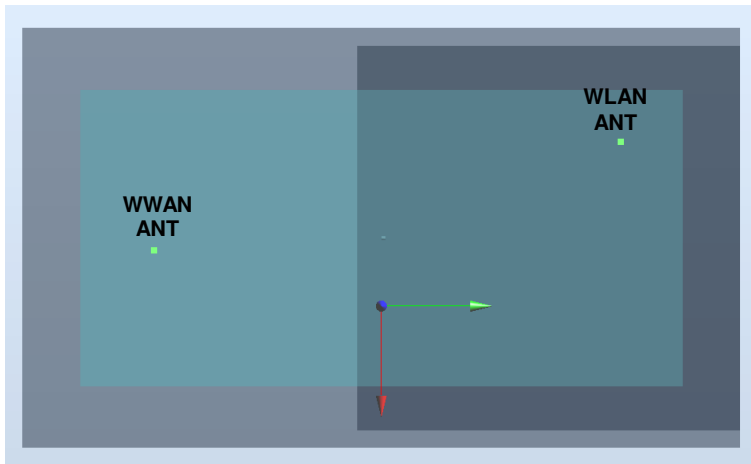
| Case72 | Band     | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|----------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |          |          |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | LTE B5   | Back     | 1.009      | 5        | -4.1                  | -63.9 | -4.86 | 125.1            | 1.99              | 0.02          | Not required     |
|        | WLAN2.4G |          | 0.985      | 5        | -27                   | 59    | -0.88 |                  |                   |               |                  |



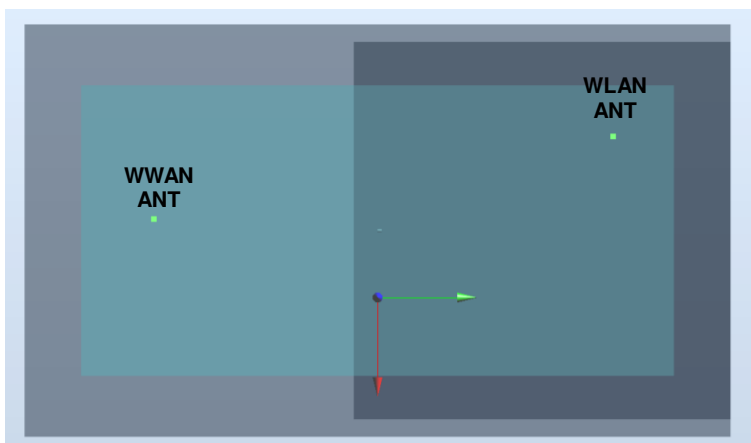
| Case74 | Band     | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |     |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|----------|------------|----------|-----------------------|-----|-------|------------------|-------------------|---------------|------------------|
|        |          |          |            |          | X                     | Y   | Z     |                  |                   |               |                  |
|        | LTE B7   | Back     | 1.118      | 5        | 1                     | -67 | -0.79 | 129.1            | 2.10              | 0.02          | Not required     |
|        | WLAN2.4G |          | 0.985      | 5        | -27                   | 59  | -0.88 |                  |                   |               |                  |



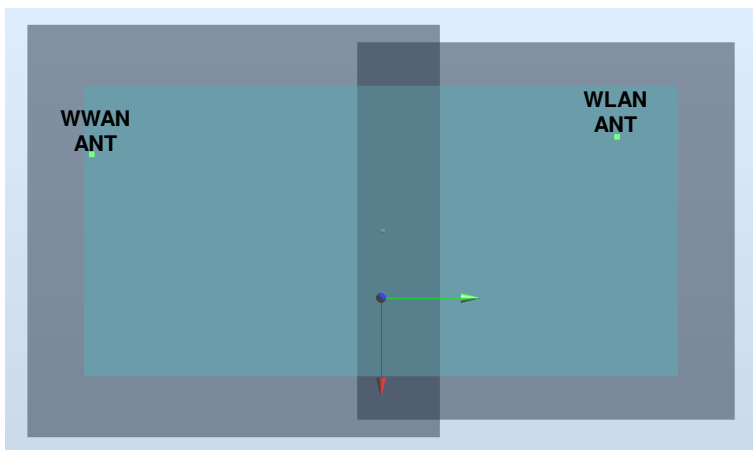
| Case75 | Band     | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|----------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |          |          |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | LTE B12  | Back     | 0.774      | 5        | 2                     | -62.4 | -1.46 | 124.8            | 1.76              | 0.02          | Not required     |
|        | WLAN2.4G |          | 0.985      | 5        | -27                   | 59    | -0.88 |                  |                   |               |                  |



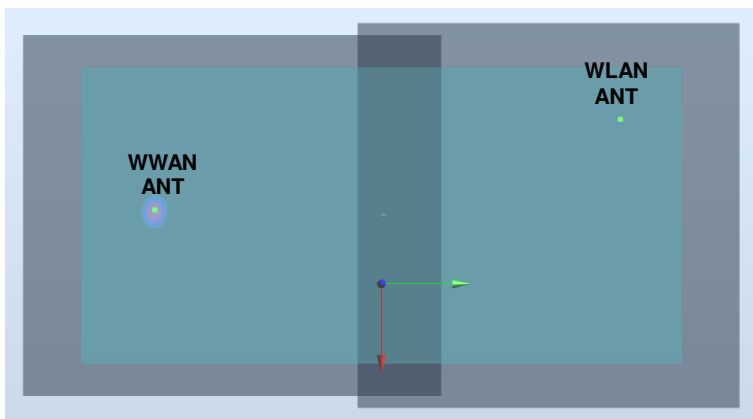
| Case76 | Band     | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|----------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |          |          |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | LTE B13  | Back     | 1.062      | 5        | -4                    | -62.4 | -1.48 | 123.6            | 2.05              | 0.02          | Not required     |
|        | WLAN2.4G |          | 0.985      | 5        | -27                   | 59    | -0.88 |                  |                   |               |                  |



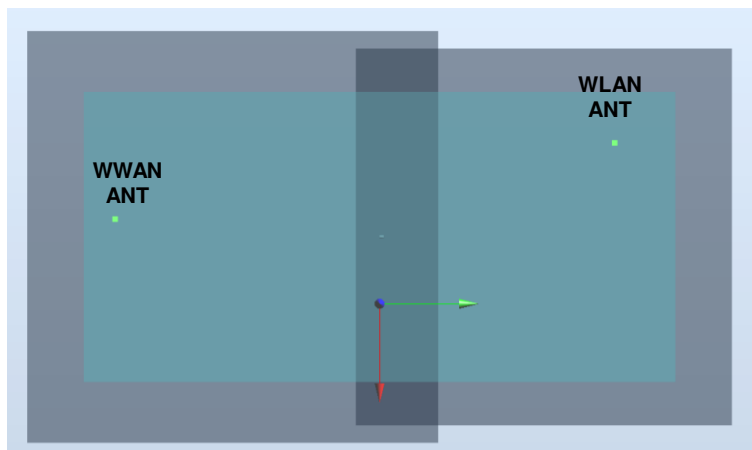
| Case77 | Band     | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |    |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|----------|------------|----------|-----------------------|----|-------|------------------|-------------------|---------------|------------------|
|        | LTE B25  | Back     | 1.209      | 5        | X                     | Y  | Z     | 130.3            | 2.19              | 0.02          | Not required     |
|        | WLAN2.4G |          | 0.985      | 5        | -27                   | 59 | -0.88 |                  |                   |               |                  |



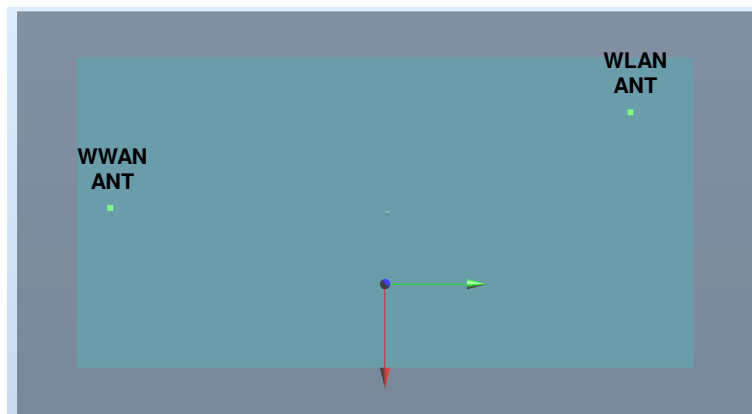
| Case78 | Band     | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |    |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|----------|------------|----------|-----------------------|----|-------|------------------|-------------------|---------------|------------------|
|        | LTE B26  | Back     | 1.176      | 5        | X                     | Y  | Z     | 116.4            | 2.16              | 0.03          | Not required     |
|        | WLAN2.4G |          | 0.985      | 5        | -27                   | 59 | -0.88 |                  |                   |               |                  |



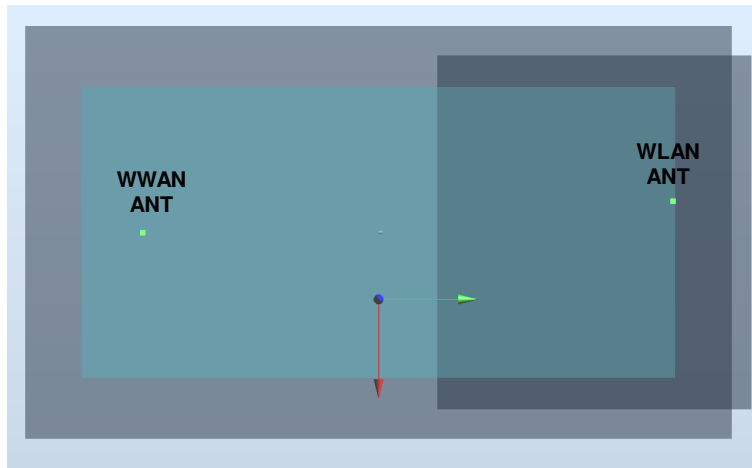
| Case79 | Band     | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|----------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |          |          |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | LTE B66  | Back     | 1.196      | 5        | -13.5                 | -68.1 | -0.91 | 127.8            | 2.18              | 0.03          | Not required     |
|        | WLAN2.4G |          | 0.985      | 5        | -27                   | 59    | -0.88 |                  |                   |               |                  |



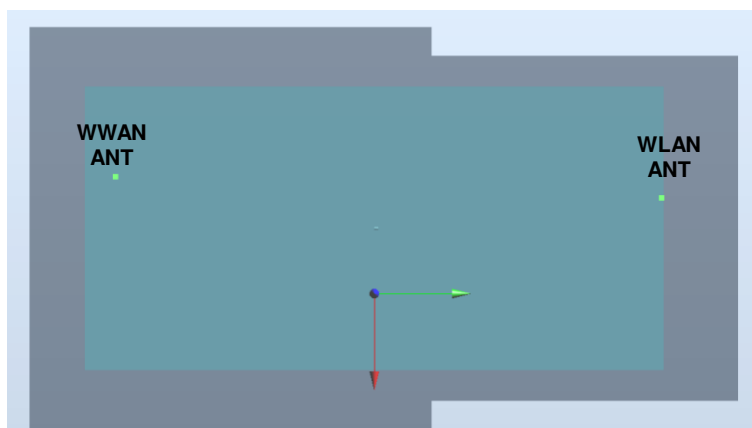
| Case80 | Band     | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|----------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |          |          |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | LTE B38  | Back     | 1.299      | 5        | 0.8                   | -69.2 | -4.6  | 131.2            | 2.28              | 0.03          | Not required     |
|        | WLAN2.4G |          | 0.985      | 5        | -27                   | 59    | -0.88 |                  |                   |               |                  |



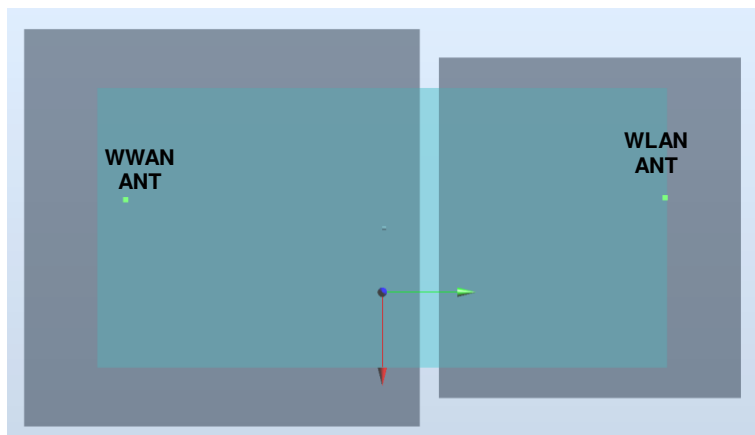
| Case81 | Band   | Position | SAR<br>(W/kg) | Gap<br>(cm) | SAR peak location (m) |       |       | 3D<br>distance<br>(mm) | Summed<br>SAR<br>(W/kg) | SPLSR<br>Results | Simultaneous<br>SAR |
|--------|--------|----------|---------------|-------------|-----------------------|-------|-------|------------------------|-------------------------|------------------|---------------------|
|        |        |          |               |             | X                     | Y     | Z     |                        |                         |                  |                     |
|        | GSM850 | Back     | 1.189         | 5           | -4.2                  | -63.8 | -1.54 | 138.3                  | 2.34                    | 0.03             | Not required        |
|        | WLAN5G |          | 1.149         | 5           | -8.2                  | 74.4  | -0.79 |                        |                         |                  |                     |



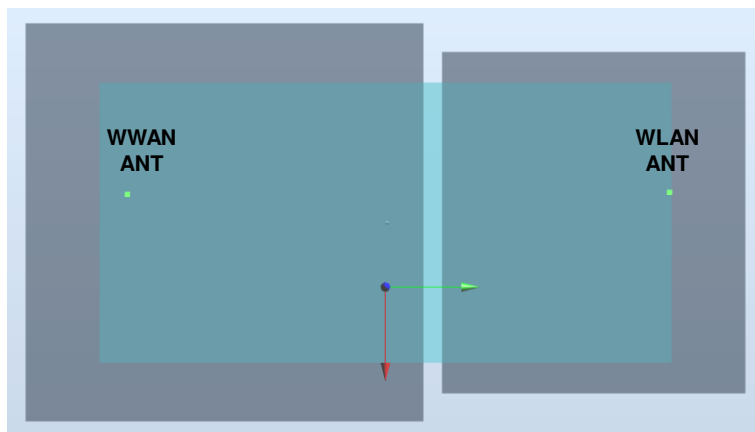
| Case82 | Band    | Position | SAR<br>(W/kg) | Gap<br>(cm) | SAR peak location (m) |       |       | 3D<br>distance<br>(mm) | Summed<br>SAR<br>(W/kg) | SPLSR<br>Results | Simultaneous<br>SAR |
|--------|---------|----------|---------------|-------------|-----------------------|-------|-------|------------------------|-------------------------|------------------|---------------------|
|        |         |          |               |             | X                     | Y     | Z     |                        |                         |                  |                     |
|        | GSM1900 | Back     | 0.715         | 5           | -17.7                 | -66.5 | -0.87 | 141.2                  | 1.86                    | 0.02             | Not required        |
|        | WLAN5G  |          | 1.149         | 5           | -8.2                  | 74.4  | -0.79 |                        |                         |                  |                     |



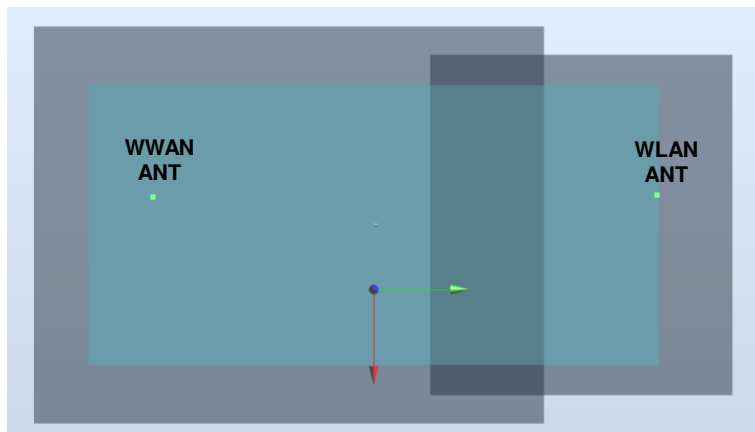
| Case83 | Band     | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |      |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|----------|------------|----------|-----------------------|------|-------|------------------|-------------------|---------------|------------------|
|        | WCDMA II | Back     | 1.286      | 5        | X                     | Y    | Z     | 144.8            | 2.44              | 0.03          | Not required     |
|        | WLAN5G   |          | 1.149      | 5        | -8.2                  | 74.4 | -0.79 |                  |                   |               |                  |



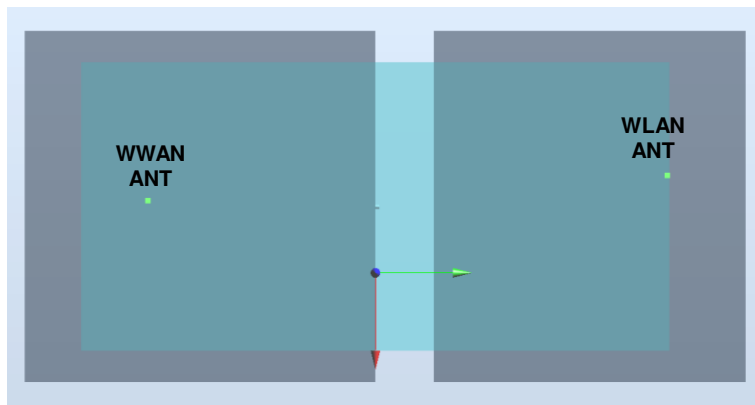
| Case84 | Band     | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |      |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|----------|----------|------------|----------|-----------------------|------|-------|------------------|-------------------|---------------|------------------|
|        | WCDMA IV | Back     | 1.447      | 5        | X                     | Y    | Z     | 144.8            | 2.60              | 0.03          | Not required     |
|        | WLAN5G   |          | 1.149      | 5        | -8.2                  | 74.4 | -0.79 |                  |                   |               |                  |



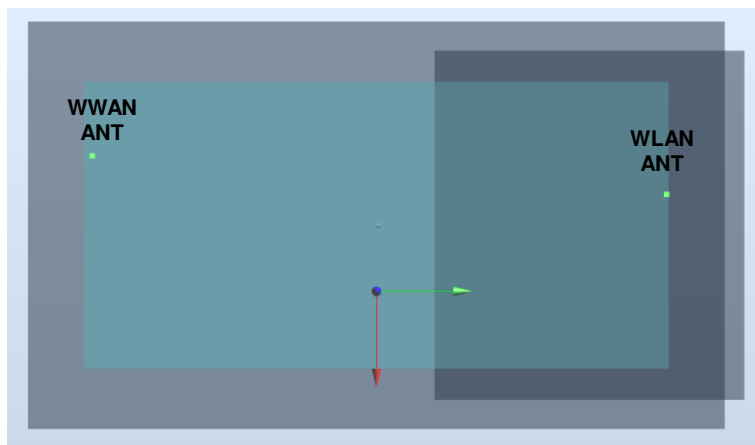
| Case85 | Band    | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |      |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|---------|----------|------------|----------|-----------------------|------|-------|------------------|-------------------|---------------|------------------|
|        | WCDMA V | Back     | 1.053      | 5        | X                     | Y    | Z     | 138.3            | 2.20              | 0.02          | Not required     |
|        | WLAN5G  |          | 1.149      | 5        | -8.2                  | 74.4 | -0.79 |                  |                   |               |                  |



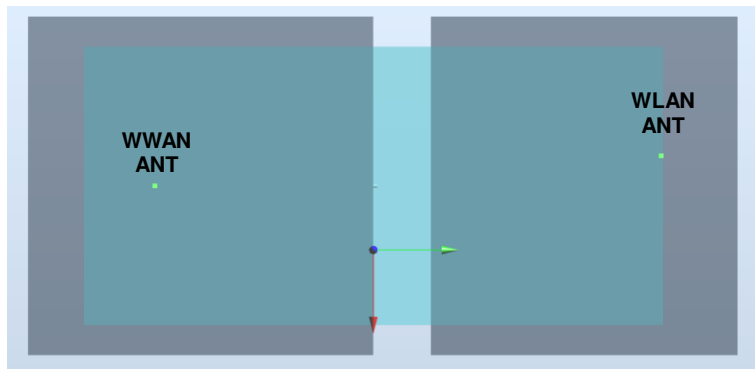
| Case86 | Band   | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |      |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|--------|----------|------------|----------|-----------------------|------|-------|------------------|-------------------|---------------|------------------|
|        | BC0    | Back     | 1.073      | 5        | X                     | Y    | Z     | 138.4            | 2.22              | 0.02          | Not required     |
|        | WLAN5G |          | 1.149      | 5        | -8.2                  | 74.4 | -0.79 |                  |                   |               |                  |



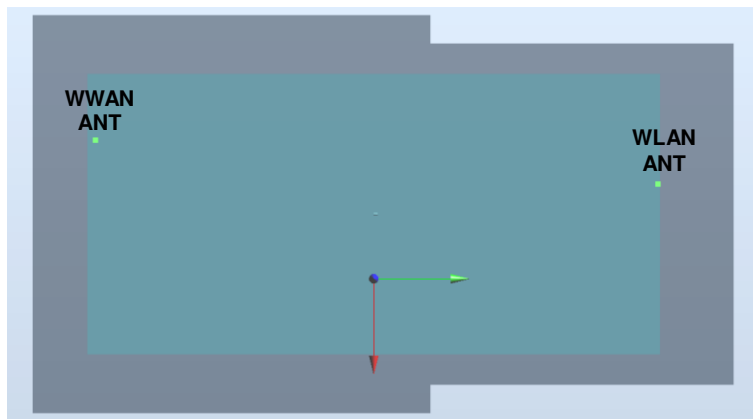
| Case87 | Band   | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|--------|----------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |        |          |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | BC1    | Back     | 1.416      | 5        | -14.2                 | -69.3 | -1.01 | 143.8            | 2.57              | 0.03          | Not required     |
|        | WLAN5G |          | 1.149      | 5        | -8.2                  | 74.4  | -0.79 |                  |                   |               |                  |



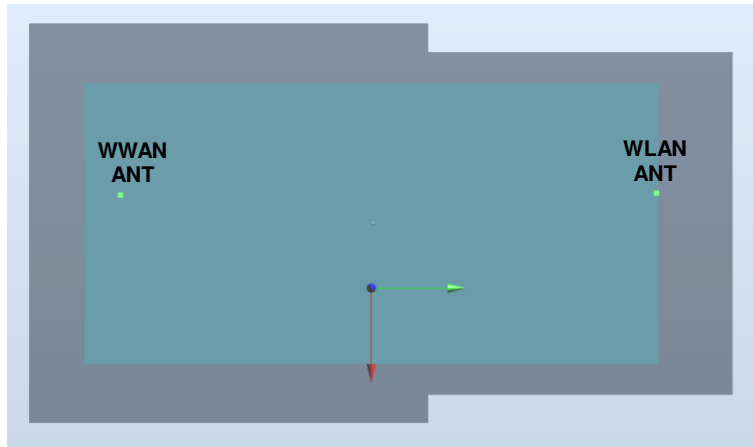
| Case88 | Band   | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|--------|----------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |        |          |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | BC10   | Back     | 1.007      | 5        | 0.6                   | -62.4 | -1.57 | 137.1            | 2.16              | 0.02          | Not required     |
|        | WLAN5G |          | 1.149      | 5        | -8.2                  | 74.4  | -0.79 |                  |                   |               |                  |



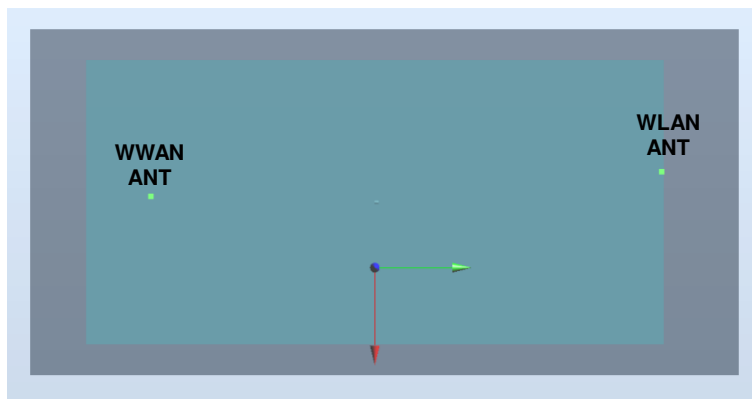
| Case89 | Band   | Position | SAR<br>(W/kg) | Gap<br>(cm) | SAR peak location (m) |       |        | 3D<br>distance<br>(mm) | Summed<br>SAR<br>(W/kg) | SPLSR<br>Results | Simultaneous<br>SAR |
|--------|--------|----------|---------------|-------------|-----------------------|-------|--------|------------------------|-------------------------|------------------|---------------------|
|        |        |          |               |             | X                     | Y     | Z      |                        |                         |                  |                     |
|        | LTE B2 | Back     | 1.129         | 5           | -17.3                 | -70.9 | -0.088 | 145.6                  | 2.28                    | 0.02             | Not required        |
|        | WLAN5G |          | 1.149         | 5           | -8.2                  | 74.4  | -0.79  |                        |                         |                  |                     |



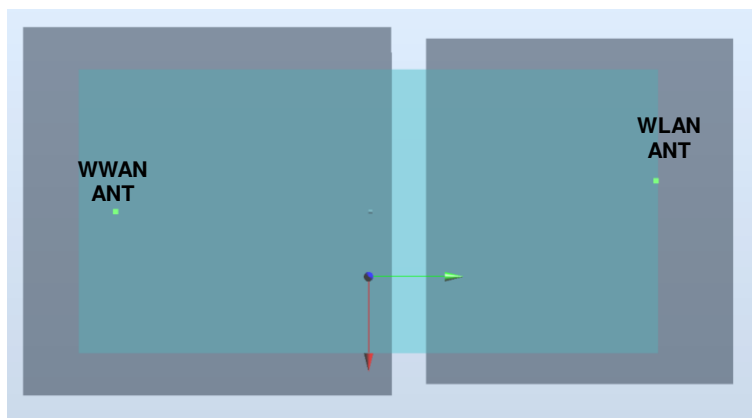
| Case90 | Band   | Position | SAR<br>(W/kg) | Gap<br>(cm) | SAR peak location (m) |       |       | 3D<br>distance<br>(mm) | Summed<br>SAR<br>(W/kg) | SPLSR<br>Results | Simultaneous<br>SAR |
|--------|--------|----------|---------------|-------------|-----------------------|-------|-------|------------------------|-------------------------|------------------|---------------------|
|        |        |          |               |             | X                     | Y     | Z     |                        |                         |                  |                     |
|        | LTE B4 | Back     | 1.138         | 5           | -14.9                 | -66.6 | -0.95 | 141.2                  | 2.29                    | 0.02             | Not required        |
|        | WLAN5G |          | 1.149         | 5           | -8.2                  | 74.4  | -0.79 |                        |                         |                  |                     |



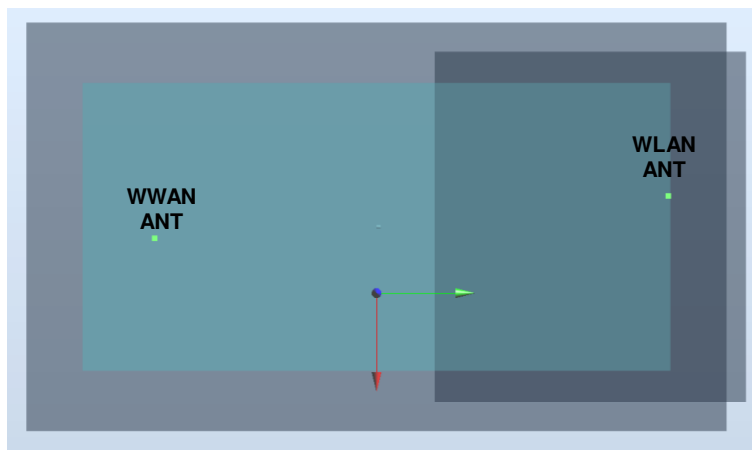
| Case91 | Band   | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|--------|----------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |        |          |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | LTE B5 | Back     | 1.009      | 5        | -4.1                  | -63.9 | -4.86 | 138.4            | 2.16              | 0.02          | Not required     |
|        | WLAN5G |          | 1.149      | 5        | -8.2                  | 74.4  | -0.79 |                  |                   |               |                  |



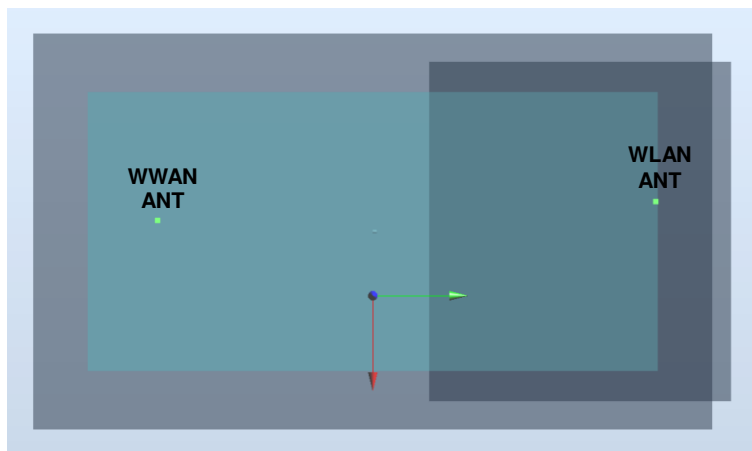
| Case92 | Band   | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |      |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|--------|----------|------------|----------|-----------------------|------|-------|------------------|-------------------|---------------|------------------|
|        |        |          |            |          | X                     | Y    | Z     |                  |                   |               |                  |
|        | LTE B7 | Back     | 1.118      | 5        | 1                     | -67  | -0.79 | 141.7            | 2.27              | 0.02          | Not required     |
|        | WLAN5G |          | 1.149      | 5        | -8.2                  | 74.4 | -0.79 |                  |                   |               |                  |



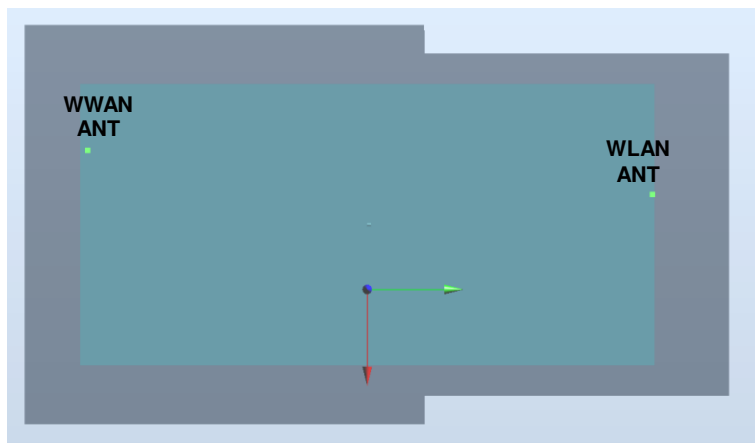
| Case93 | Band    | Position | SAR<br>(W/kg) | Gap<br>(cm) | SAR peak location (m) |       |       | 3D<br>distance<br>(mm) | Summed<br>SAR<br>(W/kg) | SPLSR<br>Results | Simultaneous<br>SAR |
|--------|---------|----------|---------------|-------------|-----------------------|-------|-------|------------------------|-------------------------|------------------|---------------------|
|        |         |          |               |             | X                     | Y     | Z     |                        |                         |                  |                     |
|        | LTE B12 | Back     | 0.774         | 5           | 2                     | -62.4 | -1.46 | 137.2                  | 1.92                    | 0.02             | Not required        |
|        | WLAN5G  |          | 1.149         | 5           | -8.2                  | 74.4  | -0.79 |                        |                         |                  |                     |



| Case94 | Band    | Position | SAR<br>(W/kg) | Gap<br>(cm) | SAR peak location (m) |       |       | 3D<br>distance<br>(mm) | Summed<br>SAR<br>(W/kg) | SPLSR<br>Results | Simultaneous<br>SAR |
|--------|---------|----------|---------------|-------------|-----------------------|-------|-------|------------------------|-------------------------|------------------|---------------------|
|        |         |          |               |             | X                     | Y     | Z     |                        |                         |                  |                     |
|        | LTE B13 | Back     | 1.062         | 5           | -4                    | -62.4 | -1.48 | 136.9                  | 2.21                    | 0.02             | Not required        |
|        | WLAN5G  |          | 1.149         | 5           | -8.2                  | 74.4  | -0.79 |                        |                         |                  |                     |



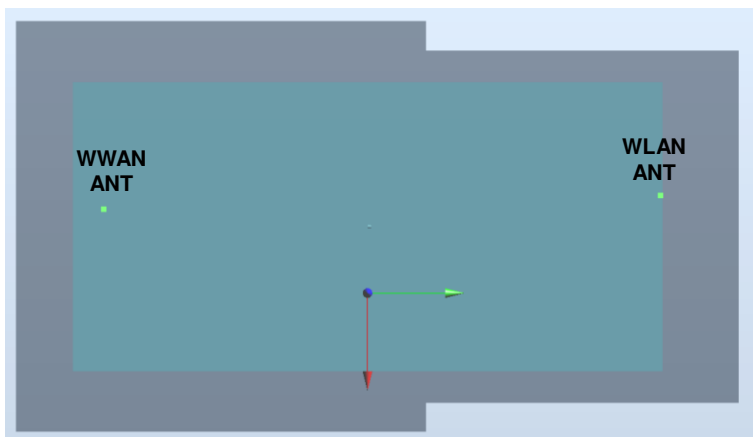
| Case95 | Band    | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|---------|----------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |         |          |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | LTE B25 | Back     | 1.209      | 5        | -17.3                 | -70.9 | -0.88 | 145.6            | 2.36              | 0.02          | Not required     |
|        | WLAN5G  |          | 1.149      | 5        | -8.2                  | 74.4  | -0.79 |                  |                   |               |                  |



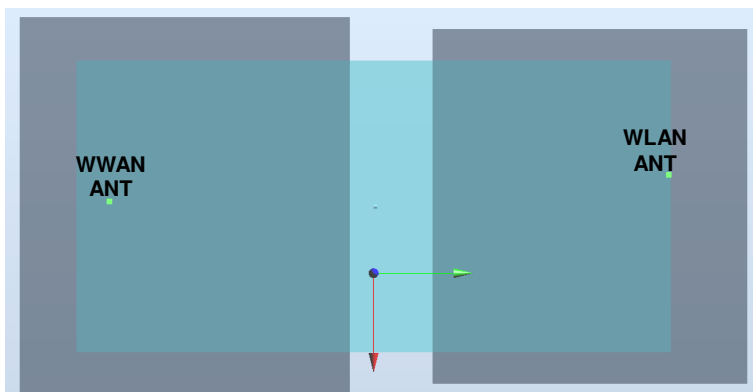
| Case96 | Band    | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|---------|----------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |         |          |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | LTE B26 | Back     | 1.176      | 5        | -0.9                  | -54.4 | -1.63 | 129.0            | 2.33              | 0.03          | Not required     |
|        | WLAN5G  |          | 1.149      | 5        | -8.2                  | 74.4  | -0.79 |                  |                   |               |                  |



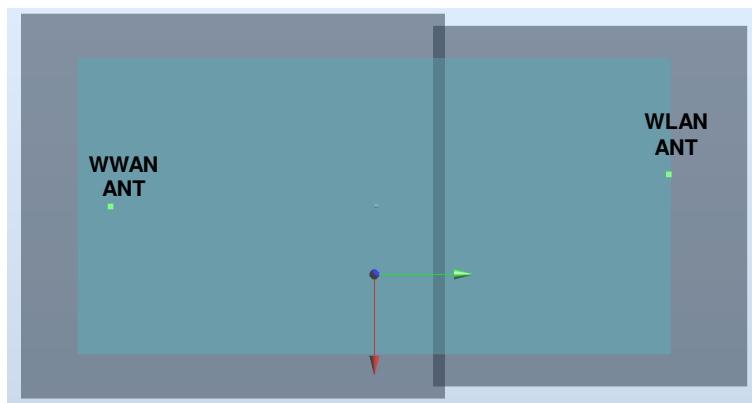
| Case97 | Band    | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|---------|----------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |         |          |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | LTE B66 | Back     | 1.196      | 5        | -13.5                 | -68.1 | -0.91 | 142.6            | 2.35              | 0.03          | Not required     |
|        | WLAN5G  |          | 1.149      | 5        | -8.2                  | 74.4  | -0.79 |                  |                   |               |                  |



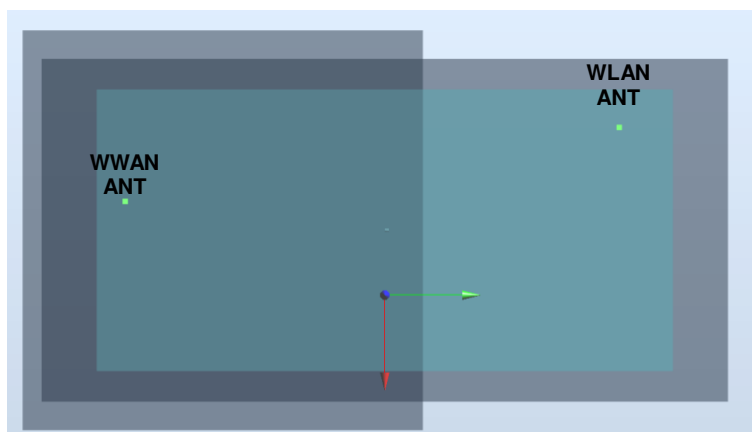
| Case98 | Band    | Position | SAR (W/kg) | Gap (cm) | SAR peak location (m) |       |       | 3D distance (mm) | Summed SAR (W/kg) | SPLSR Results | Simultaneous SAR |
|--------|---------|----------|------------|----------|-----------------------|-------|-------|------------------|-------------------|---------------|------------------|
|        |         |          |            |          | X                     | Y     | Z     |                  |                   |               |                  |
|        | LTE B38 | Back     | 1.299      | 5        | 0.8                   | -69.2 | -4.6  | 143.9            | 2.45              | 0.03          | Not required     |
|        | WLAN5G  |          | 1.149      | 5        | -8.2                  | 74.4  | -0.79 |                  |                   |               |                  |



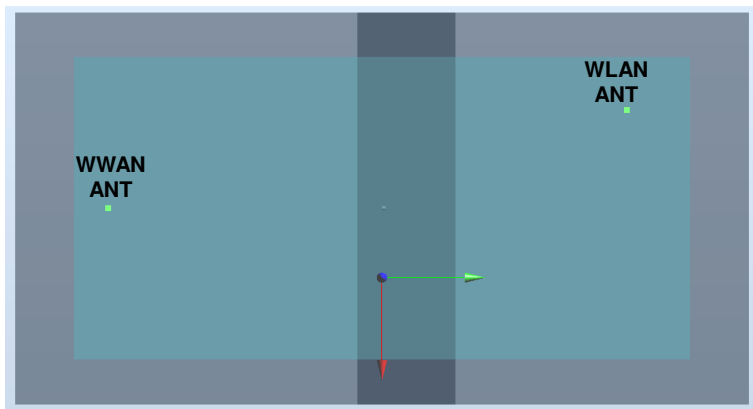
| Case99 | Band    | Position | SAR<br>(W/kg) | Gap<br>(cm) | SAR peak location (m) |       |       | 3D<br>distance<br>(mm) | Summed<br>SAR<br>(W/kg) | SPLSR<br>Results | Simultaneous<br>SAR |
|--------|---------|----------|---------------|-------------|-----------------------|-------|-------|------------------------|-------------------------|------------------|---------------------|
|        |         |          |               |             | X                     | Y     | Z     |                        |                         |                  |                     |
|        | LTE B41 | Back     | 1.395         | 5           | -1                    | -67.2 | -4.62 | 141.8                  | 2.54                    | 0.03             | Not required        |
|        | WLAN5G  |          | 1.149         | 5           | -8.2                  | 74.4  | -0.79 |                        |                         |                  |                     |



| Case 100 | Band     | Position | SAR<br>(W/kg) | Gap<br>(cm) | SAR peak location (m) |       |       | 3D<br>distance<br>(mm) | Summed<br>SAR<br>(W/kg) | SPLSR<br>Results | Simultaneous<br>SAR |
|----------|----------|----------|---------------|-------------|-----------------------|-------|-------|------------------------|-------------------------|------------------|---------------------|
|          |          |          |               |             | X                     | Y     | Z     |                        |                         |                  |                     |
|          | WCDMA IV | Back     | 1.447         | 5           | -14.9                 | -70.2 | -1.12 | 132.0                  | 1.61                    | 0.02             | Not required        |
|          | BT       |          | 0.158         | 5           | -27.2                 | 61.2  | -0.86 |                        |                         |                  |                     |



| Case<br>103 | Band     | Position | SAR<br>(W/kg) | Gap<br>(cm) | SAR peak location (m) |       |       | 3D<br>distance<br>(mm) | Summed<br>SAR<br>(W/kg) | SPLSR<br>Results | Simultaneous<br>SAR |
|-------------|----------|----------|---------------|-------------|-----------------------|-------|-------|------------------------|-------------------------|------------------|---------------------|
|             |          |          |               |             | X                     | Y     | Z     |                        |                         |                  |                     |
|             | LTE B41  | Back     | 1.395         | 5           | -1                    | -67.2 | -4.62 | 128.9                  | 2.38                    | 0.03             | Not required        |
|             | WLAN2.4G |          | 0.985         | 5           | -27                   | 59    | -0.88 |                        |                         |                  |                     |



**Test Engineer :** James Chen Jay Jian Thomas Wang White Huang Wilson Lin Steven Chang  
Mood Huang and Bevis Chang

## **16. Uncertainty Assessment**

Per KDB 865664 D01 SAR measurement 100MHz to 6GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be  $\leq 30\%$ , for a confidence interval of  $k = 2$ . If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. For this device, the highest measured 1-g SAR is less 1.5W/kg. Therefore, the measurement uncertainty table is not required in this report.

## **17. References**

- [1] FCC 47 CFR Part 2 "Frequency Allocations and Radio Treaty Matters; General Rules and Regulations"
- [2] ANSI/IEEE Std. C95.1-1992, "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz", September 1992
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