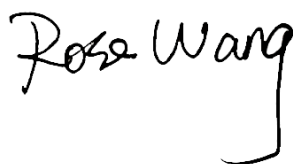


# FCC SAR Test Report

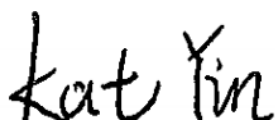
APPLICANT : Motorola Mobility LLC  
EQUIPMENT : Mobile Cellular Phone  
BRAND NAME : Motorola  
MODEL NAME : XT2013-4  
FCC ID : IHDT56YD3  
STANDARD : FCC 47 CFR Part 2 (2.1093)  
ANSI/IEEE C95.1-1992  
IEEE 1528-2013

The product was received on Jul. 24, 2019 and testing was started from Jul. 25, 2019 and completed on Aug. 19, 2019. We, Sporton International (Kunshan) 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 (Kunshan) Inc., the test report shall not be reproduced except in full.



Reviewed by: Rose Wang / Supervisor



Approved by: Kat Yin / Manager



**Sporton International (Kunshan) Inc.**

**No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300  
People's Republic of China**

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[illegible]

## 1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Motorola Mobility LLC, Mobile Cellular Phone, XT2013-4**, are as follows.

| Highest 1g SAR Summary |                |                  |                          |                             |                               |                                   |
|------------------------|----------------|------------------|--------------------------|-----------------------------|-------------------------------|-----------------------------------|
| Equipment Class        | Frequency Band |                  | Head<br>(Separation 0mm) | Hotspot<br>(Separation 5mm) | Body-worn<br>(Separation 5mm) | Highest Simultaneous Transmission |
|                        |                |                  | 1g SAR (W/kg)            |                             |                               | 1g SAR (W/kg)                     |
| Licensed               | GSM            | GSM850           | 0.51                     | 1.43                        | 1.43                          | 1.58                              |
|                        |                | GSM1900          | 0.10                     | 1.36                        | 1.36                          |                                   |
|                        | WCDMA          | Band V           | 0.68                     | 1.28                        | 1.28                          |                                   |
|                        |                | Band IV          | 0.28                     | 1.27                        | 1.27                          |                                   |
|                        |                | Band II          | 0.22                     | 1.26                        | 1.26                          |                                   |
|                        | CDMA2000       | BC10             | 0.27                     | 1.15                        | 1.34                          |                                   |
|                        |                | BC0              | 0.52                     | 1.33                        | 1.31                          |                                   |
|                        |                | BC1              | 0.20                     | 1.25                        | 1.38                          |                                   |
|                        | LTE            | Band 12/Band 17  | 0.42                     | 1.09                        | 1.09                          |                                   |
|                        |                | Band 13          | 0.24                     | 0.71                        | 0.71                          |                                   |
|                        |                | Band 26/Band 5   | 0.66                     | 1.20                        | 1.20                          |                                   |
|                        |                | Band 66/Band 4   | 0.15                     | 1.33                        | 1.33                          |                                   |
|                        |                | Band 25/Band 2   | 0.18                     | 1.36                        | 1.36                          |                                   |
|                        |                | Band 7           | 0.29                     | 1.33                        | 1.33                          |                                   |
|                        |                | Band 41/Band 38  | 0.25                     | 1.42                        | 1.42                          |                                   |
| DTS                    | WLAN           | 2.4GHz WLAN      | 0.82                     | 0.86                        | 0.86                          | 1.57                              |
| NII                    |                | 5GHz WLAN        | 1.16                     | 0.58                        | 0.58                          | 1.58                              |
| DSS                    | Bluetooth      | 2.4GHz Bluetooth | 0.13                     | <0.10                       | <0.10                         | 1.58                              |

| Highest 10g SAR Summary |                |                 |                                                     |                                                  |
|-------------------------|----------------|-----------------|-----------------------------------------------------|--------------------------------------------------|
| Equipment Class         | Frequency Band |                 | Product Specific 10g SAR (W/kg)<br>(Separation 0mm) | Highest Simultaneous Transmission 10g SAR (W/kg) |
| Licensed                | GSM            | GSM850          | 3.25                                                | 3.96                                             |
|                         |                | GSM1900         | 2.54                                                |                                                  |
|                         | WCDMA          | Band V          | 3.08                                                |                                                  |
|                         |                | Band IV         | 2.58                                                |                                                  |
|                         |                | Band II         | 2.47                                                |                                                  |
|                         | CDMA2000       | BC10            | 2.28                                                |                                                  |
|                         |                | BC0             | 2.16                                                |                                                  |
|                         |                | BC1             | 3.25                                                |                                                  |
|                         | LTE            | Band 26/Band 5  | 2.03                                                |                                                  |
|                         |                | Band 66/Band 4  | 2.60                                                |                                                  |
|                         |                | Band 25/Band 2  | 2.64                                                |                                                  |
|                         |                | Band 7          | <b>3.43</b>                                         |                                                  |
|                         |                | Band 41/Band 38 | 2.99                                                |                                                  |
| NII                     | WLAN           | 5GHz WLAN       | 1.36                                                | 3.96                                             |
| Date of Testing:        |                |                 | 2019/7/25~2019/8/19                                 |                                                  |

**Remark:** This device supports LTE B2 / B4 / B5 / B17 / B38 and B25 / B66 / B26 / B12 / B41. Since the supported frequency span for LTE B2 / B4 / B5 / B17 / B38 falls completely within the supports frequency span for LTE B25 / B66 / B26 / B12 / B41, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B25 / B66 / B26 / B12 / B41.

#### Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

#### Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg for Partial-Body 1g SAR, 4.0 W/kg for Product Specific 10g SAR) 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 International (Kunshan) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

| Testing Laboratory |                                                                                                                                                                          |                                |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| Test Firm          | Sporton International (Kunshan) Inc.                                                                                                                                     |                                |
| Test Site Location | No. 1098, Pengxi North Road, Kunshan Economic Development Zone<br>Jiangsu Province 215300 People's Republic of China<br>TEL : +86-512-57900158<br>FAX : +86-512-57900958 |                                |
| Test Site No.      | FCC Designation No.                                                                                                                                                      | FCC Test Firm Registration No. |
|                    | CN1257                                                                                                                                                                   | 314309                         |

| 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 616217 D04 SAR for laptop and tablets v01r02
- 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**

| <b>Product Feature &amp; Specification</b>                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Equipment Name</b>                                                                                                                                                                                                                                                                                                                                     | Mobile Cellular Phone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Brand Name</b>                                                                                                                                                                                                                                                                                                                                         | Motorola                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Model Name</b>                                                                                                                                                                                                                                                                                                                                         | XT2013-4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>FCC ID</b>                                                                                                                                                                                                                                                                                                                                             | IHDT56YD3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>IMEI Code</b>                                                                                                                                                                                                                                                                                                                                          | 357235100011064                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Wireless Technology and Frequency Range</b>                                                                                                                                                                                                                                                                                                            | 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>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<br>NFC : 13.56 MHz |
| <b>Mode</b>                                                                                                                                                                                                                                                                                                                                               | GSM/GPRS/EGPRS<br>RMC/AMR 12.2Kbps<br>HSDPA<br>HSUPA<br>DC-HSDPA<br>HSPA+(16QAM uplink is not supported)<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>WLAN 5GHz 802.11ac VHT20/VHT40/VHT80<br>Bluetooth BR/EDR/LE<br>NFC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>HW Version</b>                                                                                                                                                                                                                                                                                                                                         | DVT2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>SW Version</b>                                                                                                                                                                                                                                                                                                                                         | PPI29.80                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>GSM / (E)GPRS Transfer mode</b>                                                                                                                                                                                                                                                                                                                        | Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>EUT Stage</b>                                                                                                                                                                                                                                                                                                                                          | Identical Prototype                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Remark:</b><br>1. This device supports VoIP in GPRS, EGPRS, CDMA, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.<br>2. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.<br>3. This device 2.4GHz WLAN/5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

- WLAN supports WiFi Direct (GC/GO), and 5.3GHz / 5.5GHz supports WiFi Direct (GC only).
4. This device does not support DTM operation and supports GRPS/EGRPS mode up to multi-slot class 12.
  5. When the phone is in talking mode and receiver worked, then power reduction will be implemented immediately at WLAN2.4GHz and WLAN5GHz.
  6. The device employs proximity sensors that detect the presence of the user's body at the front or back faces of the device. When front or back body worn condition is detected, GSM850/GSM1900, WCDMA band II/IV/V, CDMA BC0/BC1/BC10, LTE band 2/4/5/7/25/26/38/41/66 and WLAN5GHz reduced power will be active. (P-sensor can't work at detecting presence of the user's body at the four edges of the device.)
  7. When hotspot mode is enabled, power reduction will be activated to limit the maximum power of GSM850/GSM1900, WCDMA band II/IV/V, CDMA BC0/BC1/BC10, LTE band 2/4/5/7/25/26/38/41/66 and WLAN5.2GHz/5.8GHz.
  8. For P-sensor reduced power level is higher than hotspot reduced power for GSM1900, WCDMA band II/IV, LTE band 2/4/5/7/25/38/41/66, so for front/back P-sensor SAR can represent conservatively for front/back hotspot SAR.
  9. P-sensor can detect handheld state, WCDMA band II/IV, CDMA BC1 and LTE band 2/4/7/25/38/41/66 for front/back/bottom sides of product specific 10g SAR condition reduced powers will be active.
  10. This device has two WWAN transmitter antennas. WWAN antenna 1 is located at the right of bottom edge of the device and WWAN antenna 2 is located at the left side of bottom edge of the device which can refer to antenna location chapter. WWAN antenna 1 frequency bands include GSM850/1900, WCDMA Band II/IV/V, CDMA BC0/BC1/BC10, and LTE Band 2/4/5/12/13/17/25/26/66, WWAN antenna 2 frequency bands include LTE Band 7/38/41.

## 4.2 General LTE SAR Test and Reporting Considerations

| Summarized necessary items addressed in KDB 941225 D05 v02r05           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |         |       |        |                                                                         |        |          |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------|--------|-------------------------------------------------------------------------|--------|----------|--|--|--|--|--|------------|---------------------------------------------------------------|--|--|--|--|--|----------|---------|---------|-------|--------|--------|--------|------|-----|-----|-----|------|------|------|-----|--------|-----|-----|-----|------|------|------|-----|--------|-----|-----|-----|------|------|------|-----|--------|-----|-----|-----|------|------|------|-----|--------|-----|-----|-----|------|------|------|-----|---------|-----|--|--|--|--|--|-----|
| FCC ID                                                                  | IHDT56YD3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |         |       |        |                                                                         |        |          |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |         |       |        |                                                                         |        |          |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| Channel Bandwidth                                                       | LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz<br>LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz<br>LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz<br>LTE Band 7: 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |         |       |        |                                                                         |        |          |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| uplink modulations used                                                 | QPSK / 16QAM / 64QAM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |         |       |        |                                                                         |        |          |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| LTE Voice / Data requirements                                           | Voice and Data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |         |       |        |                                                                         |        |          |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| LTE Release Version                                                     | R12, Cat6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |         |       |        |                                                                         |        |          |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| CA Support                                                              | Supported, Downlink only                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |         |       |        |                                                                         |        |          |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| 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<br>1. The device employs proximity sensors that detect the presence of the user's body at the front or back faces of the device. When front or back body worn condition is detected, LTE band 2/4/5/7/25/26/38/41/66 reduced power will be active. (P-sensor can't work at detecting presence of the user's body at the four edges of the device.)<br>2. When hotspot mode is enabled, power reduction will be activated to limit the maximum power of LTE band 2/4/5/7/25/26/38/41/66.<br>3. P-sensor can detect handheld state, for front/back/bottom sides of product specific 10g SAR condition LTE band 2/4/7/25/38/41/66 reduced powers will be active.                                                                                                                                                                                                                                                                                                                                                                                                         |         |       |        |                                                                         |        |          |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| LTE Carrier Aggregation Combinations                                    | Inter-Band and Intra-Band possible combinations and the detail power verification please referred to section 13.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |         |       |        |                                                                         |        |          |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| LTE Carrier Aggregation Additional Information                          | This device supports maximum of 2 carriers in the downlink. Additional following LTE Release features are not supported: Relay, HetNet, Enhanced MIMO, eICI, WiFi Offloading, MDH, eMBMA, Cross-Carrier Scheduling, Enhanced SC-FDMA.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |         |       |        |                                                                         |        |          |  |  |  |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |

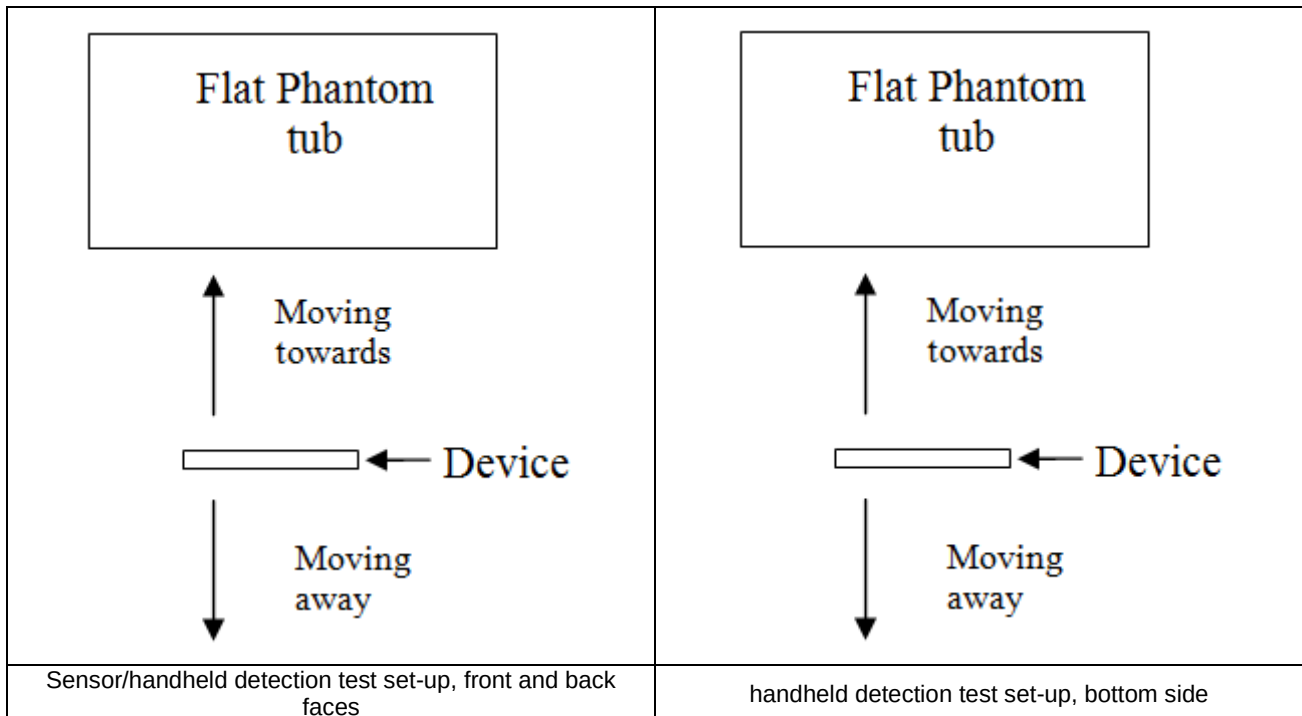
| Transmission (H, M, L) channel numbers and frequencies in each LTE band |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|-------------------------------------------------------------------------|-------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|
| 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 |             | 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                                                                       | 20407             | 824.7       | 20415            | 825.5       | 20425            | 826.5       | 20450            | 829         | 20450            | 829         | 20450            | 829         |
| M                                                                       | 20525             | 836.5       | 20525            | 836.5       | 20525            | 836.5       | 20525            | 836.5       | 20525            | 836.5       | 20525            | 836.5       |
| H                                                                       | 20643             | 848.3       | 20635            | 847.5       | 20625            | 846.5       | 20600            | 844         | 20600            | 844         | 20600            | 844         |
| LTE Band 7                                                              |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|                                                                         | Bandwidth 5 MHz   |             | Bandwidth 10 MHz |             | Bandwidth 15 MHz |             | Bandwidth 20 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        | 20850            | 2510        | 20850            | 2510        |
| M                                                                       | 21100             | 2535        | 21100            | 2535        | 21100            | 2535        | 21100            | 2535        | 21100            | 2535        | 21100            | 2535        |
| H                                                                       | 21425             | 2567.5      | 21400            | 2565        | 21375            | 2562.5      | 21350            | 2560        | 21350            | 2560        | 21350            | 2560        |
| LTE Band 12                                                             |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|                                                                         | 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                                                                       | 23017             | 699.7       | 23025            | 700.5       | 23035            | 701.5       | 23060            | 704         | 23060            | 704         | 23060            | 704         |
| M                                                                       | 23095             | 707.5       | 23095            | 707.5       | 23095            | 707.5       | 23095            | 707.5       | 23095            | 707.5       | 23095            | 707.5       |
| H                                                                       | 23173             | 715.3       | 23165            | 714.5       | 23155            | 713.5       | 23130            | 711         | 23130            | 711         | 23130            | 711         |
| LTE Band 13                                                             |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|                                                                         | Bandwidth 5 MHz   |             |                  |             | Bandwidth 10 MHz |             |                  |             | Bandwidth 15 MHz |             |                  |             |
|                                                                         | Channel #         |             | Freq.(MHz)       |             | Channel #        |             | Freq.(MHz)       |             | Channel #        |             | Freq.(MHz)       |             |
| L                                                                       | 23205             |             | 779.5            |             | 23230            |             | 782              |             | 23255            |             | 784.5            |             |
| M                                                                       | 23230             |             | 782              |             |                  |             |                  |             |                  |             |                  |             |
| H                                                                       | 23255             |             | 784.5            |             |                  |             |                  |             |                  |             |                  |             |
| LTE Band 17                                                             |                   |             |                  |             |                  |             |                  |             |                  |             |                  |             |
|                                                                         | Bandwidth 5 MHz   |             |                  |             | Bandwidth 10 MHz |             |                  |             | Bandwidth 15 MHz |             |                  |             |
|                                                                         | Channel #         |             | Freq.(MHz)       |             | Channel #        |             | Freq. (MHz)      |             | Channel #        |             | Freq. (MHz)      |             |
| L                                                                       | 23755             |             | 706.5            |             | 23780            |             | 709              |             | 23790            |             | 710              |             |
| M                                                                       | 23790             |             | 710              |             | 23790            |             | 710              |             | 23800            |             | 711              |             |
| 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 |             | Bandwidth 20 MHz |             |
|             | Ch. #             | Freq. (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       | 26790            | 824.5       |
| M           | 26865             | 831.5       | 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       | 26940            | 838.5       |
| 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) | Ch. #            | Freq. (MHz) |
| L           | 37775             | 2572.5      | 37800            | 2575        | 37825            | 2577.5      | 37850            | 2580        | 37875            | 2582.5      | 37900            | 2585        |
| M           | 38000             | 2595        | 38000            | 2595        | 38000            | 2595        | 38000            | 2595        | 38000            | 2595        | 38000            | 2595        |
| H           | 38225             | 2617.5      | 38200            | 2615        | 38175            | 2612.5      | 38150            | 2610        | 38125            | 2607.5      | 38100            | 2605        |
| 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) | Ch. #            | Freq. (MHz) |
| L           | 39675             | 2498.5      | 39700            | 2501        | 39725            | 2503.5      | 39750            | 2506        | 39775            | 2508.5      | 39800            | 2511        |
| LM          | 40148             | 2545.8      | 40160            | 2547        | 40173            | 2548.3      | 40185            | 2549.5      | 40197            | 2550.7      | 40210            | 2552        |
| M           | 40620             | 2593        | 40620            | 2593        | 40620            | 2593        | 40620            | 2593        | 40620            | 2593        | 40620            | 2593        |
| HM          | 41093             | 2640.3      | 41080            | 2639        | 41068            | 2637.8      | 41055            | 2636.5      | 41042            | 2635.2      | 41030            | 2634        |
| H           | 41565             | 2687.5      | 41540            | 2685        | 41515            | 2682.5      | 41490            | 2680        | 41465            | 2677.5      | 41440            | 2675        |
| 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        |

## 5. Proximity Sensor Triggering Test

### 5.1 Proximity sensor triggering distances(Per KDB616217§6.2)

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 (5825MHz) and lowest (850MHz) frequency was used for proximity sensor triggering testing.
2. Capacitive proximity sensor placed coincident with antenna elements at the bottom end of the phone are utilized to determine when the device comes in proximity of the user's body at the front or back side surface of the device. There is no need to do sensor coverage testing for the proximity sensor is designed to support sufficient detection range and sensitivity to cover regions of the sensors in all applicable directions since the proximity sensor entirely covers the antenna.
3. When the sensor is active, GSM850/GSM1900, WCDMA band II/IV/V, CDMA BC0/BC1/BC10, LTE band 2/4/5/7/25/26/38/41/66 and WLAN5GHz reduced power will be active.
4. The sensors used to detect the proximity of the user's body at the front or back side surface of the device use a detection threshold distance. The data shown in the sections below shows the distance(s).
5. P-sensor can detect handheld state, WCDMA band II/IV, CDMA BC1 and LTE band 2/4/7/25/38/41/66 for front/back/bottom sides of product specific 10g SAR condition reduced powers will be active.



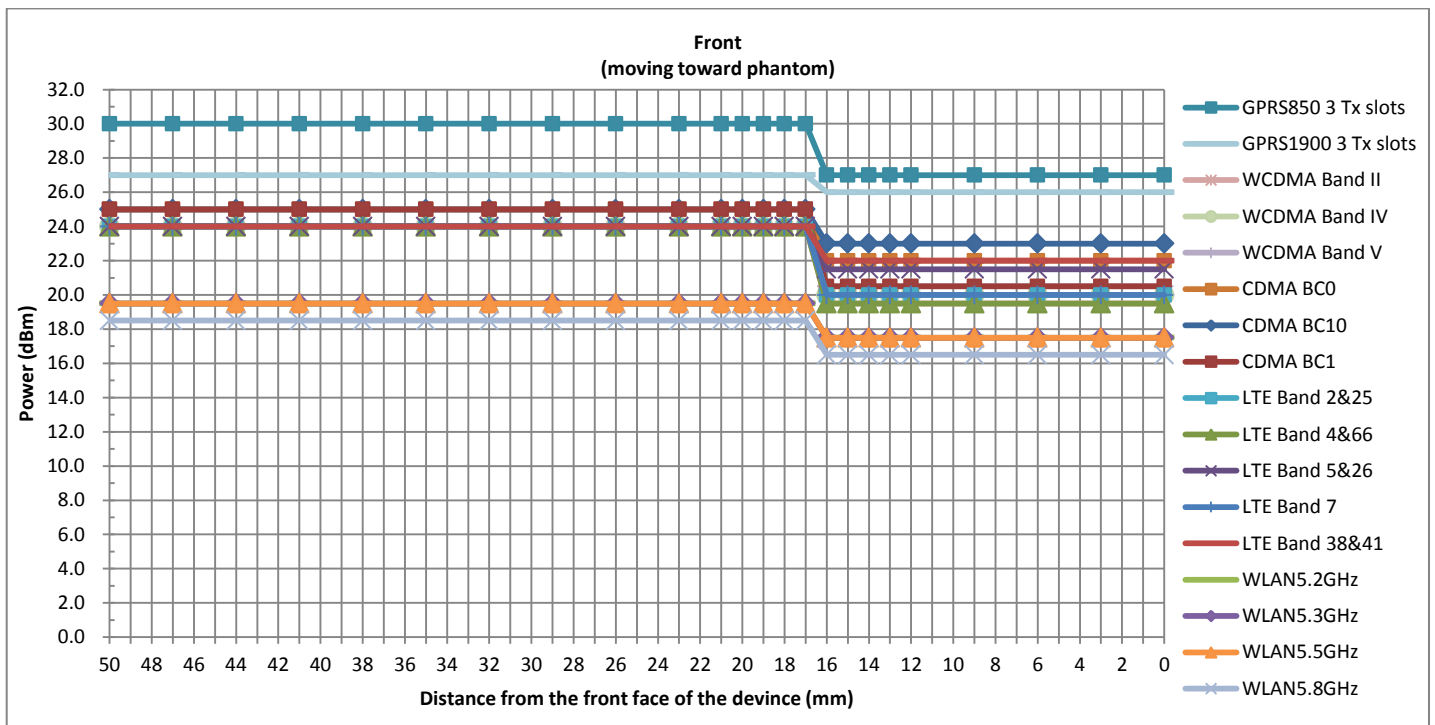
**<P-Sensor>**

| Proximity Sensor Triggering Distance (mm) |                |             |                |             |
|-------------------------------------------|----------------|-------------|----------------|-------------|
| Position                                  | Front          |             | Back           |             |
|                                           | Moving towards | Moving away | Moving towards | Moving away |
| Minimum                                   | 16             | 18          | 18             | 22          |

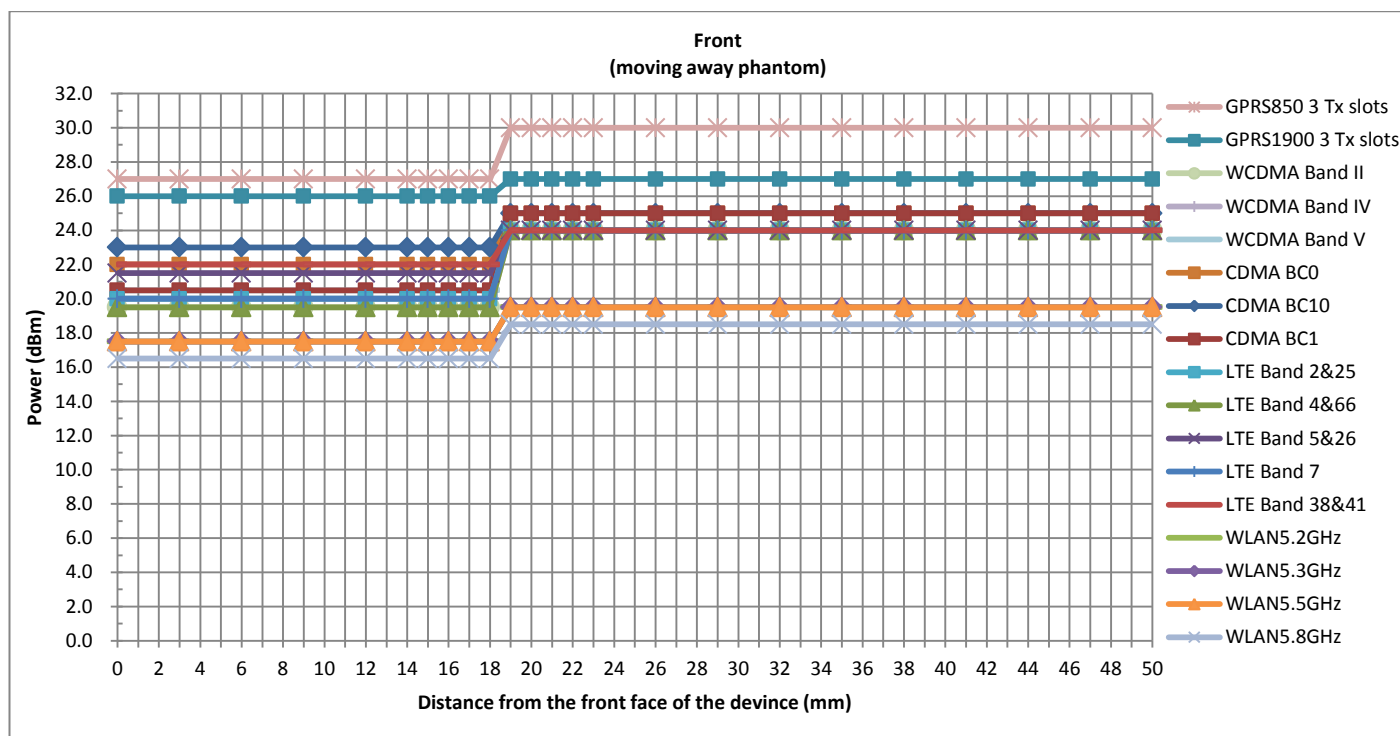
| TX. Band               | Proximity Sensor Triggering Power (dBm) |                         |                      |
|------------------------|-----------------------------------------|-------------------------|----------------------|
|                        | Full                                    | Reduced                 | power reduction (dB) |
|                        | max. tune up limit (dBm)                | max. tune up limit(dBm) |                      |
| GSM850 GPRS 3Tx slots  | 30                                      | 27                      | 3                    |
| GSM1900 GPRS 3Tx slots | 27                                      | 26                      | 1                    |
| WCDMA Band II          | 24                                      | 19.5                    | 4.5                  |
| WCDMA Band IV          | 24                                      | 20                      | 4                    |
| WCDMA Band V           | 24                                      | 20.5                    | 3.5                  |
| CDMA BC0               | 25                                      | 22                      | 3                    |
| CDMA BC10              | 25                                      | 23                      | 2                    |
| CDMA BC1               | 25                                      | 20.5                    | 4.5                  |
| LTE Band2&25           | 24                                      | 20                      | 4                    |
| LTE Band4&66           | 24                                      | 19.5                    | 4.5                  |
| LTE Band5&26           | 24                                      | 21.5                    | 2.5                  |
| LTE Band7              | 24                                      | 20                      | 4                    |
| LTE Band38&41          | 24                                      | 22                      | 2                    |
| WLAN5.2GHz             | 19.5                                    | 17.5                    | 2                    |
| WLAN5.3GHz             | 19.5                                    | 17.5                    | 2                    |
| WLAN5.5GHz             | 19.5                                    | 17.5                    | 2                    |
| WLAN5.8GHz             | 18.5                                    | 16.5                    | 2                    |



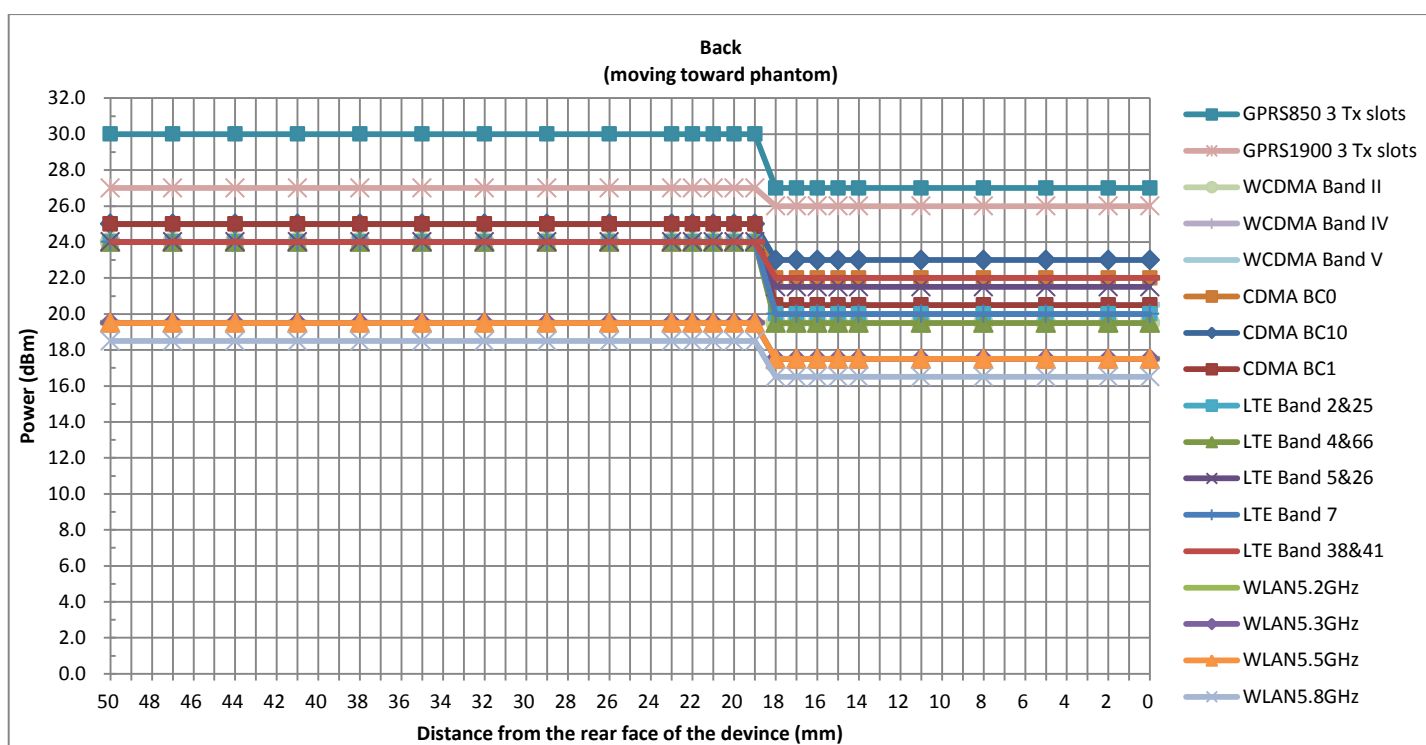
| Proximity Sensor Triggering Distance (mm) and Triggering Power (dBm) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------------------------------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Front                                                                |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Distance                                                             | 50   | 47   | 44   | 41   | 38   | 35   | 32   | 29   | 26   | 23   | 22   | 21   | 20   | 19   | 18   | 17   | 16   | 15   | 14   | 11   | 8    | 5    | 2    | 0    |
| GSM850 GPRS 3Tx slots                                                | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   |
| GSM1900 GPRS 3Tx slots                                               | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 26   | 26   | 26   | 26   | 26   | 26   | 26   | 26   |
| WCDMA Band II                                                        | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 |
| WCDMA Band IV                                                        | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 20   | 20   | 20   | 20   | 20   | 20   | 20   | 20   |
| WCDMA Band V                                                         | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 |
| CDMA BC0                                                             | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 22   | 22   | 22   | 22   | 22   | 22   | 22   | 22   |
| CDMA BC10                                                            | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 23   | 23   | 23   | 23   | 23   | 23   | 23   | 23   |
| CDMA BC1                                                             | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 |
| LTE Band2&25                                                         | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 20   | 20   | 20   | 20   | 20   | 20   | 20   | 20   |
| LTE Band4&66                                                         | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 |
| LTE Band5&26                                                         | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 |
| LTE Band7                                                            | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 20   | 20   | 20   | 20   | 20   | 20   | 20   | 20   |
| LTE Band38&41                                                        | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 22   | 22   | 22   | 22   | 22   | 22   | 22   | 22   |
| WLAN5.2GHz                                                           | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 |
| WLAN5.3GHz                                                           | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 |
| WLAN5.5GHz                                                           | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 |
| WLAN5.8GHz                                                           | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |



| Proximity Sensor Triggering Distance (mm) and Triggering Power (dBm) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------------------------------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Front                                                                |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Distance                                                             | 50   | 47   | 44   | 41   | 38   | 35   | 32   | 29   | 26   | 25   | 24   | 23   | 22   | 21   | 20   | 19   | 18   | 17   | 15   | 12   | 9    | 6    | 3    | 0    |
| GSM850<br>GPRS 3Tx<br>slots                                          | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   |
| GSM1900<br>GPRS 3Tx<br>slots                                         | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 26   | 26   | 26   | 26   | 26   | 26   | 26   | 26   |
| WCDMA<br>Band II                                                     | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 |
| WCDMA<br>Band IV                                                     | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 20   | 20   | 20   | 20   | 20   | 20   | 20   | 20   |
| WCDMA<br>Band V                                                      | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 |
| CDMA BC0                                                             | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 22   | 22   | 22   | 22   | 22   | 22   | 22   | 22   |
| CDMA BC10                                                            | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 23   | 23   | 23   | 23   | 23   | 23   | 23   | 23   |
| CDMA BC1                                                             | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 |
| LTE<br>Band2&25                                                      | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 20   | 20   | 20   | 20   | 20   | 20   | 20   | 20   |
| LTE<br>Band4&66                                                      | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 |
| LTE<br>Band5&26                                                      | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 |
| LTE Band7                                                            | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 20   | 20   | 20   | 20   | 20   | 20   | 20   | 20   |
| LTE<br>Band38&41                                                     | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 22   | 22   | 22   | 22   | 22   | 22   | 22   | 22   |
| WLAN5.2GHz                                                           | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 |
| WLAN5.3GHz                                                           | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 |
| WLAN5.5GHz                                                           | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 |
| WLAN5.8GHz                                                           | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |

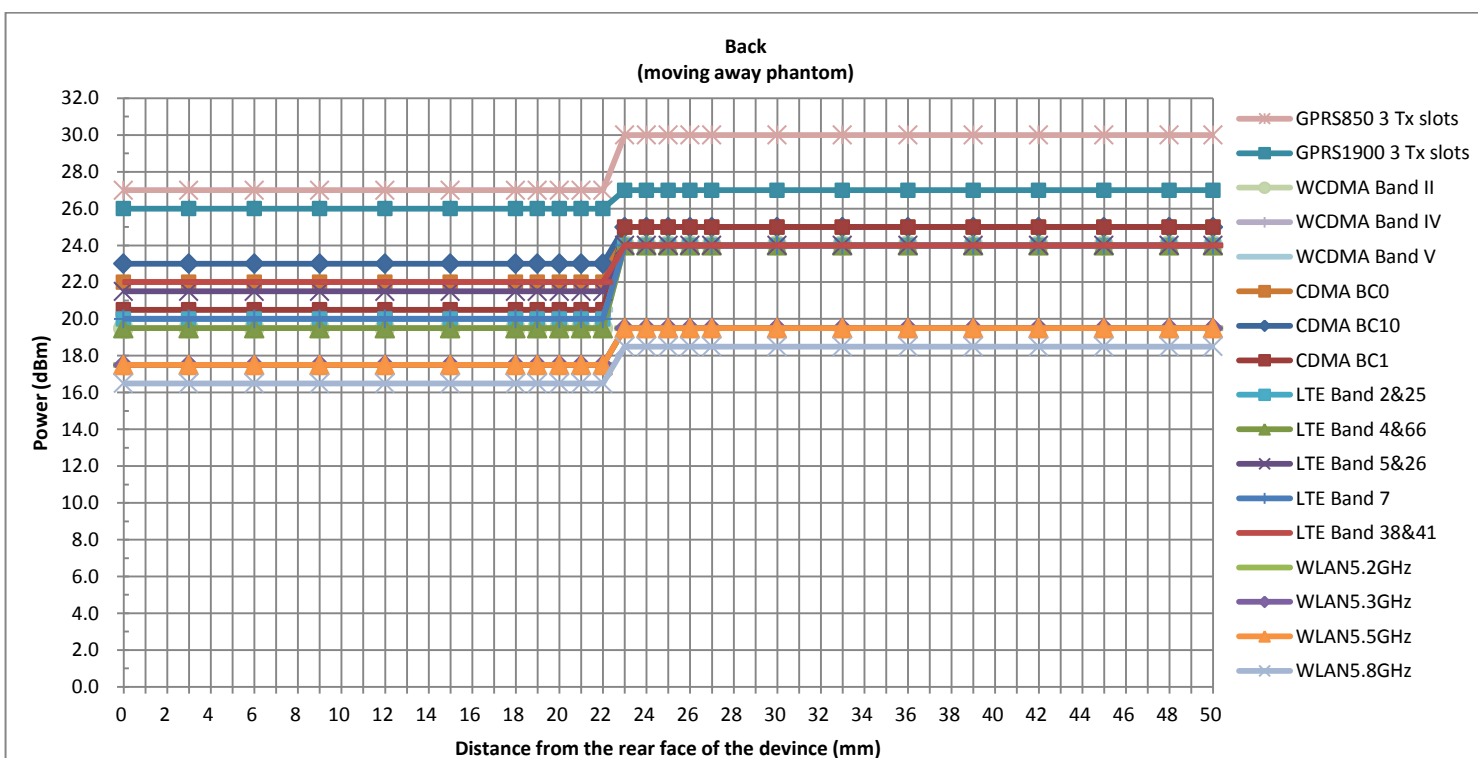


| Proximity Sensor Triggering Distance (mm) and Triggering Power (dBm) |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|----------------------------------------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Back                                                                 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Distance                                                             | 50   | 47   | 44   | 41   | 38   | 35   | 32   | 29   | 27   | 26   | 25   | 24   | 23   | 22   | 21   | 20   | 19   | 18   | 15   | 12   | 9    | 6    | 3    | 0    |
| GSM850<br>GPRS 3Tx<br>slots                                          | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 27   | 27   | 27   | 27   | 27   | 27   | 27   |
| GSM1900<br>GPRS 3Tx<br>slots                                         | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 26   | 26   | 26   | 26   | 26   | 26   | 26   |
| WCDMA<br>Band II                                                     | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 |
| WCDMA<br>Band IV                                                     | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 20   | 20   | 20   | 20   | 20   | 20   | 20   |
| WCDMA<br>Band V                                                      | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 |
| CDMA BC0                                                             | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 22   | 22   | 22   | 22   | 22   | 22   | 22   |
| CDMA BC10                                                            | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 23   | 23   | 23   | 23   | 23   | 23   | 23   |
| CDMA BC1                                                             | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 |
| LTE<br>Band2&25                                                      | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 20   | 20   | 20   | 20   | 20   | 20   | 20   |
| LTE<br>Band4&66                                                      | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 |
| LTE<br>Band5&26                                                      | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 |
| LTE Band7                                                            | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 20   | 20   | 20   | 20   | 20   | 20   | 20   |
| LTE<br>Band38&41                                                     | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 22   | 22   | 22   | 22   | 22   | 22   | 22   |
| WLAN5.2GHz                                                           | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 |
| WLAN5.3GHz                                                           | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 |
| WLAN5.5GHz                                                           | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 |
| WLAN5.8GHz                                                           | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |



Proximity Sensor Triggering Distance (mm) and Triggering Power (dBm)

| Back                         |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|
| Distance                     | 50   | 49   | 46   | 43   | 40   | 37   | 34   | 31   | 30   | 29   | 28   | 27   | 26   | 25   | 24   | 23   | 22   | 21   | 18   | 15   | 12   | 9    | 6    | 3    | 0    |  |
| GSM850<br>GPRS 3Tx<br>slots  | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 30   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   |  |
| GSM1900<br>GPRS 3Tx<br>slots | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 27   | 26   | 26   | 26   | 26   | 26   | 26   | 26   | 26   | 26   |  |
| WCDMA<br>Band II             | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 |  |
| WCDMA<br>Band IV             | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 20   | 20   | 20   | 20   | 20   | 20   | 20   | 20   | 20   |  |
| WCDMA<br>Band V              | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 |  |
| CDMA BC0                     | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 22   | 22   | 22   | 22   | 22   | 22   | 22   | 22   | 22   |  |
| CDMA BC10                    | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 23   | 23   | 23   | 23   | 23   | 23   | 23   | 23   | 23   |  |
| CDMA BC1                     | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 25   | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 | 20.5 |  |
| LTE<br>Band2&25              | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 20   | 20   | 20   | 20   | 20   | 20   | 20   | 20   | 20   |  |
| LTE<br>Band4&66              | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 |  |
| LTE<br>Band5&26              | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 |  |
| LTE Band7                    | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 20   | 20   | 20   | 20   | 20   | 20   | 20   | 20   | 20   |  |
| LTE<br>Band38&41             | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 24   | 22   | 22   | 22   | 22   | 22   | 22   | 22   | 22   | 22   |  |
| WLAN5.2GHz                   | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 |  |
| WLAN5.3GHz                   | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 |  |
| WLAN5.5GHz                   | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 19.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 |  |
| WLAN5.8GHz                   | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 18.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |  |

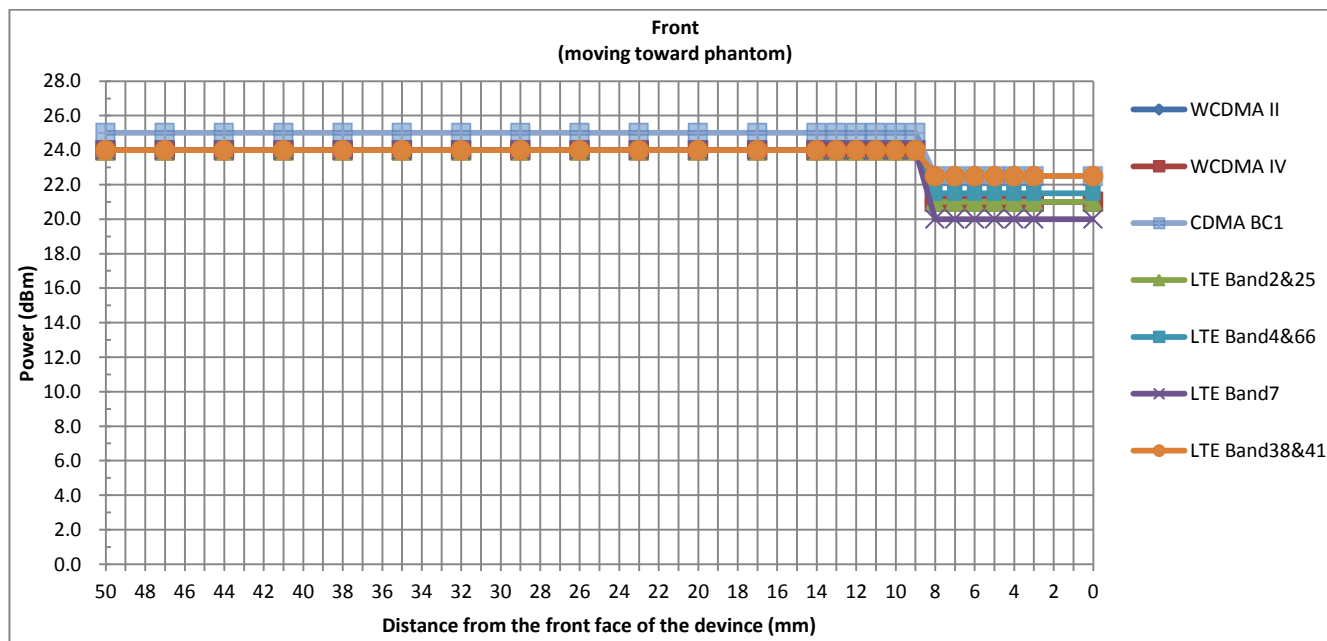


**<Handheld>**

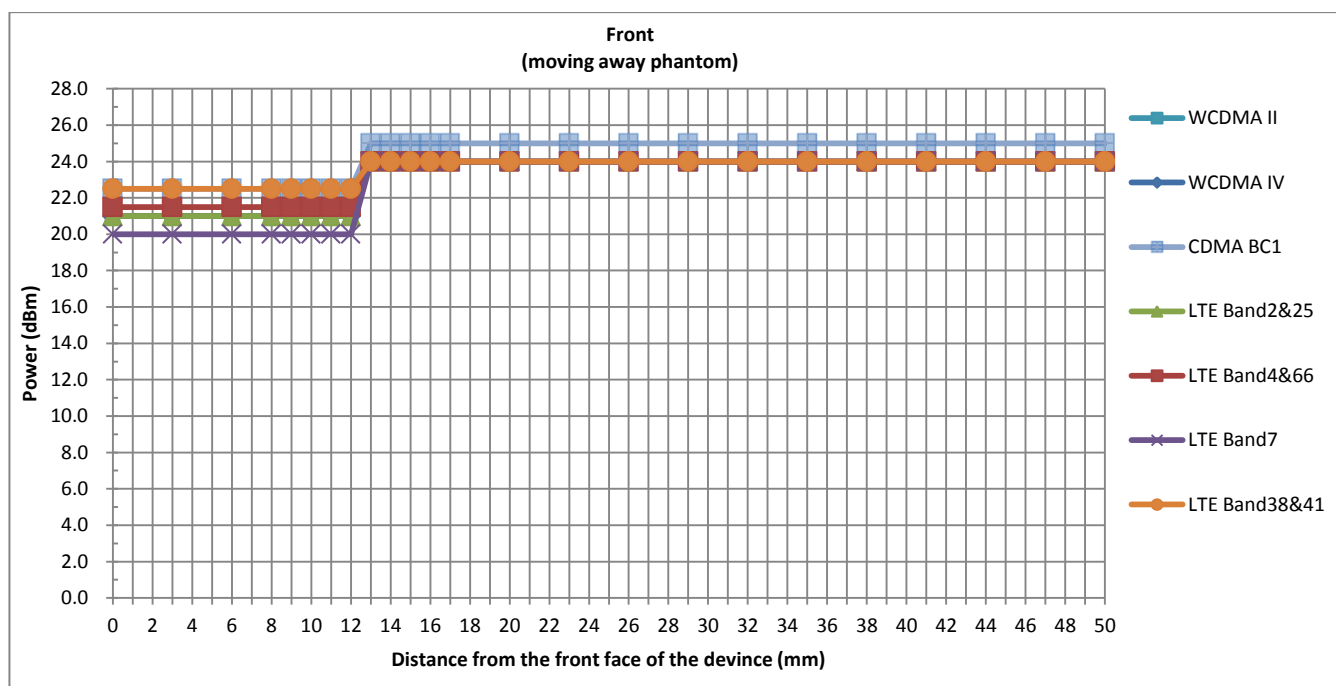
| Handheld Triggering Distance (mm) |                |             |                |             |                |             |
|-----------------------------------|----------------|-------------|----------------|-------------|----------------|-------------|
| Position                          | Front          |             | Back           |             | Bottom Side    |             |
|                                   | Moving towards | Moving away | Moving towards | Moving away | Moving towards | Moving away |
| Minimum                           | 8              | 12          | 8              | 11          | 12             | 14          |

| TX. Band      | Handheld Triggering Power (dBm) |                         |                      |
|---------------|---------------------------------|-------------------------|----------------------|
|               | Full                            | Reduced                 | power reduction (dB) |
|               | max. tune up limit (dBm)        | max. tune up limit(dBm) |                      |
| WCDMA Band II | 24                              | 21                      | 3                    |
| WCDMA Band IV | 24                              | 21                      | 3                    |
| CDMA BC1      | 25                              | 22.5                    | 2.5                  |
| LTE Band2&25  | 24                              | 21                      | 3                    |
| LTE Band4&66  | 24                              | 21.5                    | 2.5                  |
| LTE Band7     | 24                              | 20                      | 4                    |
| LTE Band38&41 | 24                              | 22.5                    | 1.5                  |

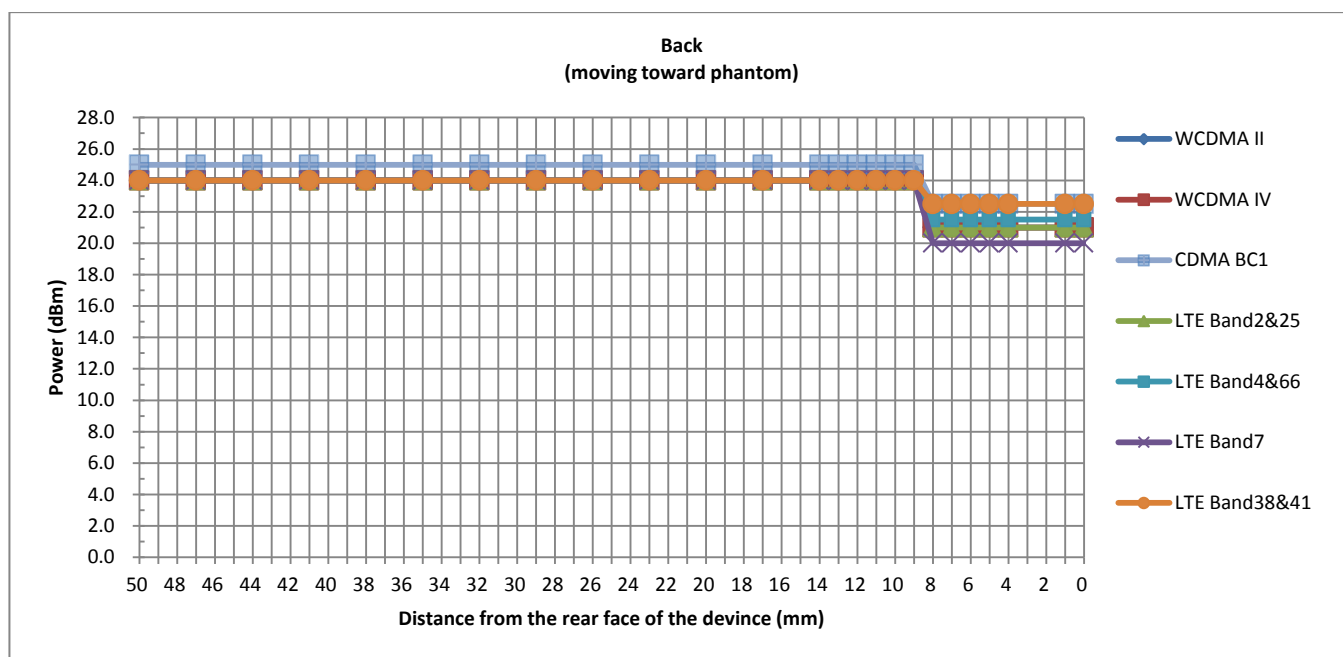
| Handheld Triggering Distance (mm) and Triggering Power (dBm) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |      |      |      |      |      |      |
|--------------------------------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|------|------|------|------|------|------|
| Front                                                        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |      |      |      |      |      |      |
| Distance                                                     | 50 | 47 | 44 | 41 | 38 | 35 | 32 | 29 | 26 | 23 | 20 | 17 | 14 | 13 | 12 | 11 | 10 | 9  | 8    | 7    | 6    | 5    | 4    | 3    | 0    |
| WCDMA Band II                                                | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 21   | 21   | 21   | 21   | 21   | 21   | 21   |
| WCDMA Band IV                                                | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 21   | 21   | 21   | 21   | 21   | 21   | 21   |
| CDMA BC1                                                     | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| LTE Band2&25                                                 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 21   | 21   | 21   | 21   | 21   | 21   | 21   |
| LTE Band4&66                                                 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 |
| LTE Band7                                                    | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 20   | 20   | 20   | 20   | 20   | 20   | 20   |
| LTE Band38&41                                                | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |



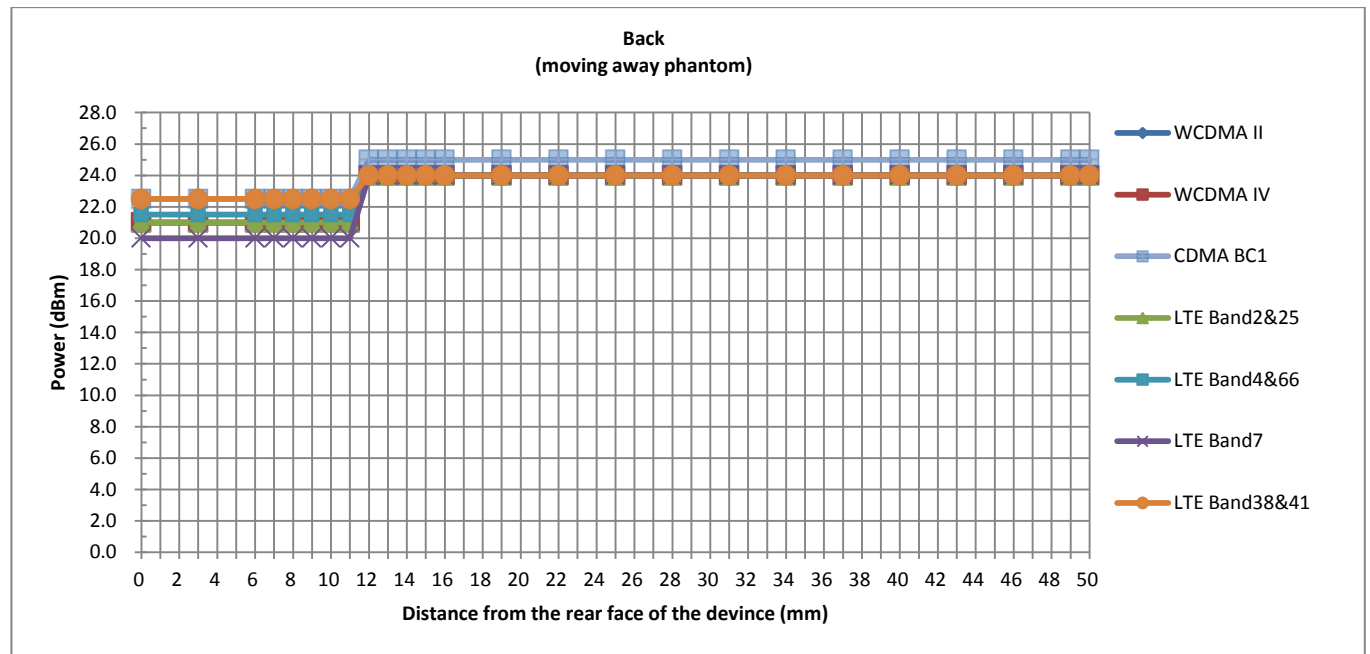
| Handheld Triggering Distance (mm) and Triggering Power (dBm) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |      |      |      |      |      |      |      |
|--------------------------------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|------|------|------|------|------|------|------|
| Front                                                        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |      |      |      |      |      |      |      |
| Distance                                                     | 50 | 47 | 44 | 41 | 38 | 35 | 32 | 29 | 26 | 23 | 20 | 17 | 16 | 15 | 14 | 13 | 12   | 11   | 10   | 9    | 8    | 6    | 3    | 0    |
| WCDMA Band II                                                | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   |
| WCDMA Band IV                                                | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   |
| CDMA BC1                                                     | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| LTE Band2&25                                                 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   |
| LTE Band4&66                                                 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 |
| LTE Band7                                                    | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 20   | 20   | 20   | 20   | 20   | 20   | 20   | 20   |
| LTE Band38&41                                                | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |



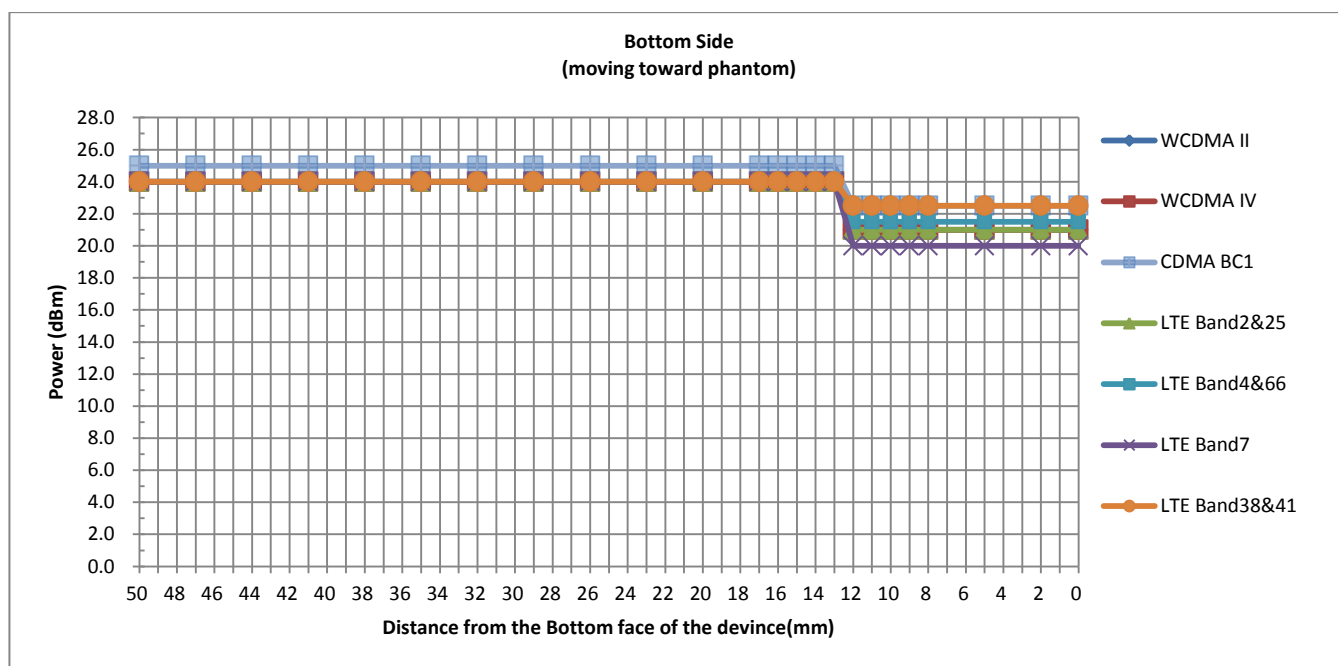
| Handheld Triggering Distance (mm) and Triggering Power (dBm) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |      |      |      |      |
|--------------------------------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|------|------|------|------|
| Back                                                         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |      |      |      |      |
| Distance                                                     | 50 | 47 | 44 | 41 | 38 | 35 | 32 | 29 | 26 | 23 | 20 | 17 | 15 | 14 | 13 | 12 | 11 | 10 | 9  | 8    | 7    | 6    | 3    | 0    |
| WCDMA Band II                                                | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 21   | 21   | 21   | 21   | 21   |
| WCDMA Band IV                                                | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 21   | 21   | 21   | 21   | 21   |
| CDMA BC1                                                     | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| LTE Band2&25                                                 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 21   | 21   | 21   | 21   | 21   |
| LTE Band4&66                                                 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 |
| LTE Band7                                                    | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 20   | 20   | 20   | 20   | 20   |
| LTE Band38&41                                                | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |



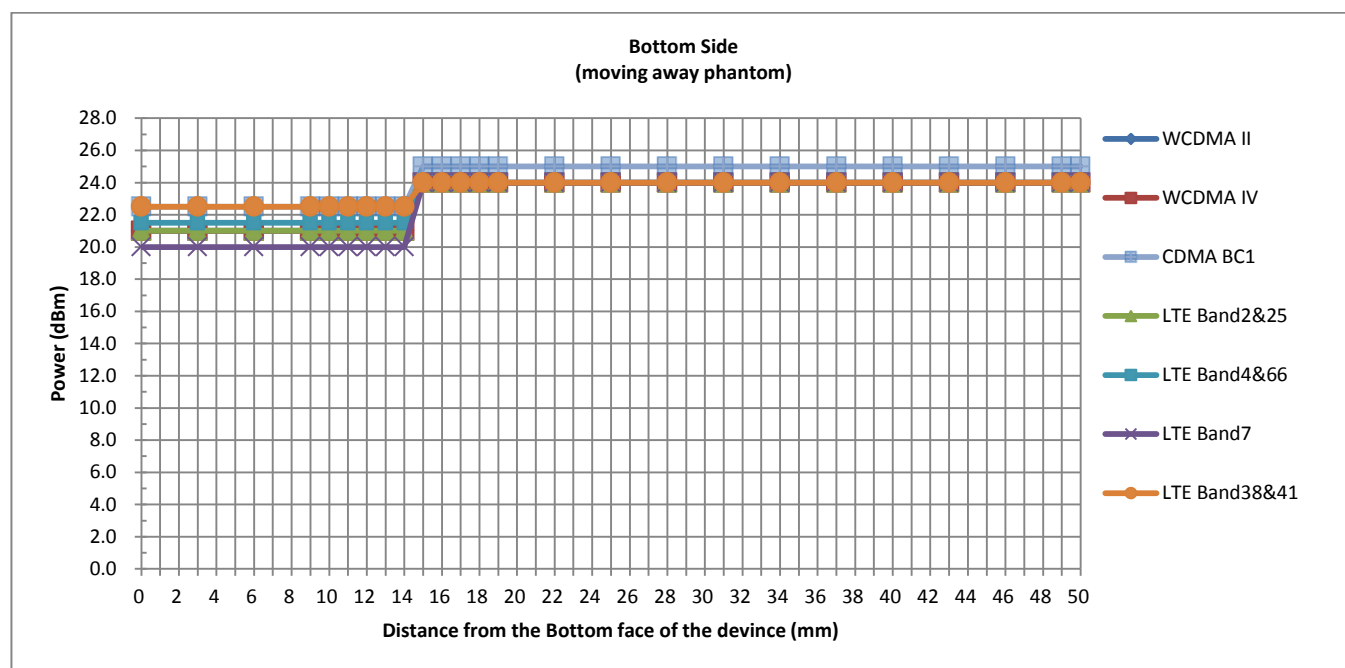
| Handheld Triggering Distance (mm) and Triggering Power (dBm) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |      |      |      |      |      |
|--------------------------------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|------|------|------|------|------|
| Back                                                         |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |      |      |      |      |      |
| Distance                                                     | 50 | 48 | 45 | 42 | 39 | 36 | 33 | 30 | 27 | 24 | 21 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11   | 10   | 9    | 6    | 3    | 0    |
| WCDMA Band II                                                | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 21   | 21   | 21   | 21   | 21   | 21   |
| WCDMA Band IV                                                | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 21   | 21   | 21   | 21   | 21   | 21   |
| CDMA BC1                                                     | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| LTE Band2&25                                                 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 21   | 21   | 21   | 21   | 21   | 21   |
| LTE Band4&66                                                 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 |
| LTE Band7                                                    | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 20   | 20   | 20   | 20   | 20   | 20   |
| LTE Band38&41                                                | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |



| Handheld Triggering Distance (mm) and Triggering Power (dBm) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |      |      |      |      |      |      |      |      |      |
|--------------------------------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|------|------|------|------|------|------|------|------|------|
| Bottom Side                                                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |      |      |      |      |      |      |      |      |      |
| Distance                                                     | 50 | 47 | 44 | 41 | 38 | 35 | 32 | 29 | 26 | 23 | 20 | 17 | 14 | 13 | 12   | 11   | 10   | 9    | 8    | 7    | 6    | 5    | 2    | 0    |
| WCDMA Band II                                                | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   |
| WCDMA Band IV                                                | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   |
| CDMA BC1                                                     | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| LTE Band2&25                                                 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   |
| LTE Band4&66                                                 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 |
| LTE Band7                                                    | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 20   | 20   | 20   | 20   | 20   | 20   | 20   | 20   | 20   | 20   |
| LTE Band38&41                                                | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |



| Handheld Triggering Distance (mm) and Triggering Power (dBm) |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |      |      |      |      |      |      |      |      |      |      |
|--------------------------------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|------|------|------|------|------|------|------|------|------|------|
| Bottom Side                                                  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |      |      |      |      |      |      |      |      |      |      |      |
| Distance                                                     | 50 | 49 | 46 | 43 | 40 | 37 | 34 | 31 | 28 | 25 | 22 | 19 | 16 | 15 | 14   | 13   | 12   | 11   | 10   | 9    | 8    | 7    | 6    | 3    | 0    |
| WCDMA Band II                                                | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   |
| WCDMA Band IV                                                | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   |
| CDMA BC1                                                     | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| LTE Band2&25                                                 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   | 21   |
| LTE Band4&66                                                 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 | 21.5 |
| LTE Band7                                                    | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 20   | 20   | 20   | 20   | 20   | 20   | 20   | 20   | 20   | 20   | 20   |
| LTE Band3&8&41                                               | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |



## **6. RF Exposure Limits**

### **6.1 Uncontrolled Environment**

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

### **6.2 Controlled Environment**

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. 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                            |

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.

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

### **7.1 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.

### **7.2 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:

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

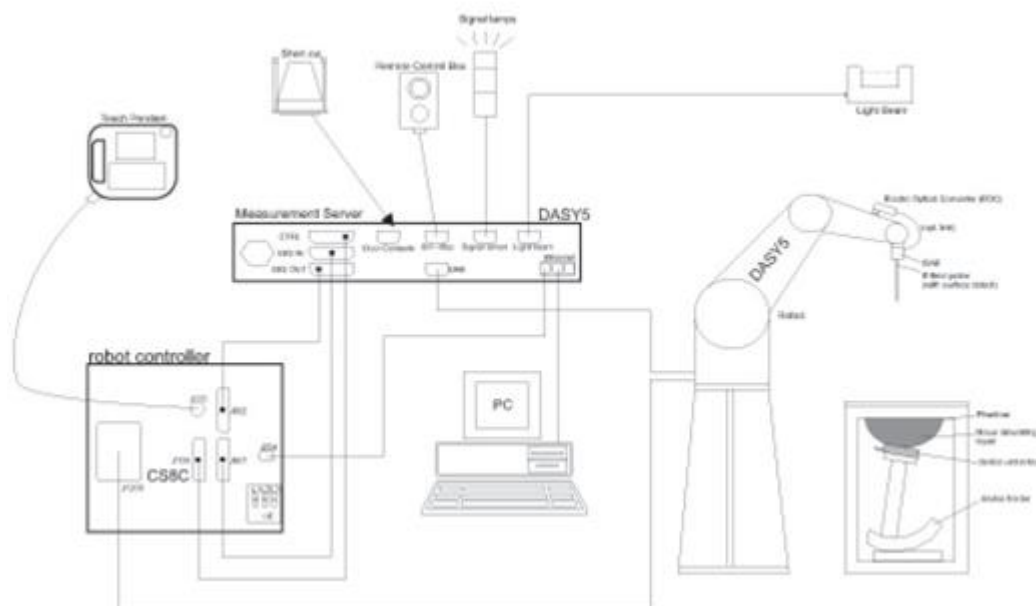
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

## 8. 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.

## 8.1 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                      |                                                                                     |

## 8.2 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.



**Photo of DAE**

### 8.3 Phantom

#### <SAM Twin Phantom>

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

|                 |                                                  |                                                                                     |
|-----------------|--------------------------------------------------|-------------------------------------------------------------------------------------|
| Shell Thickness | 2 ± 0.2 mm (sagging: <1%)                        |  |
| Filling Volume  | Approx. 30 liters                                |                                                                                     |
| Dimensions      | 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.

## 8.4 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

## 9. 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

### 9.1 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

## 9.2 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.

## 9.3 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: $\Delta x_{\text{Area}}, \Delta y_{\text{Area}}$                 | $\leq 2$ 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. |                                                        |

## 9.4 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. |                                           |                                                                                             |                                                       |                                                                               |

## 9.5 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.

## 9.6 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.

## 10. Test Equipment List

| Manufacturer    | Name of Equipment               | Type/Model    | Serial Number | Calibration |            |
|-----------------|---------------------------------|---------------|---------------|-------------|------------|
|                 |                                 |               |               | Last Cal.   | Due Date   |
| SPEAG           | 750MHz System Validation Kit    | D750V3        | 1087          | 2019/3/27   | 2020/3/26  |
| SPEAG           | 835MHz System Validation Kit    | D835V2        | 4d151         | 2019/3/27   | 2020/3/26  |
| SPEAG           | 1750MHz System Validation Kit   | D1750V2       | 1090          | 2019/3/27   | 2020/3/26  |
| SPEAG           | 1900MHz System Validation Kit   | D1900V2       | 5d170         | 2019/3/26   | 2020/3/25  |
| SPEAG           | 2450MHz System Validation Kit   | D2450V2       | 908           | 2019/3/25   | 2020/3/24  |
| SPEAG           | 2600MHz System Validation Kit   | D2600V2       | 1061          | 2018/12/7   | 2019/12/6  |
| SPEAG           | 5000MHz System Validation Kit   | D5GHzV2       | 1006          | 2018/9/27   | 2019/9/26  |
| SPEAG           | Data Acquisition Electronics    | DAE4          | 1358          | 2019/4/17   | 2020/4/16  |
| SPEAG           | Dosimetric E-Field Probe        | ES3DV3        | 3279          | 2019/3/4    | 2020/3/3   |
| SPEAG           | Dosimetric E-Field Probe        | EX3DV4        | 3954          | 2019/4/25   | 2020/4/24  |
| SPEAG           | SAM Twin Phantom                | QD 000 P40 CB | TP-1839       | NCR         | NCR        |
| SPEAG           | SAM Twin Phantom                | QD 000 P40 CB | TP-1697       | NCR         | NCR        |
| SPEAG           | Phone Positioner                | N/A           | N/A           | NCR         | NCR        |
| Anritsu         | Radio Communication Analyzer    | MT8821C       | 6201432831    | 2019/4/17   | 2020/4/16  |
| Agilent         | Wireless Communication Test Set | E5515C        | MY52102706    | 2019/4/17   | 2020/4/16  |
| Agilent         | ENA Series Network Analyzer     | E5071C        | MY46111157    | 2019/4/17   | 2020/4/16  |
| SPEAG           | Dielectric Probe Kit            | DAK-3.5       | 1138          | 2018/11/20  | 2019/11/19 |
| Anritsu         | Vector Signal Generator         | MG3710A       | 6201682672    | 2019/1/14   | 2020/1/13  |
| Rohde & Schwarz | Power Meter                     | NRVD          | 102081        | 2018/8/20   | 2019/8/19  |
| Rohde & Schwarz | Power Sensor                    | NRV-Z5        | 100538        | 2018/8/20   | 2019/8/19  |
| Rohde & Schwarz | Power Sensor                    | NRV-Z5        | 100539        | 2018/8/20   | 2019/8/19  |
| R&S             | CBT BLUETOOTH TESTER            | CBT           | 101641        | 2019/1/14   | 2020/1/13  |
| EXA             | Spectrum Analyzer               | FSV7          | 101631        | 2019/1/14   | 2020/1/13  |
| Testo           | Hygrometer                      | 608-H1        | 1241332126    | 2018/8/21   | 2019/8/20  |
| FLUKE           | DIGITAC THERMOMETER             | 51II          | 97240029      | 2018/8/8    | 2019/8/7   |
| FLUKE           | DIGITAC THERMOMETER             | 51II          | 97240029      | 2019/8/7    | 2020/8/6   |
| ARRA            | Power Divider                   | A3200-2       | N/A           | Note        |            |
| MCL             | Attenuation1                    | BW-S10W5+     | N/A           | Note        |            |
| MCL             | Attenuation2                    | BW-S10W5+     | N/A           | Note        |            |
| MCL             | Attenuation3                    | BW-S10W5+     | N/A           | Note        |            |
| Agilent         | Dual Directional Coupler        | 778D          | 20500         | Note        |            |
| Agilent         | Dual Directional Coupler        | 11691D        | MY48151020    | Note        |            |
| BONN            | POWER AMPLIFIER                 | BLMA 0830-3   | 087193A       | Note        |            |
| BONN            | POWER AMPLIFIER                 | BLMA 2060-2   | 087193B       | Note        |            |

**Note:** 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

## 11. System Verification

### 11.1 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. 11.1. 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. 11.2.

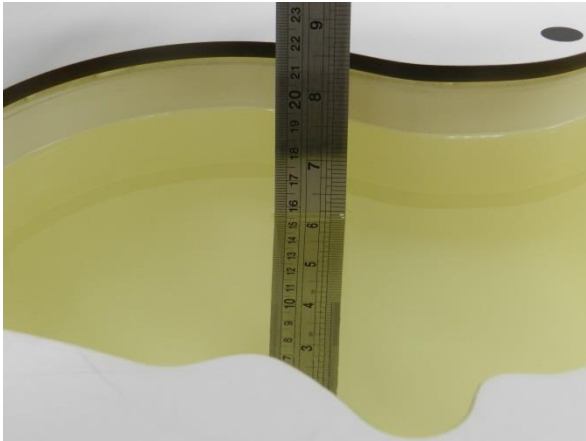


Fig 11.1 Photo of Liquid Height for Head SAR

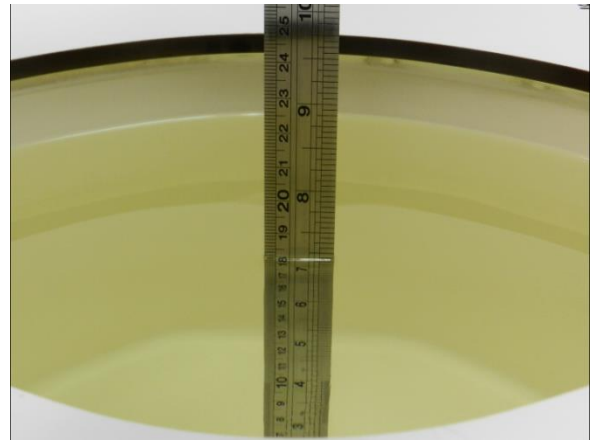


Fig 11.2 Photo of Liquid Height for Body SAR

## 11.2 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                          |
| 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                          |

### 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             | Head        | 22.6              | 0.901                     | 42.19                         | 0.89                             | 41.90                                | 1.24                   | 0.69                       | ±5        | 2019/7/26 |
| 835             | Head        | 22.9              | 0.902                     | 41.842                        | 0.90                             | 41.50                                | 0.22                   | 0.82                       | ±5        | 2019/8/17 |
| 1750            | Head        | 22.7              | 1.413                     | 39.149                        | 1.37                             | 40.10                                | 3.14                   | -2.37                      | ±5        | 2019/7/28 |
| 1900            | Head        | 22.7              | 1.38                      | 38.83                         | 1.40                             | 40.00                                | -1.43                  | -2.93                      | ±5        | 2019/7/31 |
| 2450            | Head        | 22.8              | 1.831                     | 39.866                        | 1.80                             | 39.20                                | 1.72                   | 1.70                       | ±5        | 2019/8/10 |
| 2600            | Head        | 22.7              | 2.039                     | 39.682                        | 1.96                             | 39.00                                | 4.03                   | 1.75                       | ±5        | 2019/7/25 |
| 5250            | Head        | 22.6              | 4.554                     | 34.762                        | 4.71                             | 35.90                                | -3.31                  | -3.17                      | ±5        | 2019/8/15 |
| 5600            | Head        | 22.7              | 4.895                     | 34.287                        | 5.07                             | 35.50                                | -3.45                  | -3.42                      | ±5        | 2019/8/19 |
| 5750            | Head        | 22.7              | 5.048                     | 34.058                        | 5.22                             | 35.40                                | -3.30                  | -3.79                      | ±5        | 2019/8/19 |

### 11.3 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.

#### <1g SAR>

| 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 (%) |
|-----------|-----------------|-------------|------------------|------------|-----------|---------|------------------------|------------------------|--------------------------|---------------|
| 2019/7/26 | 750             | Head        | 250              | 1087       | 3279      | 1358    | 2.03                   | 8.36                   | 8.12                     | -2.87         |
| 2019/8/17 | 835             | Head        | 250              | 4d151      | 3279      | 1358    | 2.38                   | 9.30                   | 9.52                     | 2.37          |
| 2019/7/28 | 1750            | Head        | 250              | 1090       | 3279      | 1358    | 9.72                   | 36.40                  | 38.88                    | 6.81          |
| 2019/7/31 | 1900            | Head        | 250              | 5d170      | 3279      | 1358    | 9.03                   | 39.00                  | 36.12                    | -7.38         |
| 2019/8/10 | 2450            | Head        | 250              | 908        | 3279      | 1358    | 14.1                   | 52.80                  | 56.4                     | 6.82          |
| 2019/7/25 | 2600            | Head        | 250              | 1061       | 3954      | 1358    | 14.2                   | 57.70                  | 56.8                     | -1.56         |
| 2019/8/15 | 5250            | Head        | 100              | 1006       | 3954      | 1358    | 8.50                   | 80.70                  | 85                       | 5.33          |
| 2019/8/19 | 5600            | Head        | 100              | 1006       | 3954      | 1358    | 7.88                   | 83.30                  | 78.8                     | -5.40         |
| 2019/8/19 | 5750            | Head        | 100              | 1006       | 3954      | 1358    | 7.68                   | 80.40                  | 76.8                     | -4.48         |

#### <10g SAR>

| Date      | Frequency (MHz) | Tissue Type | Input Power (mW) | Dipole S/N | Probe S/N | DAE S/N | Measured 10g SAR (W/kg) | Targeted 10g SAR (W/kg) | Normalized 10g SAR (W/kg) | Deviation (%) |
|-----------|-----------------|-------------|------------------|------------|-----------|---------|-------------------------|-------------------------|---------------------------|---------------|
| 2019/8/17 | 835             | Head        | 250              | 4d151      | 3279      | 1358    | 1.6                     | 6.16                    | 6.4                       | 3.90          |
| 2019/7/28 | 1750            | Head        | 250              | 1090       | 3279      | 1358    | 5.17                    | 19.20                   | 20.68                     | 7.71          |
| 2019/7/31 | 1900            | Head        | 250              | 5d170      | 3279      | 1358    | 4.79                    | 20.30                   | 19.16                     | -5.62         |
| 2019/7/25 | 2600            | Head        | 250              | 1061       | 3954      | 1358    | 6.18                    | 25.90                   | 24.72                     | -4.56         |
| 2019/8/15 | 5250            | Head        | 100              | 1006       | 3954      | 1358    | 2.42                    | 23.20                   | 24.2                      | 4.31          |
| 2019/8/19 | 5600            | Head        | 100              | 1006       | 3954      | 1358    | 2.27                    | 23.80                   | 22.7                      | -4.62         |

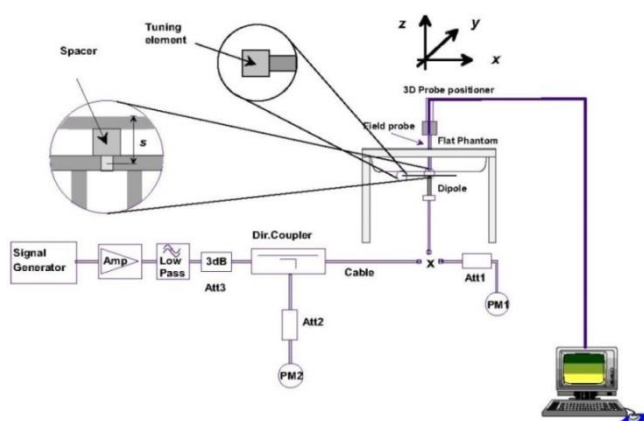


Fig 11.3.1 System Performance Check Setup



Fig 11.3.2 Setup Photo

## 12. RF Exposure Positions

### 12.1 Ear and handset reference point

Figure 12.1.1 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 12.1.2 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 12.1.3). 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 12.1.2. The ear truncation is introduced to preclude the ear lobe from interfering with handset tilt, which could lead to unstable positioning at the cheek.

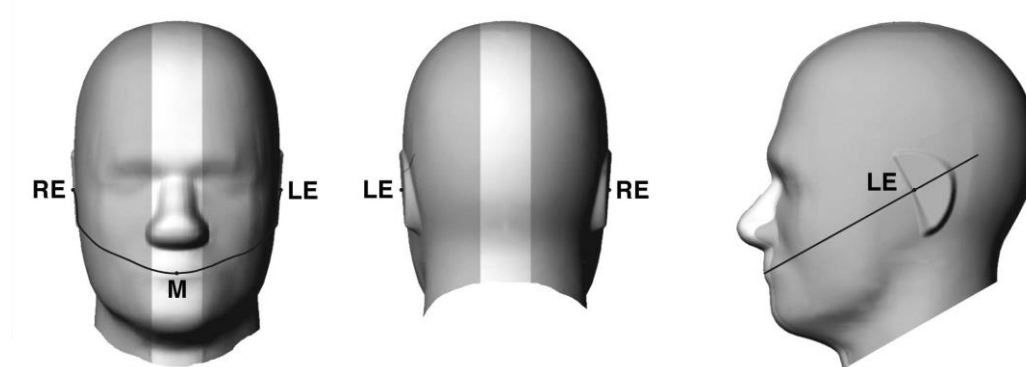


Fig 12.1.1 Front, back, and side views of SAM twin phantom

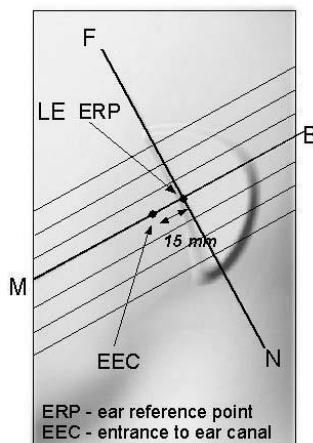


Fig 12.1.2 Close-up side view of phantom showing the ear region.

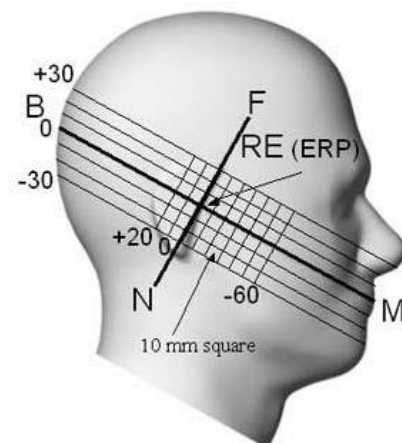


Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

## 12.2 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 12.2.1 and Figure 12.2.2), 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 12.2.1). 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 handset. Also note that the vertical centerline is not necessarily parallel to the front face of the handset (see Figure 12.2.2), 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 12.2.3), 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 12.2.3. The actual rotation angles should be documented in the test report.

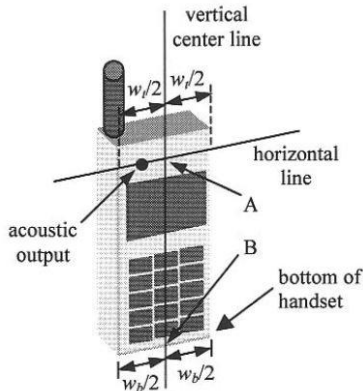


Fig 12.2.1 Handset vertical and horizontal reference lines—"fixed case"

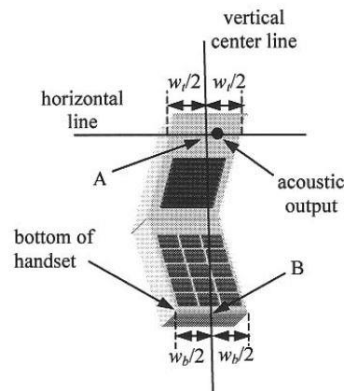


Fig 12.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

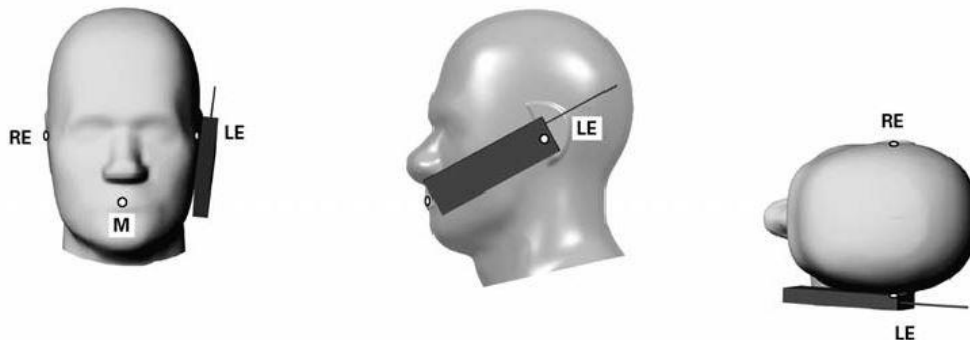


Fig 12.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

### 12.3 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 12.3.1. 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

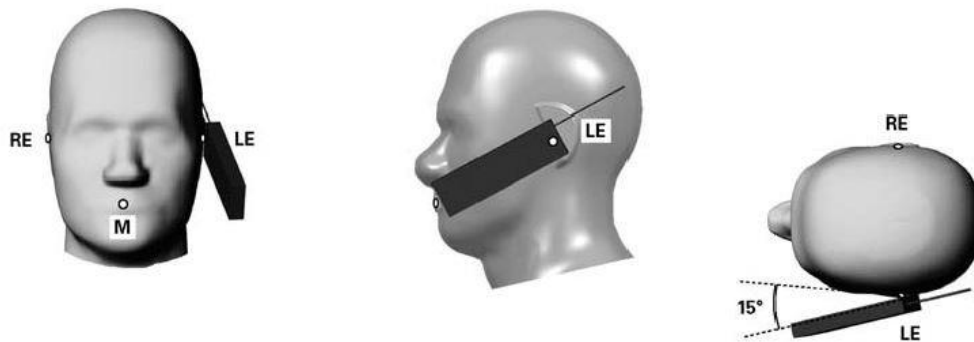


Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

## 12.4 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 12.4). 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 handset 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 test with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-chip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

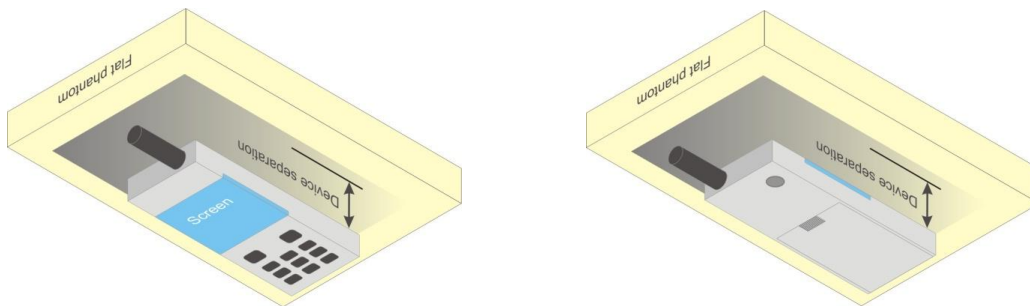


Fig 12.4 Body Worn Position

### **12.5 Product Specific 10g SAR Exposure**

For smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, According to KDB648474 D04v01r03, the following phablet procedures should be applied to evaluate SAR compliance for each applicable wireless modes and frequency band. Devices marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance

1. The normally required head and body-worn accessory SAR test procedures for handsets, including hotspot mode, must be applied.
2. The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at  $\leq 25$  mm from that surface or edge, in direct contact with a flat phantom, for 10-g extremity SAR according to the body-equivalent tissue dielectric parameters in KDB 865664 to address interactive hand use exposure conditions.<sup>6</sup> The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg.

### **12.6 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 ( $L \times W \geq 9$  cm x 5 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.

### 13. 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 3Tx slots for GSM850/GSM1900 are 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/p-sensor on are implemented in GSM850/1900 band, for SAR testing EUT was set in reduced power mode and GPRS 3 Tx slots due to its highest frame-average power.

#### <Full 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   |  | 31.83                     | 31.85 | 31.90  | 33.50               | 22.83                     | 22.85 | 22.90  | 24.50               |
| GPRS 1 Tx slot  |  | 31.81                     | 31.84 | 31.88  | 33.50               | 22.81                     | 22.84 | 22.88  | 24.50               |
| GPRS 2 Tx slots |  | 29.86                     | 29.90 | 30.11  | 31.00               | 23.86                     | 23.90 | 24.11  | 25.00               |
| GPRS 3 Tx slots |  | 28.63                     | 28.81 | 29.06  | 30.00               | 24.37                     | 24.55 | 24.80  | 25.74               |
| GPRS 4 Tx slots |  | 26.65                     | 26.78 | 27.07  | 28.00               | 23.65                     | 23.78 | 24.07  | 25.00               |
| EDGE 1 Tx slot  |  | 26.21                     | 26.34 | 26.51  | 28.00               | 17.21                     | 17.34 | 17.51  | 19.00               |
| EDGE 2 Tx slots |  | 24.55                     | 24.56 | 24.69  | 26.50               | 18.55                     | 18.56 | 18.69  | 20.50               |
| EDGE 3 Tx slots |  | 22.16                     | 22.32 | 22.42  | 24.00               | 17.90                     | 18.06 | 18.16  | 19.74               |
| EDGE 4 Tx slots |  | 20.18                     | 20.32 | 20.37  | 22.00               | 17.18                     | 17.32 | 17.37  | 19.00               |
| 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   |  | 29.28                     | 29.34 | 29.46  | 30.50               | 20.28                     | 20.34 | 20.46  | 21.50               |
| GPRS 1 Tx slot  |  | 29.20                     | 29.23 | 29.39  | 30.50               | 20.20                     | 20.23 | 20.39  | 21.50               |
| GPRS 2 Tx slots |  | 26.96                     | 26.78 | 27.22  | 28.00               | 20.96                     | 20.78 | 21.22  | 22.00               |
| GPRS 3 Tx slots |  | 26.01                     | 26.07 | 26.51  | 27.00               | 21.75                     | 21.81 | 22.25  | 22.74               |
| GPRS 4 Tx slots |  | 24.65                     | 24.22 | 24.47  | 25.00               | 21.65                     | 21.22 | 21.47  | 22.00               |
| EDGE 1 Tx slot  |  | 25.63                     | 25.67 | 25.92  | 27.00               | 16.63                     | 16.67 | 16.92  | 18.00               |
| EDGE 2 Tx slots |  | 24.13                     | 24.20 | 24.52  | 26.00               | 18.13                     | 18.20 | 18.52  | 20.00               |
| EDGE 3 Tx slots |  | 23.10                     | 23.14 | 23.33  | 24.00               | 18.84                     | 18.88 | 19.07  | 19.74               |
| EDGE 4 Tx slots |  | 21.95                     | 22.02 | 22.33  | 23.00               | 18.95                     | 19.02 | 19.33  | 20.00               |

**Remark:** The frame-averaged power is linearly scaled the maximum burst averaged power over 8 time slots.

The calculated method are shown as below:

Frame-averaged power = Maximum burst averaged power (1 Tx Slot) - 9 dB

Frame-averaged power = Maximum burst averaged power (2 Tx Slots) - 6 dB

Frame-averaged power = Maximum burst averaged power (3 Tx Slots) - 4.26 dB

Frame-averaged power = Maximum burst averaged power (4 Tx Slots) - 3 dB

**<Reduced Power Mode for P-Sensor On>**

| GSM850          | Burst Average Power (dBm) |       |        | Tune-up Limit (dBm) | Frame-Average Power (dBm) |       |        | Tune-up Limit (dBm) |
|-----------------|---------------------------|-------|--------|---------------------|---------------------------|-------|--------|---------------------|
|                 | 128                       | 189   | 251    |                     | 128                       | 189   | 251    |                     |
| 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   | 29.01                     | 29.20 | 29.31  | 30.50               | 20.01                     | 20.20 | 20.31  | 21.50               |
| GPRS 1 Tx slot  | 29.03                     | 29.18 | 29.28  | 30.50               | 20.03                     | 20.18 | 20.28  | 21.50               |
| GPRS 2 Tx slots | 26.94                     | 27.14 | 27.17  | 28.00               | 20.94                     | 21.14 | 21.17  | 22.00               |
| GPRS 3 Tx slots | 25.51                     | 25.71 | 25.77  | 27.00               | 21.25                     | 21.45 | 21.51  | 22.74               |
| GPRS 4 Tx slots | 23.54                     | 23.69 | 23.82  | 25.00               | 20.54                     | 20.69 | 20.82  | 22.00               |
| EDGE 1 Tx slot  | 23.71                     | 23.98 | 24.03  | 25.00               | 14.71                     | 14.98 | 15.03  | 16.00               |
| EDGE 2 Tx slots | 21.53                     | 21.72 | 21.95  | 23.50               | 15.53                     | 15.72 | 15.95  | 17.50               |
| EDGE 3 Tx slots | 19.43                     | 19.73 | 19.66  | 21.00               | 15.17                     | 15.47 | 15.40  | 16.74               |
| EDGE 4 Tx slots | 17.31                     | 17.67 | 17.58  | 19.00               | 14.31                     | 14.67 | 14.58  | 16.00               |
| GSM1900         | Burst Average Power (dBm) |       |        | Tune-up Limit (dBm) | Frame-Average Power (dBm) |       |        | Tune-up Limit (dBm) |
|                 | 512                       | 661   | 810    |                     | 512                       | 661   | 810    |                     |
| Tx Channel      | 512                       | 661   | 810    |                     | 512                       | 661   | 810    |                     |
| Frequency (MHz) | 1850.2                    | 1880  | 1909.8 |                     | 1850.2                    | 1880  | 1909.8 |                     |
| GSM 1 Tx slot   | 27.88                     | 27.65 | 28.04  | 29.50               | 18.88                     | 18.65 | 19.04  | 20.50               |
| GPRS 1 Tx slot  | 27.86                     | 27.63 | 28.02  | 29.50               | 18.86                     | 18.63 | 19.02  | 20.50               |
| GPRS 2 Tx slots | 25.52                     | 25.53 | 25.94  | 27.00               | 19.52                     | 19.53 | 19.94  | 21.00               |
| GPRS 3 Tx slots | 24.56                     | 24.52 | 24.83  | 26.00               | 20.30                     | 20.26 | 20.57  | 21.74               |
| GPRS 4 Tx slots | 22.46                     | 22.66 | 22.94  | 24.00               | 19.46                     | 19.66 | 19.94  | 21.00               |
| EDGE 1 Tx slot  | 24.10                     | 24.21 | 24.45  | 26.00               | 15.10                     | 15.21 | 15.45  | 17.00               |
| EDGE 2 Tx slots | 23.09                     | 23.12 | 23.23  | 25.00               | 17.09                     | 17.12 | 17.23  | 19.00               |
| EDGE 3 Tx slots | 21.41                     | 21.73 | 21.72  | 23.00               | 17.15                     | 17.47 | 17.46  | 18.74               |
| EDGE 4 Tx slots | 20.25                     | 20.30 | 20.59  | 22.00               | 17.25                     | 17.30 | 17.59  | 19.00               |

**Remark:** The frame-averaged power is linearly scaled the maximum burst averaged power over 8 time slots.

The calculated method are shown as below:

Frame-averaged power = Maximum burst averaged power (1 Tx Slot) - 9 dB

Frame-averaged power = Maximum burst averaged power (2 Tx Slots) - 6 dB

Frame-averaged power = Maximum burst averaged power (3 Tx Slots) - 4.26 dB

Frame-averaged power = Maximum burst averaged power (4 Tx Slots) - 3 dB

### <Reduced Power Mode for Hotspot On>

| GSM850          | Burst Average Power (dBm) |       |        | Tune-up<br>Limit<br>(dBm) | Frame-Average Power (dBm) |       |        | Tune-up<br>Limit<br>(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   | 29.01                     | 29.20 | 29.31  | 30.50                     | 20.01                     | 20.20 | 20.31  | 21.50                     |
| GPRS 1 Tx slot  | 29.03                     | 29.18 | 29.28  | 30.50                     | 20.03                     | 20.18 | 20.28  | 21.50                     |
| GPRS 2 Tx slots | 26.94                     | 27.14 | 27.17  | 28.00                     | 20.94                     | 21.14 | 21.17  | 22.00                     |
| GPRS 3 Tx slots | 25.51                     | 25.71 | 25.77  | 27.00                     | 21.25                     | 21.45 | 21.51  | 22.74                     |
| GPRS 4 Tx slots | 23.54                     | 23.69 | 23.82  | 25.00                     | 20.54                     | 20.69 | 20.82  | 22.00                     |
| EDGE 1 Tx slot  | 23.71                     | 23.98 | 24.03  | 25.00                     | 14.71                     | 14.98 | 15.03  | 16.00                     |
| EDGE 2 Tx slots | 21.53                     | 21.72 | 21.95  | 23.50                     | 15.53                     | 15.72 | 15.95  | 17.50                     |
| EDGE 3 Tx slots | 19.43                     | 19.73 | 19.66  | 21.00                     | 15.17                     | 15.47 | 15.40  | 16.74                     |
| EDGE 4 Tx slots | 17.31                     | 17.67 | 17.58  | 19.00                     | 14.31                     | 14.67 | 14.58  | 16.00                     |
| GSM1900         | Burst Average Power (dBm) |       |        | Tune-up<br>Limit<br>(dBm) | Frame-Average Power (dBm) |       |        | Tune-up<br>Limit<br>(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   | 25.58                     | 25.81 | 26.01  | 27.50                     | 16.58                     | 16.81 | 17.01  | 18.50                     |
| GPRS 1 Tx slot  | 25.55                     | 25.79 | 26.00  | 27.50                     | 16.55                     | 16.79 | 17.00  | 18.50                     |
| GPRS 2 Tx slots | 23.89                     | 24.34 | 24.09  | 25.00                     | 17.89                     | 18.34 | 18.09  | 19.00                     |
| GPRS 3 Tx slots | 22.76                     | 22.77 | 23.21  | 24.00                     | 18.50                     | 18.51 | 18.95  | 19.74                     |
| GPRS 4 Tx slots | 20.61                     | 20.59 | 21.06  | 22.00                     | 17.61                     | 17.59 | 18.06  | 19.00                     |
| EDGE 1 Tx slot  | 22.82                     | 22.89 | 23.24  | 24.00                     | 13.82                     | 13.89 | 14.24  | 15.00                     |
| EDGE 2 Tx slots | 21.13                     | 21.53 | 21.26  | 23.00                     | 15.13                     | 15.53 | 15.26  | 17.00                     |
| EDGE 3 Tx slots | 20.03                     | 20.02 | 20.43  | 21.00                     | 15.77                     | 15.76 | 16.17  | 16.74                     |
| EDGE 4 Tx slots | 18.83                     | 18.90 | 19.23  | 20.00                     | 15.83                     | 15.90 | 16.23  | 17.00                     |

**Remark:** The frame-averaged power is linearly scaled the maximum burst averaged power over 8 time slots.

The calculated method are shown as below:

Frame-averaged power = Maximum burst averaged power (1 Tx Slot) - 9 dB

Frame-averaged power = Maximum burst averaged power (2 Tx Slots) - 6 dB

Frame-averaged power = Maximum burst averaged power (3 Tx Slots) - 4.26 dB

Frame-averaged power = Maximum burst averaged power (4 Tx Slots) - 3 dB

**<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                  |

Note 1:  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 30/15$  with  $\beta_{hs} = 30/15 * \beta_c$ .

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,  $\Delta_{ACK}$  and  $\Delta_{NACK} = 30/15$  with  $\beta_{hs} = 30/15 * \beta_c$ , and  $\Delta_{CQI} = 24/15$  with  $\beta_{hs} = 24/15 * \beta_c$ .

Note 3: CM = 1 for  $\beta_c/\beta_d = 12/15$ ,  $\beta_{hs}/\beta_c = 24/15$ . 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.

Note 4: For subtest 2 the  $\beta_c/\beta_d$  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  $\beta_c = 11/15$  and  $\beta_d = 15/15$ .

**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  $\beta_c/\beta_d = 12/15$ ,  $\beta_{hs}/\beta_c = 24/15$ . 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:**

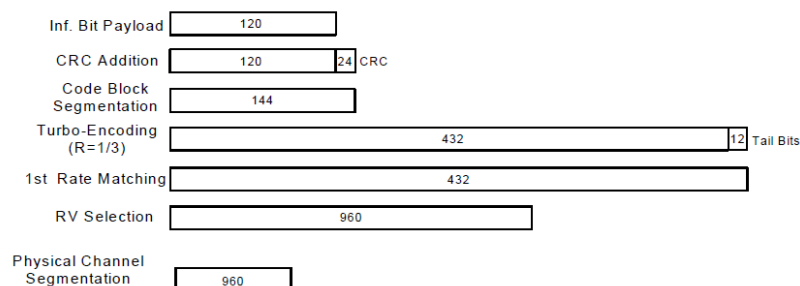
- a. The EUT was connected to Base Station referred to the Setup Configuration below
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting:
  - i. Set RMC 12.2Kbps + HSDPA mode.
  - ii. Set Cell Power = -25 dBm
  - 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 Factor 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 (HSDPA / HSUPA / 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

**<Full Power Mode>**

| Band            |                    | WCDMA Band II |       |        | Tune-up Limit (dBm) | WCDMA Band IV |        |        | Tune-up Limit (dBm) | WCDMA Band 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       | 22.50         | 22.52 | 22.55  | 24.00               | 22.51         | 22.43  | 22.51  | 24.00               | 22.30        | 22.45 | 22.54 | 24.00               |
| 3GPP Rel 99     | RMC 12.2Kbps       | 22.52         | 22.53 | 22.57  | 24.00               | 22.53         | 22.45  | 22.52  | 24.00               | 22.31        | 22.46 | 22.56 | 24.00               |
| 3GPP Rel 6      | HSDPA Subtest-1    | 22.53         | 22.46 | 22.49  | 24.00               | 22.43         | 22.43  | 22.48  | 24.00               | 22.33        | 22.53 | 22.42 | 24.00               |
| 3GPP Rel 6      | HSDPA Subtest-2    | 22.55         | 22.42 | 22.48  | 24.00               | 22.44         | 22.36  | 22.39  | 24.00               | 22.09        | 22.15 | 22.13 | 24.00               |
| 3GPP Rel 6      | HSDPA Subtest-3    | 21.86         | 21.82 | 21.86  | 23.50               | 21.78         | 21.82  | 21.79  | 23.50               | 21.87        | 22.21 | 22.18 | 23.50               |
| 3GPP Rel 6      | HSDPA Subtest-4    | 21.86         | 21.84 | 21.83  | 23.50               | 21.77         | 21.80  | 21.81  | 23.50               | 21.89        | 21.69 | 21.61 | 23.50               |
| 3GPP Rel 8      | DC-HSDPA Subtest-1 | 22.52         | 22.53 | 22.54  | 24.00               | 22.50         | 22.47  | 22.46  | 24.00               | 22.30        | 22.45 | 22.52 | 24.00               |
| 3GPP Rel 8      | DC-HSDPA Subtest-2 | 22.47         | 22.48 | 22.48  | 24.00               | 22.45         | 22.43  | 22.51  | 24.00               | 22.09        | 22.34 | 22.46 | 24.00               |
| 3GPP Rel 8      | DC-HSDPA Subtest-3 | 21.83         | 21.80 | 21.82  | 23.50               | 21.75         | 21.78  | 21.75  | 23.50               | 21.83        | 22.18 | 22.13 | 23.50               |
| 3GPP Rel 8      | DC-HSDPA Subtest-4 | 21.81         | 21.79 | 21.80  | 23.50               | 21.74         | 21.75  | 21.79  | 23.50               | 21.61        | 21.60 | 21.62 | 23.50               |
| 3GPP Rel 6      | HSUPA Subtest-1    | 22.21         | 22.23 | 22.26  | 24.00               | 22.15         | 22.18  | 22.17  | 24.00               | 22.10        | 22.14 | 22.21 | 24.00               |
| 3GPP Rel 6      | HSUPA Subtest-2    | 20.09         | 20.11 | 20.04  | 22.00               | 20.10         | 20.07  | 20.04  | 22.00               | 20.10        | 20.22 | 20.32 | 22.00               |
| 3GPP Rel 6      | HSUPA Subtest-3    | 21.84         | 21.79 | 21.76  | 23.00               | 21.66         | 21.75  | 21.72  | 23.00               | 21.13        | 21.15 | 21.23 | 23.00               |
| 3GPP Rel 6      | HSUPA Subtest-4    | 20.13         | 20.10 | 20.07  | 22.00               | 20.06         | 20.06  | 20.02  | 22.00               | 20.15        | 20.25 | 20.30 | 22.00               |
| 3GPP Rel 6      | HSUPA Subtest-5    | 22.51         | 22.53 | 22.46  | 24.00               | 22.46         | 22.37  | 22.49  | 24.00               | 22.25        | 22.20 | 22.43 | 24.00               |

**<Reduced Power Mode for P-Sensor On>**

| Band            |                    | WCDMA Band II |       |        | Tune-up Limit (dBm) | WCDMA Band IV |        |        | Tune-up Limit (dBm) | WCDMA Band 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       | 18.39         | 18.38 | 18.34  | 19.50               | 18.42         | 18.45  | 18.50  | 20.00               | 19.10        | 19.30 | 19.33 | 20.50               |
| 3GPP Rel 99     | RMC 12.2Kbps       | 18.40         | 18.39 | 18.36  | 19.50               | 18.55         | 18.47  | 18.52  | 20.00               | 19.12        | 19.32 | 19.34 | 20.50               |
| 3GPP Rel 6      | HSDPA Subtest-1    | 18.22         | 18.12 | 18.25  | 19.50               | 18.29         | 18.39  | 18.24  | 20.00               | 18.72        | 18.97 | 18.91 | 20.50               |
| 3GPP Rel 6      | HSDPA Subtest-2    | 18.22         | 18.13 | 18.28  | 19.50               | 18.21         | 18.34  | 18.33  | 20.00               | 18.59        | 18.91 | 18.92 | 20.50               |
| 3GPP Rel 6      | HSDPA Subtest-3    | 17.76         | 17.54 | 17.55  | 19.00               | 17.56         | 17.78  | 17.61  | 19.50               | 18.33        | 18.81 | 18.56 | 20.00               |
| 3GPP Rel 6      | HSDPA Subtest-4    | 17.76         | 17.52 | 17.62  | 19.00               | 17.52         | 17.88  | 17.66  | 19.50               | 18.31        | 18.19 | 18.23 | 20.00               |
| 3GPP Rel 8      | DC-HSDPA Subtest-1 | 18.24         | 18.21 | 18.32  | 19.50               | 18.39         | 18.23  | 18.22  | 20.00               | 18.62        | 18.67 | 18.92 | 20.50               |
| 3GPP Rel 8      | DC-HSDPA Subtest-2 | 18.11         | 18.15 | 18.31  | 19.50               | 18.38         | 18.19  | 18.21  | 20.00               | 18.66        | 18.91 | 18.89 | 20.50               |
| 3GPP Rel 8      | DC-HSDPA Subtest-3 | 17.52         | 17.44 | 17.69  | 19.00               | 17.56         | 17.77  | 17.56  | 19.50               | 18.31        | 18.77 | 18.66 | 20.00               |
| 3GPP Rel 8      | DC-HSDPA Subtest-4 | 17.36         | 17.43 | 17.66  | 19.00               | 17.79         | 17.67  | 17.52  | 19.50               | 18.12        | 18.32 | 18.23 | 20.00               |
| 3GPP Rel 6      | HSUPA Subtest-1    | 17.95         | 17.91 | 18.01  | 19.50               | 18.11         | 18.21  | 18.12  | 20.00               | 18.29        | 18.61 | 18.41 | 20.50               |
| 3GPP Rel 6      | HSUPA Subtest-2    | 15.81         | 15.82 | 15.77  | 17.50               | 16.11         | 16.29  | 16.29  | 18.00               | 16.52        | 16.79 | 16.67 | 18.50               |
| 3GPP Rel 6      | HSUPA Subtest-3    | 17.58         | 17.42 | 17.52  | 18.50               | 17.29         | 17.57  | 17.39  | 19.00               | 17.29        | 17.51 | 17.49 | 19.50               |
| 3GPP Rel 6      | HSUPA Subtest-4    | 15.72         | 15.73 | 15.82  | 17.50               | 16.33         | 16.49  | 16.21  | 18.00               | 16.31        | 16.77 | 16.72 | 18.50               |
| 3GPP Rel 6      | HSUPA Subtest-5    | 18.22         | 18.21 | 18.29  | 19.50               | 18.29         | 18.22  | 18.22  | 20.00               | 18.39        | 18.41 | 18.51 | 20.50               |

**<Reduced Power Mode for Hotspot On>**

| Band            |                    | WCDMA Band II |       |        | Tune-up Limit (dBm) | WCDMA Band IV |        |        | Tune-up Limit (dBm) | WCDMA Band 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       | 17.33         | 17.01 | 17.31  | 18.00               | 16.10         | 16.00  | 16.03  | 17.50               | 19.10        | 19.30 | 19.40 | 20.50               |
| 3GPP Rel 99     | RMC 12.2Kbps       | 17.34         | 17.02 | 17.33  | 18.00               | 16.12         | 16.03  | 16.06  | 17.50               | 19.12        | 19.32 | 19.43 | 20.50               |
| 3GPP Rel 6      | HSDPA Subtest-1    | 16.81         | 16.89 | 16.80  | 18.00               | 16.03         | 16.07  | 16.03  | 17.50               | 19.02        | 19.21 | 19.29 | 20.50               |
| 3GPP Rel 6      | HSDPA Subtest-2    | 16.90         | 16.94 | 16.99  | 18.00               | 16.01         | 16.00  | 16.02  | 17.50               | 19.08        | 19.20 | 19.30 | 20.50               |
| 3GPP Rel 6      | HSDPA Subtest-3    | 16.86         | 16.63 | 16.76  | 17.50               | 16.03         | 16.09  | 15.99  | 17.00               | 18.98        | 19.05 | 19.00 | 20.00               |
| 3GPP Rel 6      | HSDPA Subtest-4    | 16.78         | 16.59 | 16.90  | 17.50               | 16.05         | 16.01  | 15.98  | 17.00               | 18.89        | 18.64 | 18.62 | 20.00               |
| 3GPP Rel 8      | DC-HSDPA Subtest-1 | 16.79         | 16.84 | 16.77  | 18.00               | 16.00         | 16.02  | 15.97  | 17.50               | 18.99        | 19.16 | 19.25 | 20.50               |
| 3GPP Rel 8      | DC-HSDPA Subtest-2 | 16.88         | 16.89 | 16.96  | 18.00               | 15.98         | 15.95  | 15.96  | 17.50               | 19.05        | 19.15 | 19.26 | 20.50               |
| 3GPP Rel 8      | DC-HSDPA Subtest-3 | 16.84         | 16.88 | 16.73  | 17.50               | 16.00         | 16.04  | 15.93  | 17.00               | 18.95        | 19.00 | 18.96 | 20.00               |
| 3GPP Rel 8      | DC-HSDPA Subtest-4 | 16.76         | 16.94 | 16.87  | 17.50               | 16.02         | 15.96  | 15.92  | 17.00               | 18.86        | 18.79 | 18.78 | 20.00               |
| 3GPP Rel 6      | HSUPA Subtest-1    | 16.54         | 16.60 | 16.50  | 18.00               | 15.80         | 15.85  | 15.65  | 17.50               | 18.60        | 18.65 | 18.60 | 20.50               |
| 3GPP Rel 6      | HSUPA Subtest-2    | 14.90         | 14.95 | 14.85  | 16.00               | 14.01         | 14.08  | 13.89  | 15.50               | 16.78        | 16.87 | 16.95 | 18.50               |
| 3GPP Rel 6      | HSUPA Subtest-3    | 16.72         | 16.70 | 16.60  | 17.00               | 15.65         | 15.86  | 15.76  | 16.50               | 17.89        | 17.92 | 17.76 | 19.50               |
| 3GPP Rel 6      | HSUPA Subtest-4    | 14.89         | 14.99 | 14.82  | 16.00               | 13.99         | 14.01  | 13.80  | 15.50               | 16.70        | 16.78 | 16.58 | 18.50               |
| 3GPP Rel 6      | HSUPA Subtest-5    | 16.68         | 16.71 | 16.62  | 18.00               | 15.66         | 15.76  | 15.62  | 17.50               | 18.68        | 18.75 | 18.65 | 20.50               |

**<Reduced Power Mode for Handheld On>**

| Band            |                    | WCDMA Band II |       |        | Tune-up<br>Limit<br>(dBm) | WCDMA Band IV |        |        | Tune-up<br>Limit<br>(dBm) |
|-----------------|--------------------|---------------|-------|--------|---------------------------|---------------|--------|--------|---------------------------|
| Tx Channel      |                    | 9262          | 9400  | 9538   |                           | 1312          | 1413   | 1513   |                           |
| Rx Channel      |                    | 9662          | 9800  | 9938   |                           | 1537          | 1638   | 1738   |                           |
| Frequency (MHz) |                    | 1852.4        | 1880  | 1907.6 |                           | 1712.4        | 1732.6 | 1752.6 |                           |
| 3GPP Rel 99     | AMR 12.2Kbps       | 20.01         | 19.84 | 20.00  | 21.00                     | 19.60         | 19.43  | 19.52  | 21.00                     |
| 3GPP Rel 99     | RMC 12.2Kbps       | 20.04         | 19.88 | 20.05  | 21.00                     | 19.63         | 19.49  | 19.56  | 21.00                     |
| 3GPP Rel 6      | HSDPA Subtest-1    | 19.79         | 19.85 | 19.98  | 21.00                     | 19.54         | 19.40  | 19.52  | 21.00                     |
| 3GPP Rel 6      | HSDPA Subtest-2    | 19.82         | 19.97 | 19.91  | 21.00                     | 19.60         | 19.30  | 19.49  | 21.00                     |
| 3GPP Rel 6      | HSDPA Subtest-3    | 19.35         | 19.36 | 19.49  | 20.50                     | 19.03         | 19.03  | 19.04  | 20.50                     |
| 3GPP Rel 6      | HSDPA Subtest-4    | 19.33         | 19.22 | 19.42  | 20.50                     | 19.02         | 19.04  | 19.03  | 20.50                     |
| 3GPP Rel 8      | DC-HSDPA Subtest-1 | 19.75         | 19.80 | 19.92  | 21.00                     | 19.49         | 19.35  | 19.50  | 21.00                     |
| 3GPP Rel 8      | DC-HSDPA Subtest-2 | 19.76         | 19.92 | 19.95  | 21.00                     | 19.55         | 19.39  | 19.42  | 21.00                     |
| 3GPP Rel 8      | DC-HSDPA Subtest-3 | 19.32         | 19.21 | 19.38  | 20.50                     | 19.08         | 19.07  | 19.08  | 20.50                     |
| 3GPP Rel 8      | DC-HSDPA Subtest-4 | 19.38         | 19.19 | 19.36  | 20.50                     | 19.07         | 19.09  | 19.01  | 20.50                     |
| 3GPP Rel 6      | HSUPA Subtest-1    | 19.59         | 19.44 | 19.39  | 21.00                     | 19.39         | 19.39  | 19.36  | 21.00                     |
| 3GPP Rel 6      | HSUPA Subtest-2    | 17.43         | 17.32 | 17.33  | 19.00                     | 17.21         | 17.11  | 17.11  | 19.00                     |
| 3GPP Rel 6      | HSUPA Subtest-3    | 19.10         | 19.01 | 18.93  | 20.00                     | 18.82         | 18.77  | 18.77  | 20.00                     |
| 3GPP Rel 6      | HSUPA Subtest-4    | 17.32         | 17.21 | 17.21  | 19.00                     | 17.29         | 17.21  | 17.02  | 19.00                     |
| 3GPP Rel 6      | HSUPA Subtest-5    | 19.77         | 19.73 | 19.69  | 21.00                     | 19.55         | 19.33  | 19.52  | 21.00                     |

**<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.

**<Full Power Mode>**

| Band             | CDMA2000 BC0 |        |        | Tune-up Limit (dBm) | CDMA2000 BC1 |       |         | Tune-up Limit (dBm) |
|------------------|--------------|--------|--------|---------------------|--------------|-------|---------|---------------------|
| Tx Channel       | 1013         | 384    | 777    |                     | 25           | 600   | 1175    |                     |
| Frequency (MHz)  | 824.7        | 836.52 | 848.31 |                     | 1851.25      | 1880  | 1908.75 |                     |
| RC1 SO55         | 23.87        | 23.76  | 23.58  | 25.00               | 24.12        | 24.04 | 23.92   | 25.00               |
| RC3 SO55         | <b>23.88</b> | 23.77  | 23.58  | 25.00               | <b>24.13</b> | 24.06 | 23.94   | 25.00               |
| RC3 SO32 (F+SCH) | 23.88        | 23.73  | 23.58  | 25.00               | 24.12        | 24.07 | 23.89   | 25.00               |
| RC3 SO32 (+SCH)  | 23.86        | 23.70  | 23.56  | 25.00               | 24.11        | 24.05 | 23.90   | 25.00               |
| RTAP 153.6Kbps   | 23.82        | 23.75  | 23.57  | 25.00               | 24.13        | 24.03 | 23.91   | 25.00               |
| RETAP 4096Bits   | 23.83        | 23.72  | 23.55  | 25.00               | 24.12        | 24.06 | 23.90   | 25.00               |

| Band             | CDMA2000 BC10 |       |       | Tune-up Limit (dBm) |
|------------------|---------------|-------|-------|---------------------|
| Tx Channel       | 476           | 580   | 684   |                     |
| Frequency (MHz)  | 817.9         | 820.5 | 823.1 |                     |
| RC1 SO55         | 23.78         | 23.78 | 23.72 | 25.00               |
| RC3 SO55         | <b>23.80</b>  | 23.79 | 23.75 | 25.00               |
| RC3 SO32 (F+SCH) | 23.74         | 23.71 | 23.68 | 25.00               |
| RC3 SO32 (+SCH)  | 23.73         | 23.73 | 23.69 | 25.00               |
| RTAP 153.6Kbps   | 23.77         | 23.76 | 23.72 | 25.00               |
| RETAP 4096Bits   | 23.72         | 23.72 | 23.70 | 25.00               |

**<Reduced Power Mode for P-Sensor On>**

| Band             | CDMA2000 BC0 |        |        | Tune-up Limit (dBm) | CDMA2000 BC1 |       |         | Tune-up Limit (dBm) |
|------------------|--------------|--------|--------|---------------------|--------------|-------|---------|---------------------|
| Tx Channel       | 1013         | 384    | 777    |                     | 25           | 600   | 1175    |                     |
| Frequency (MHz)  | 824.7        | 836.52 | 848.31 |                     | 1851.25      | 1880  | 1908.75 |                     |
| RC1 SO55         | 21.02        | 20.89  | 20.71  | 22.00               | 19.97        | 19.96 | 19.85   | 20.50               |
| RC3 SO55         | <b>21.06</b> | 20.91  | 20.74  | 22.00               | <b>20.00</b> | 19.98 | 19.88   | 20.50               |
| RC3 SO32 (F+SCH) | 20.81        | 20.68  | 20.61  | 22.00               | 19.79        | 19.76 | 19.68   | 20.50               |
| RC3 SO32 (+SCH)  | 20.79        | 20.62  | 20.63  | 22.00               | 19.76        | 19.72 | 19.70   | 20.50               |
| RTAP 153.6Kbps   | 20.83        | 20.76  | 20.70  | 22.00               | 19.86        | 19.81 | 19.73   | 20.50               |
| RETAP 4096Bits   | 20.81        | 20.72  | 20.69  | 22.00               | 19.80        | 19.74 | 19.74   | 20.50               |

| Band             | CDMA2000 BC10 |       |       | Tune-up Limit (dBm) |
|------------------|---------------|-------|-------|---------------------|
| Tx Channel       | 476           | 580   | 684   |                     |
| Frequency (MHz)  | 817.9         | 820.5 | 823.1 |                     |
| RC1 SO55         | 21.89         | 21.85 | 21.80 | 23.00               |
| RC3 SO55         | <b>21.92</b>  | 21.89 | 21.84 | 23.00               |
| RC3 SO32 (F+SCH) | 21.86         | 21.79 | 21.72 | 23.00               |
| RC3 SO32 (+SCH)  | 21.82         | 21.74 | 21.73 | 23.00               |
| RTAP 153.6Kbps   | 21.91         | 21.83 | 21.78 | 23.00               |
| RETAP 4096Bits   | 21.88         | 21.82 | 21.76 | 23.00               |

**<Reduced Power Mode for Hotspot On>**

| Band             | CDMA2000 BC0 |        |        | Tune-up<br>Limit<br>(dBm) | CDMA2000 BC1 |       |         | Tune-up<br>Limit<br>(dBm) |
|------------------|--------------|--------|--------|---------------------------|--------------|-------|---------|---------------------------|
| Tx Channel       | 1013         | 384    | 777    |                           | 25           | 600   | 1175    |                           |
| Frequency (MHz)  | 824.7        | 836.52 | 848.31 |                           | 1851.25      | 1880  | 1908.75 |                           |
| RC1 SO55         | 21.02        | 20.89  | 20.71  | 22.00                     | 19.10        | 19.05 | 18.92   | 20.00                     |
| RC3 SO55         | <b>21.06</b> | 20.91  | 20.74  | 22.00                     | <b>19.11</b> | 19.07 | 18.96   | 20.00                     |
| RC3 SO32 (F+SCH) | 20.81        | 20.68  | 20.61  | 22.00                     | 18.99        | 18.98 | 18.81   | 20.00                     |
| RC3 SO32 (+SCH)  | 20.79        | 20.62  | 20.63  | 22.00                     | 18.93        | 18.96 | 18.76   | 20.00                     |
| RTAP 153.6Kbps   | 20.83        | 20.76  | 20.70  | 22.00                     | 19.06        | 19.03 | 18.93   | 20.00                     |
| RETAP 4096Bits   | 20.81        | 20.72  | 20.69  | 22.00                     | 19.02        | 19.00 | 18.97   | 20.00                     |

| Band             | CDMA2000 BC10 |       |       | Tune-up<br>Limit<br>(dBm) |
|------------------|---------------|-------|-------|---------------------------|
| Tx Channel       | 476           | 580   | 684   |                           |
| Frequency (MHz)  | 817.9         | 820.5 | 823.1 |                           |
| RC1 SO55         | 21.89         | 21.85 | 21.80 | 23.00                     |
| RC3 SO55         | <b>21.92</b>  | 21.89 | 21.84 | 23.00                     |
| RC3 SO32 (F+SCH) | 21.86         | 21.79 | 21.72 | 23.00                     |
| RC3 SO32 (+SCH)  | 21.82         | 21.74 | 21.73 | 23.00                     |
| RTAP 153.6Kbps   | 21.91         | 21.83 | 21.78 | 23.00                     |
| RETAP 4096Bits   | 21.88         | 21.82 | 21.76 | 23.00                     |

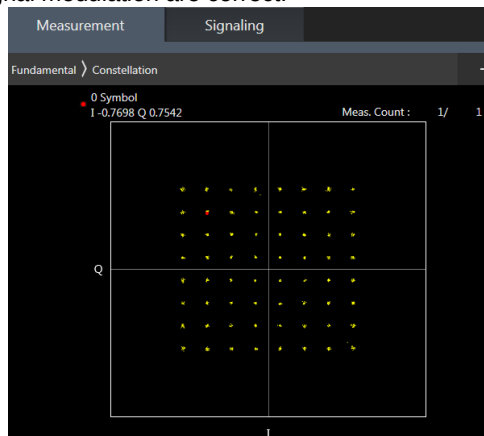
**<Reduced Power Mode for Handheld On>**

| Band             | CDMA2000 BC1 |       |         | Tune-up<br>Limit<br>(dBm) |
|------------------|--------------|-------|---------|---------------------------|
| Tx Channel       | 25           | 600   | 1175    |                           |
| Frequency (MHz)  | 1851.25      | 1880  | 1908.75 |                           |
| RC1 SO55         | 21.47        | 21.45 | 21.30   | 22.50                     |
| RC3 SO55         | <b>21.51</b> | 21.48 | 21.34   | 22.50                     |
| RC3 SO32 (F+SCH) | 21.37        | 21.32 | 21.24   | 22.50                     |
| RC3 SO32 (+SCH)  | 21.34        | 21.29 | 21.25   | 22.50                     |
| RTAP 153.6Kbps   | 21.49        | 21.46 | 21.38   | 22.50                     |
| RETAP 4096Bits   | 21.46        | 21.42 | 21.40   | 22.50                     |

## <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/64QAM 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/64QAM 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 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 B17 / B2 / B5 / B38 / B4 SAR test was covered by B12 / B25 / B26 / B41 / B66; 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

**<Full Power Mode>**
**<LTE Band 2>**

| 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         |            |         |           | 18700                 | 18900                    | 19100                  |                     |          |
| Frequency (MHz) |            |         |           | 1860                  | 1880                     | 1900                   |                     |          |
| 20              | QPSK       | 1       | 0         | 22.58                 | 22.58                    | 22.66                  | 24                  | 0        |
| 20              | QPSK       | 1       | 49        | 22.62                 | 22.57                    | 22.65                  |                     |          |
| 20              | QPSK       | 1       | 99        | 22.53                 | 22.67                    | 22.63                  |                     |          |
| 20              | QPSK       | 50      | 0         | 21.62                 | 21.65                    | 21.63                  | 23                  | 1        |
| 20              | QPSK       | 50      | 24        | 21.56                 | 21.53                    | 21.62                  |                     |          |
| 20              | QPSK       | 50      | 50        | 21.55                 | 21.58                    | 21.54                  |                     |          |
| 20              | QPSK       | 100     | 0         | 21.60                 | 21.55                    | 21.93                  |                     |          |
| 20              | 16QAM      | 1       | 0         | 21.54                 | 21.32                    | 21.76                  | 23                  | 1        |
| 20              | 16QAM      | 1       | 49        | 21.45                 | 21.30                    | 21.66                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 21.46                 | 21.38                    | 21.76                  |                     |          |
| 20              | 16QAM      | 50      | 0         | 20.56                 | 20.52                    | 20.95                  | 22                  | 2        |
| 20              | 16QAM      | 50      | 24        | 20.57                 | 20.52                    | 20.97                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 20.54                 | 20.60                    | 20.98                  |                     |          |
| 20              | 16QAM      | 100     | 0         | 20.57                 | 20.51                    | 20.94                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 20.28                 | 20.27                    | 20.58                  | 22                  | 2        |
| 20              | 64QAM      | 1       | 49        | 20.38                 | 20.26                    | 20.57                  |                     |          |
| 20              | 64QAM      | 1       | 99        | 20.33                 | 20.30                    | 20.63                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 19.61                 | 19.54                    | 19.99                  | 21                  | 3        |
| 20              | 64QAM      | 50      | 24        | 19.59                 | 19.54                    | 19.53                  |                     |          |
| 20              | 64QAM      | 50      | 50        | 19.53                 | 19.62                    | 19.55                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 19.51                 | 19.51                    | 19.93                  |                     |          |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 18675  | 18900 | 19125  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 1857.5 | 1880  | 1902.5 |                     |          |
| 15              | QPSK  | 1  | 0  | 22.55  | 22.60 | 22.64  | 24                  | 0        |
| 15              | QPSK  | 1  | 37 | 22.56  | 22.59 | 22.59  |                     |          |
| 15              | QPSK  | 1  | 74 | 22.58  | 22.64 | 22.59  |                     |          |
| 15              | QPSK  | 36 | 0  | 21.59  | 21.49 | 21.96  | 23                  | 1        |
| 15              | QPSK  | 36 | 20 | 21.55  | 21.55 | 21.98  |                     |          |
| 15              | QPSK  | 36 | 39 | 21.51  | 21.59 | 21.92  |                     |          |
| 15              | QPSK  | 75 | 0  | 21.55  | 21.56 | 21.90  |                     |          |
| 15              | 16QAM | 1  | 0  | 21.42  | 21.27 | 21.66  | 23                  | 1        |
| 15              | 16QAM | 1  | 37 | 21.31  | 21.39 | 21.62  |                     |          |
| 15              | 16QAM | 1  | 74 | 21.17  | 21.43 | 21.58  |                     |          |
| 15              | 16QAM | 36 | 0  | 20.49  | 20.40 | 20.85  | 22                  | 2        |
| 15              | 16QAM | 36 | 20 | 20.46  | 20.45 | 20.89  |                     |          |
| 15              | 16QAM | 36 | 39 | 20.50  | 20.40 | 20.89  |                     |          |
| 15              | 16QAM | 75 | 0  | 20.50  | 20.55 | 20.97  |                     |          |
| 15              | 64QAM | 1  | 0  | 20.38  | 20.33 | 20.70  | 22                  | 2        |
| 15              | 64QAM | 1  | 37 | 20.21  | 20.24 | 20.67  |                     |          |
| 15              | 64QAM | 1  | 74 | 20.28  | 20.36 | 20.68  |                     |          |
| 15              | 64QAM | 36 | 0  | 19.53  | 19.45 | 19.86  | 21                  | 3        |
| 15              | 64QAM | 36 | 20 | 19.42  | 19.47 | 19.85  |                     |          |
| 15              | 64QAM | 36 | 39 | 19.47  | 19.44 | 19.84  |                     |          |
| 15              | 64QAM | 75 | 0  | 19.57  | 19.51 | 20.00  |                     |          |
| Channel         |       |    |    | 18650  | 18900 | 19150  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1855   | 1880  | 1905   |                     |          |
| 10              | QPSK  | 1  | 0  | 22.61  | 22.56 | 22.52  | 24                  | 0        |
| 10              | QPSK  | 1  | 25 | 22.58  | 22.52 | 22.57  |                     |          |
| 10              | QPSK  | 1  | 49 | 22.54  | 22.57 | 22.58  |                     |          |
| 10              | QPSK  | 25 | 0  | 21.58  | 21.53 | 21.99  | 23                  | 1        |
| 10              | QPSK  | 25 | 12 | 21.60  | 21.53 | 21.97  |                     |          |
| 10              | QPSK  | 25 | 25 | 21.49  | 21.56 | 21.90  |                     |          |
| 10              | QPSK  | 50 | 0  | 21.48  | 21.48 | 21.92  |                     |          |
| 10              | 16QAM | 1  | 0  | 21.40  | 21.26 | 21.66  | 23                  | 1        |
| 10              | 16QAM | 1  | 25 | 21.25  | 21.31 | 21.65  |                     |          |
| 10              | 16QAM | 1  | 49 | 21.19  | 21.29 | 21.68  |                     |          |
| 10              | 16QAM | 25 | 0  | 20.49  | 20.46 | 20.85  | 22                  | 2        |
| 10              | 16QAM | 25 | 12 | 20.49  | 20.44 | 20.94  |                     |          |
| 10              | 16QAM | 25 | 25 | 20.44  | 20.49 | 20.93  |                     |          |
| 10              | 16QAM | 50 | 0  | 20.47  | 20.52 | 20.90  |                     |          |
| 10              | 64QAM | 1  | 0  | 20.28  | 20.33 | 20.76  | 22                  | 2        |
| 10              | 64QAM | 1  | 25 | 20.30  | 20.39 | 20.70  |                     |          |
| 10              | 64QAM | 1  | 49 | 20.35  | 20.49 | 20.74  |                     |          |
| 10              | 64QAM | 25 | 0  | 19.48  | 19.49 | 19.94  | 21                  | 3        |
| 10              | 64QAM | 25 | 12 | 19.55  | 19.45 | 19.93  |                     |          |
| 10              | 64QAM | 25 | 25 | 19.47  | 19.45 | 19.92  |                     |          |
| 10              | 64QAM | 50 | 0  | 19.51  | 19.53 | 19.93  |                     |          |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 18625  | 18900 | 19175  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 1852.5 | 1880  | 1907.5 |                     |          |
| 5               | QPSK  | 1  | 0  | 22.56  | 22.53 | 22.55  | 24                  | 0        |
| 5               | QPSK  | 1  | 12 | 22.55  | 22.53 | 22.57  |                     |          |
| 5               | QPSK  | 1  | 24 | 22.57  | 22.53 | 22.53  |                     |          |
| 5               | QPSK  | 12 | 0  | 21.54  | 21.52 | 21.99  | 23                  | 1        |
| 5               | QPSK  | 12 | 7  | 21.57  | 21.53 | 22.01  |                     |          |
| 5               | QPSK  | 12 | 13 | 21.56  | 21.54 | 21.95  |                     |          |
| 5               | QPSK  | 25 | 0  | 21.53  | 21.51 | 22.01  |                     |          |
| 5               | 16QAM | 1  | 0  | 21.57  | 21.34 | 21.70  | 23                  | 1        |
| 5               | 16QAM | 1  | 12 | 21.56  | 21.31 | 21.70  |                     |          |
| 5               | 16QAM | 1  | 24 | 21.46  | 21.38 | 21.77  |                     |          |
| 5               | 16QAM | 12 | 0  | 20.46  | 20.38 | 20.83  | 22                  | 2        |
| 5               | 16QAM | 12 | 7  | 20.44  | 20.42 | 20.85  |                     |          |
| 5               | 16QAM | 12 | 13 | 20.41  | 20.40 | 20.83  |                     |          |
| 5               | 16QAM | 25 | 0  | 20.49  | 20.45 | 20.92  |                     |          |
| 5               | 64QAM | 1  | 0  | 20.32  | 20.30 | 20.78  | 22                  | 2        |
| 5               | 64QAM | 1  | 12 | 20.30  | 20.32 | 20.76  |                     |          |
| 5               | 64QAM | 1  | 24 | 20.32  | 20.30 | 20.77  |                     |          |
| 5               | 64QAM | 12 | 0  | 19.49  | 19.40 | 19.78  | 21                  | 3        |
| 5               | 64QAM | 12 | 7  | 19.44  | 19.37 | 19.72  |                     |          |
| 5               | 64QAM | 12 | 13 | 19.43  | 19.44 | 19.81  |                     |          |
| 5               | 64QAM | 25 | 0  | 19.45  | 19.48 | 19.94  |                     |          |
| Channel         |       |    |    | 18615  | 18900 | 19185  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1851.5 | 1880  | 1908.5 |                     |          |
| 3               | QPSK  | 1  | 0  | 22.54  | 22.52 | 22.52  | 24                  | 0        |
| 3               | QPSK  | 1  | 8  | 22.52  | 22.57 | 22.60  |                     |          |
| 3               | QPSK  | 1  | 14 | 22.60  | 22.54 | 22.57  |                     |          |
| 3               | QPSK  | 8  | 0  | 21.53  | 21.53 | 21.97  | 23                  | 1        |
| 3               | QPSK  | 8  | 4  | 21.56  | 21.48 | 21.98  |                     |          |
| 3               | QPSK  | 8  | 7  | 21.51  | 21.54 | 21.95  |                     |          |
| 3               | QPSK  | 15 | 0  | 21.51  | 21.50 | 21.91  |                     |          |
| 3               | 16QAM | 1  | 0  | 21.45  | 21.23 | 21.72  | 23                  | 1        |
| 3               | 16QAM | 1  | 8  | 21.26  | 21.29 | 21.68  |                     |          |
| 3               | 16QAM | 1  | 14 | 21.35  | 21.26 | 21.71  |                     |          |
| 3               | 16QAM | 8  | 0  | 20.43  | 20.49 | 20.89  | 22                  | 2        |
| 3               | 16QAM | 8  | 4  | 20.46  | 20.45 | 20.90  |                     |          |
| 3               | 16QAM | 8  | 7  | 20.42  | 20.51 | 20.89  |                     |          |
| 3               | 16QAM | 15 | 0  | 20.46  | 20.44 | 20.94  |                     |          |
| 3               | 64QAM | 1  | 0  | 20.33  | 20.47 | 20.80  | 22                  | 2        |
| 3               | 64QAM | 1  | 8  | 20.38  | 20.36 | 20.77  |                     |          |
| 3               | 64QAM | 1  | 14 | 20.42  | 20.43 | 20.83  |                     |          |
| 3               | 64QAM | 8  | 0  | 19.47  | 19.49 | 19.91  | 21                  | 3        |
| 3               | 64QAM | 8  | 4  | 19.47  | 19.46 | 19.87  |                     |          |
| 3               | 64QAM | 8  | 7  | 19.43  | 19.52 | 19.92  |                     |          |
| 3               | 64QAM | 15 | 0  | 19.44  | 19.43 | 19.93  |                     |          |

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| Channel         |       |   |   | 18607  | 18900 | 19193  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|---|---|--------|-------|--------|---------------------------|-------------|
| Frequency (MHz) |       |   |   | 1850.7 | 1880  | 1909.3 |                           |             |
| 1.4             | QPSK  | 1 | 0 | 22.47  | 22.47 | 22.57  | 24                        | 0           |
| 1.4             | QPSK  | 1 | 3 | 22.57  | 22.50 | 22.49  |                           |             |
| 1.4             | QPSK  | 1 | 5 | 22.49  | 22.48 | 22.50  |                           |             |
| 1.4             | QPSK  | 3 | 0 | 22.49  | 22.49 | 22.42  |                           |             |
| 1.4             | QPSK  | 3 | 1 | 22.49  | 22.46 | 22.49  |                           |             |
| 1.4             | QPSK  | 3 | 3 | 22.46  | 22.42 | 22.46  |                           |             |
| 1.4             | QPSK  | 6 | 0 | 21.49  | 21.52 | 21.91  | 23                        | 1           |
| 1.4             | 16QAM | 1 | 0 | 21.43  | 21.26 | 21.75  | 23                        | 1           |
| 1.4             | 16QAM | 1 | 3 | 21.30  | 21.29 | 21.75  |                           |             |
| 1.4             | 16QAM | 1 | 5 | 21.47  | 21.29 | 21.72  |                           |             |
| 1.4             | 16QAM | 3 | 0 | 21.36  | 21.35 | 21.82  |                           |             |
| 1.4             | 16QAM | 3 | 1 | 21.34  | 21.41 | 21.81  |                           |             |
| 1.4             | 16QAM | 3 | 3 | 21.33  | 21.32 | 21.77  |                           |             |
| 1.4             | 16QAM | 6 | 0 | 20.42  | 20.45 | 20.90  | 22                        | 2           |
| 1.4             | 64QAM | 1 | 0 | 20.17  | 20.16 | 20.64  | 22                        | 2           |
| 1.4             | 64QAM | 1 | 3 | 20.17  | 20.22 | 20.53  |                           |             |
| 1.4             | 64QAM | 1 | 5 | 20.18  | 20.25 | 20.62  |                           |             |
| 1.4             | 64QAM | 3 | 0 | 20.38  | 20.41 | 20.87  |                           |             |
| 1.4             | 64QAM | 3 | 1 | 20.37  | 20.43 | 20.87  |                           |             |
| 1.4             | 64QAM | 3 | 3 | 20.44  | 20.47 | 20.85  |                           |             |
| 1.4             | 64QAM | 6 | 0 | 19.48  | 19.50 | 19.93  | 21                        | 3           |

**<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         | 22.43                 | 22.52                    | 22.42                  | 24                  | 0        |
| 20              | QPSK       | 1       | 49        | 22.41                 | 22.31                    | 22.38                  |                     |          |
| 20              | QPSK       | 1       | 99        | 22.35                 | 22.29                    | 22.36                  |                     |          |
| 20              | QPSK       | 50      | 0         | 21.40                 | 21.42                    | 21.37                  | 23                  | 1        |
| 20              | QPSK       | 50      | 24        | 21.39                 | 21.29                    | 21.36                  |                     |          |
| 20              | QPSK       | 50      | 50        | 21.38                 | 21.30                    | 21.36                  |                     |          |
| 20              | QPSK       | 100     | 0         | 21.39                 | 21.32                    | 21.38                  | 23                  | 1        |
| 20              | 16QAM      | 1       | 0         | 21.25                 | 21.01                    | 21.11                  |                     |          |
| 20              | 16QAM      | 1       | 49        | 21.18                 | 21.03                    | 21.14                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 21.09                 | 21.03                    | 21.02                  | 22                  | 2        |
| 20              | 16QAM      | 50      | 0         | 20.38                 | 20.38                    | 20.36                  |                     |          |
| 20              | 16QAM      | 50      | 24        | 20.37                 | 20.32                    | 20.37                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 20.34                 | 20.27                    | 20.33                  | 22                  | 2        |
| 20              | 16QAM      | 100     | 0         | 20.37                 | 20.30                    | 20.34                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 20.29                 | 20.26                    | 20.31                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 20.14                 | 20.22                    | 20.27                  | 22                  | 2        |
| 20              | 64QAM      | 1       | 99        | 20.22                 | 20.18                    | 20.28                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 19.66                 | 19.54                    | 19.58                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 19.59                 | 19.58                    | 19.65                  | 21                  | 3        |
| 20              | 64QAM      | 50      | 50        | 19.57                 | 19.56                    | 19.56                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 19.53                 | 19.51                    | 19.55                  |                     |          |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 20025  | 20175  | 20325  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|--------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 1717.5 | 1732.5 | 1747.5 |                     |          |
| 15              | QPSK  | 1  | 0  | 22.38  | 22.40  | 22.37  | 24                  | 0        |
| 15              | QPSK  | 1  | 37 | 22.40  | 22.36  | 22.37  |                     |          |
| 15              | QPSK  | 1  | 74 | 22.26  | 22.30  | 22.36  |                     |          |
| 15              | QPSK  | 36 | 0  | 21.39  | 21.39  | 21.34  | 23                  | 1        |
| 15              | QPSK  | 36 | 20 | 21.40  | 21.35  | 21.40  |                     |          |
| 15              | QPSK  | 36 | 39 | 21.35  | 21.35  | 21.44  |                     |          |
| 15              | QPSK  | 75 | 0  | 21.43  | 21.39  | 21.41  | 23                  | 1        |
| 15              | 16QAM | 1  | 0  | 21.19  | 21.20  | 21.23  |                     |          |
| 15              | 16QAM | 1  | 37 | 21.20  | 21.04  | 21.18  |                     |          |
| 15              | 16QAM | 1  | 74 | 21.24  | 21.08  | 21.25  | 22                  | 2        |
| 15              | 16QAM | 36 | 0  | 20.40  | 20.39  | 20.33  |                     |          |
| 15              | 16QAM | 36 | 20 | 20.41  | 20.33  | 20.40  |                     |          |
| 15              | 16QAM | 36 | 39 | 20.32  | 20.32  | 20.39  | 22                  | 2        |
| 15              | 16QAM | 75 | 0  | 20.39  | 20.34  | 20.45  |                     |          |
| 15              | 64QAM | 1  | 0  | 20.29  | 20.39  | 20.51  |                     |          |
| 15              | 64QAM | 1  | 37 | 20.33  | 20.39  | 20.48  | 21                  | 3        |
| 15              | 64QAM | 1  | 74 | 20.36  | 20.29  | 20.36  |                     |          |
| 15              | 64QAM | 36 | 0  | 19.63  | 19.51  | 19.61  |                     |          |
| 15              | 64QAM | 36 | 20 | 19.61  | 19.53  | 19.64  | 21                  | 3        |
| 15              | 64QAM | 36 | 39 | 19.56  | 19.52  | 19.60  |                     |          |
| 15              | 64QAM | 75 | 0  | 19.62  | 19.56  | 19.66  |                     |          |
| Channel         |       |    |    | 20000  | 20175  | 20350  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1715   | 1732.5 | 1750   |                     |          |
| 10              | QPSK  | 1  | 0  | 22.45  | 22.41  | 22.45  | 24                  | 0        |
| 10              | QPSK  | 1  | 25 | 22.35  | 22.32  | 22.48  |                     |          |
| 10              | QPSK  | 1  | 49 | 22.39  | 22.32  | 22.46  |                     |          |
| 10              | QPSK  | 25 | 0  | 21.41  | 21.34  | 21.40  | 23                  | 1        |
| 10              | QPSK  | 25 | 12 | 21.42  | 21.33  | 21.37  |                     |          |
| 10              | QPSK  | 25 | 25 | 21.36  | 21.34  | 21.44  |                     |          |
| 10              | QPSK  | 50 | 0  | 21.43  | 21.37  | 21.42  | 23                  | 1        |
| 10              | 16QAM | 1  | 0  | 21.19  | 21.23  | 21.21  |                     |          |
| 10              | 16QAM | 1  | 25 | 21.25  | 21.07  | 21.20  |                     |          |
| 10              | 16QAM | 1  | 49 | 21.22  | 21.07  | 21.26  | 22                  | 2        |
| 10              | 16QAM | 25 | 0  | 20.43  | 20.32  | 20.42  |                     |          |
| 10              | 16QAM | 25 | 12 | 20.41  | 20.32  | 20.40  |                     |          |
| 10              | 16QAM | 25 | 25 | 20.40  | 20.34  | 20.49  | 22                  | 2        |
| 10              | 16QAM | 50 | 0  | 20.43  | 20.33  | 20.44  |                     |          |
| 10              | 64QAM | 1  | 0  | 20.29  | 20.34  | 20.36  |                     |          |
| 10              | 64QAM | 1  | 25 | 20.26  | 20.34  | 20.33  | 21                  | 3        |
| 10              | 64QAM | 1  | 49 | 20.31  | 20.23  | 20.35  |                     |          |
| 10              | 64QAM | 25 | 0  | 19.59  | 19.53  | 19.59  |                     |          |
| 10              | 64QAM | 25 | 12 | 19.60  | 19.57  | 19.61  | 21                  | 3        |
| 10              | 64QAM | 25 | 25 | 19.61  | 19.48  | 19.60  |                     |          |
| 10              | 64QAM | 50 | 0  | 19.63  | 19.57  | 19.69  |                     |          |

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# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 19975  | 20175  | 20375  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|--------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 1712.5 | 1732.5 | 1752.5 |                     |          |
| 5               | QPSK  | 1  | 0  | 22.40  | 22.34  | 22.45  | 24                  | 0        |
| 5               | QPSK  | 1  | 12 | 22.39  | 22.26  | 22.44  |                     |          |
| 5               | QPSK  | 1  | 24 | 22.35  | 22.28  | 22.44  |                     |          |
| 5               | QPSK  | 12 | 0  | 21.38  | 21.34  | 21.40  | 23                  | 1        |
| 5               | QPSK  | 12 | 7  | 21.34  | 21.26  | 21.40  |                     |          |
| 5               | QPSK  | 12 | 13 | 21.39  | 21.26  | 21.39  |                     |          |
| 5               | QPSK  | 25 | 0  | 21.32  | 21.31  | 21.41  | 23                  | 1        |
| 5               | 16QAM | 1  | 0  | 21.23  | 21.04  | 21.21  |                     |          |
| 5               | 16QAM | 1  | 12 | 21.10  | 21.02  | 21.22  |                     |          |
| 5               | 16QAM | 1  | 24 | 21.09  | 21.07  | 21.24  | 22                  | 2        |
| 5               | 16QAM | 12 | 0  | 20.26  | 20.25  | 20.30  |                     |          |
| 5               | 16QAM | 12 | 7  | 20.24  | 20.26  | 20.34  |                     |          |
| 5               | 16QAM | 12 | 13 | 20.30  | 20.17  | 20.27  | 22                  | 2        |
| 5               | 16QAM | 25 | 0  | 20.32  | 20.39  | 20.41  |                     |          |
| 5               | 64QAM | 1  | 0  | 20.38  | 20.24  | 20.27  |                     |          |
| 5               | 64QAM | 1  | 12 | 20.42  | 20.25  | 20.14  | 22                  | 2        |
| 5               | 64QAM | 1  | 24 | 20.27  | 20.23  | 20.26  |                     |          |
| 5               | 64QAM | 12 | 0  | 19.47  | 19.45  | 19.48  |                     |          |
| 5               | 64QAM | 12 | 7  | 19.42  | 19.48  | 19.52  | 21                  | 3        |
| 5               | 64QAM | 12 | 13 | 19.46  | 19.45  | 19.54  |                     |          |
| 5               | 64QAM | 25 | 0  | 19.51  | 19.51  | 19.58  |                     |          |
| Channel         |       |    |    | 19965  | 20175  | 20385  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1711.5 | 1732.5 | 1753.5 |                     |          |
| 3               | QPSK  | 1  | 0  | 22.39  | 22.30  | 22.32  | 24                  | 0        |
| 3               | QPSK  | 1  | 8  | 22.33  | 22.32  | 22.49  |                     |          |
| 3               | QPSK  | 1  | 14 | 22.35  | 22.34  | 22.45  |                     |          |
| 3               | QPSK  | 8  | 0  | 21.33  | 21.29  | 21.43  | 23                  | 1        |
| 3               | QPSK  | 8  | 4  | 21.34  | 21.32  | 21.47  |                     |          |
| 3               | QPSK  | 8  | 7  | 21.33  | 21.24  | 21.46  |                     |          |
| 3               | QPSK  | 15 | 0  | 21.34  | 21.23  | 21.42  | 23                  | 1        |
| 3               | 16QAM | 1  | 0  | 21.29  | 21.03  | 21.17  |                     |          |
| 3               | 16QAM | 1  | 8  | 21.25  | 21.07  | 21.23  |                     |          |
| 3               | 16QAM | 1  | 14 | 21.27  | 21.05  | 21.33  | 22                  | 2        |
| 3               | 16QAM | 8  | 0  | 20.29  | 20.19  | 20.43  |                     |          |
| 3               | 16QAM | 8  | 4  | 20.30  | 20.22  | 20.43  |                     |          |
| 3               | 16QAM | 8  | 7  | 20.26  | 20.30  | 20.38  | 22                  | 2        |
| 3               | 16QAM | 15 | 0  | 20.35  | 20.25  | 20.39  |                     |          |
| 3               | 64QAM | 1  | 0  | 20.25  | 20.20  | 20.41  |                     |          |
| 3               | 64QAM | 1  | 8  | 20.27  | 20.27  | 20.38  | 22                  | 2        |
| 3               | 64QAM | 1  | 14 | 20.21  | 20.09  | 20.44  |                     |          |
| 3               | 64QAM | 8  | 0  | 19.58  | 19.58  | 19.66  |                     |          |
| 3               | 64QAM | 8  | 4  | 19.56  | 19.54  | 19.65  | 21                  | 3        |
| 3               | 64QAM | 8  | 7  | 19.53  | 19.45  | 19.64  |                     |          |
| 3               | 64QAM | 15 | 0  | 19.52  | 19.51  | 19.58  |                     |          |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |   |   | 19957  | 20175  | 20393  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|---|---|--------|--------|--------|---------------------|----------|
| Frequency (MHz) |       |   |   | 1710.7 | 1732.5 | 1754.3 |                     |          |
| 1.4             | QPSK  | 1 | 0 | 22.30  | 22.26  | 22.38  | 24                  | 0        |
| 1.4             | QPSK  | 1 | 3 | 22.36  | 22.25  | 22.38  |                     |          |
| 1.4             | QPSK  | 1 | 5 | 22.38  | 22.27  | 22.37  |                     |          |
| 1.4             | QPSK  | 3 | 0 | 22.32  | 22.35  | 22.32  |                     |          |
| 1.4             | QPSK  | 3 | 1 | 22.34  | 22.27  | 22.36  |                     |          |
| 1.4             | QPSK  | 3 | 3 | 22.36  | 22.33  | 22.41  |                     |          |
| 1.4             | QPSK  | 6 | 0 | 21.33  | 21.23  | 21.42  | 23                  | 1        |
| 1.4             | 16QAM | 1 | 0 | 21.20  | 21.02  | 21.17  | 23                  | 1        |
| 1.4             | 16QAM | 1 | 3 | 21.13  | 21.06  | 21.21  |                     |          |
| 1.4             | 16QAM | 1 | 5 | 21.17  | 21.04  | 21.17  |                     |          |
| 1.4             | 16QAM | 3 | 0 | 21.17  | 21.01  | 21.26  |                     |          |
| 1.4             | 16QAM | 3 | 1 | 21.15  | 21.17  | 21.23  |                     |          |
| 1.4             | 16QAM | 3 | 3 | 21.26  | 21.04  | 21.33  |                     |          |
| 1.4             | 16QAM | 6 | 0 | 20.29  | 20.23  | 20.34  | 22                  | 2        |
| 1.4             | 64QAM | 1 | 0 | 20.27  | 20.16  | 20.18  | 22                  | 2        |
| 1.4             | 64QAM | 1 | 3 | 20.28  | 20.25  | 20.26  |                     |          |
| 1.4             | 64QAM | 1 | 5 | 20.15  | 20.22  | 20.21  |                     |          |
| 1.4             | 64QAM | 3 | 0 | 20.48  | 20.40  | 20.54  |                     |          |
| 1.4             | 64QAM | 3 | 1 | 20.50  | 20.42  | 20.52  |                     |          |
| 1.4             | 64QAM | 3 | 3 | 20.53  | 20.48  | 20.57  |                     |          |
| 1.4             | 64QAM | 6 | 0 | 19.71  | 19.60  | 19.70  | 21                  | 3        |

**<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         | 22.81                 | 22.85                    | 22.82                  | 24                  | 0        |
| 10              | QPSK       | 1       | 25        | 22.78                 | 22.75                    | 22.71                  |                     |          |
| 10              | QPSK       | 1       | 49        | 22.74                 | 22.81                    | 22.73                  |                     |          |
| 10              | QPSK       | 25      | 0         | 21.81                 | 21.93                    | 21.86                  | 23                  | 1        |
| 10              | QPSK       | 25      | 12        | 21.82                 | 21.89                    | 21.88                  |                     |          |
| 10              | QPSK       | 25      | 25        | 21.86                 | 21.85                    | 21.78                  |                     |          |
| 10              | QPSK       | 50      | 0         | 21.83                 | 21.85                    | 21.80                  |                     |          |
| 10              | 16QAM      | 1       | 0         | 21.67                 | 21.65                    | 21.63                  | 23                  | 1        |
| 10              | 16QAM      | 1       | 25        | 21.65                 | 21.60                    | 21.70                  |                     |          |
| 10              | 16QAM      | 1       | 49        | 21.63                 | 21.74                    | 21.52                  |                     |          |
| 10              | 16QAM      | 25      | 0         | 20.81                 | 20.89                    | 20.98                  | 22                  | 2        |
| 10              | 16QAM      | 25      | 12        | 20.82                 | 20.90                    | 20.86                  |                     |          |
| 10              | 16QAM      | 25      | 25        | 20.76                 | 20.85                    | 20.84                  |                     |          |
| 10              | 16QAM      | 50      | 0         | 20.79                 | 20.92                    | 20.88                  |                     |          |
| 10              | 64QAM      | 1       | 0         | 20.94                 | 20.93                    | 20.94                  | 22                  | 2        |
| 10              | 64QAM      | 1       | 25        | 21.06                 | 20.80                    | 21.00                  |                     |          |
| 10              | 64QAM      | 1       | 49        | 20.87                 | 20.83                    | 20.95                  |                     |          |
| 10              | 64QAM      | 25      | 0         | 19.79                 | 19.86                    | 19.91                  | 21                  | 3        |
| 10              | 64QAM      | 25      | 12        | 19.79                 | 19.97                    | 19.90                  |                     |          |
| 10              | 64QAM      | 25      | 25        | 19.72                 | 19.86                    | 19.82                  |                     |          |
| 10              | 64QAM      | 50      | 0         | 19.82                 | 19.94                    | 19.94                  |                     |          |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 20425 | 20525 | 20625 | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|-------|-------|-------|---------------------|----------|
| Frequency (MHz) |       |    |    | 826.5 | 836.5 | 846.5 |                     |          |
| 5               | QPSK  | 1  | 0  | 22.75 | 22.79 | 22.75 | 24                  | 0        |
| 5               | QPSK  | 1  | 12 | 22.71 | 22.75 | 22.79 |                     |          |
| 5               | QPSK  | 1  | 24 | 22.79 | 22.75 | 22.75 |                     |          |
| 5               | QPSK  | 12 | 0  | 21.81 | 21.84 | 21.88 | 23                  | 1        |
| 5               | QPSK  | 12 | 7  | 21.79 | 21.84 | 21.89 |                     |          |
| 5               | QPSK  | 12 | 13 | 21.82 | 21.84 | 21.90 |                     |          |
| 5               | QPSK  | 25 | 0  | 21.83 | 21.85 | 21.90 | 23                  | 1        |
| 5               | 16QAM | 1  | 0  | 21.61 | 21.52 | 21.73 |                     |          |
| 5               | 16QAM | 1  | 12 | 21.67 | 21.49 | 21.63 |                     |          |
| 5               | 16QAM | 1  | 24 | 21.68 | 21.72 | 21.56 | 22                  | 2        |
| 5               | 16QAM | 12 | 0  | 20.75 | 20.85 | 20.83 |                     |          |
| 5               | 16QAM | 12 | 7  | 20.74 | 20.78 | 20.81 |                     |          |
| 5               | 16QAM | 12 | 13 | 20.71 | 20.69 | 20.80 | 22                  | 2        |
| 5               | 16QAM | 25 | 0  | 20.84 | 20.91 | 20.88 |                     |          |
| 5               | 64QAM | 1  | 0  | 20.66 | 20.67 | 20.81 |                     |          |
| 5               | 64QAM | 1  | 12 | 20.52 | 20.61 | 20.59 | 22                  | 2        |
| 5               | 64QAM | 1  | 24 | 20.47 | 20.65 | 20.70 |                     |          |
| 5               | 64QAM | 12 | 0  | 19.71 | 19.82 | 19.87 |                     |          |
| 5               | 64QAM | 12 | 7  | 19.69 | 19.84 | 19.80 | 21                  | 3        |
| 5               | 64QAM | 12 | 13 | 19.71 | 19.76 | 19.73 |                     |          |
| 5               | 64QAM | 25 | 0  | 19.83 | 19.86 | 19.88 |                     |          |
| Channel         |       |    |    | 20415 | 20525 | 20635 | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 825.5 | 836.5 | 847.5 |                     |          |
| 3               | QPSK  | 1  | 0  | 22.84 | 22.78 | 22.78 | 24                  | 0        |
| 3               | QPSK  | 1  | 8  | 22.78 | 22.74 | 22.78 |                     |          |
| 3               | QPSK  | 1  | 14 | 22.74 | 22.78 | 22.78 |                     |          |
| 3               | QPSK  | 8  | 0  | 21.82 | 21.89 | 21.93 | 23                  | 1        |
| 3               | QPSK  | 8  | 4  | 21.79 | 21.86 | 21.90 |                     |          |
| 3               | QPSK  | 8  | 7  | 21.85 | 21.89 | 21.87 |                     |          |
| 3               | QPSK  | 15 | 0  | 21.85 | 21.85 | 21.87 | 23                  | 1        |
| 3               | 16QAM | 1  | 0  | 21.63 | 21.75 | 21.69 |                     |          |
| 3               | 16QAM | 1  | 8  | 21.69 | 21.61 | 21.63 |                     |          |
| 3               | 16QAM | 1  | 14 | 21.61 | 21.65 | 21.71 | 22                  | 2        |
| 3               | 16QAM | 8  | 0  | 20.85 | 20.91 | 20.93 |                     |          |
| 3               | 16QAM | 8  | 4  | 20.82 | 20.83 | 20.86 |                     |          |
| 3               | 16QAM | 8  | 7  | 20.76 | 20.83 | 20.88 | 22                  | 2        |
| 3               | 16QAM | 15 | 0  | 20.76 | 20.83 | 20.87 |                     |          |
| 3               | 64QAM | 1  | 0  | 20.67 | 20.60 | 20.69 |                     |          |
| 3               | 64QAM | 1  | 8  | 20.52 | 20.67 | 20.67 | 22                  | 2        |
| 3               | 64QAM | 1  | 14 | 20.67 | 20.60 | 20.76 |                     |          |
| 3               | 64QAM | 8  | 0  | 19.73 | 19.91 | 19.92 |                     |          |
| 3               | 64QAM | 8  | 4  | 19.80 | 19.87 | 19.89 | 21                  | 3        |
| 3               | 64QAM | 8  | 7  | 19.81 | 19.93 | 19.93 |                     |          |
| 3               | 64QAM | 15 | 0  | 19.80 | 19.86 | 19.91 |                     |          |

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| Channel         |       |   |   | 20407 | 20525 | 20643 | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|---|---|-------|-------|-------|---------------------------|-------------|
| Frequency (MHz) |       |   |   | 824.7 | 836.5 | 848.3 |                           |             |
| 1.4             | QPSK  | 1 | 0 | 22.75 | 22.75 | 22.75 | 24                        | 0           |
| 1.4             | QPSK  | 1 | 3 | 22.78 | 22.78 | 22.75 |                           |             |
| 1.4             | QPSK  | 1 | 5 | 22.80 | 22.75 | 22.79 |                           |             |
| 1.4             | QPSK  | 3 | 0 | 22.79 | 22.75 | 22.79 |                           |             |
| 1.4             | QPSK  | 3 | 1 | 22.77 | 22.79 | 22.75 |                           |             |
| 1.4             | QPSK  | 3 | 3 | 22.76 | 22.78 | 22.75 |                           |             |
| 1.4             | QPSK  | 6 | 0 | 21.75 | 21.81 | 21.89 | 23                        | 1           |
| 1.4             | 16QAM | 1 | 0 | 21.66 | 21.59 | 21.79 | 23                        | 1           |
| 1.4             | 16QAM | 1 | 3 | 21.66 | 21.63 | 21.63 |                           |             |
| 1.4             | 16QAM | 1 | 5 | 21.68 | 21.68 | 21.55 |                           |             |
| 1.4             | 16QAM | 3 | 0 | 21.64 | 21.81 | 21.70 |                           |             |
| 1.4             | 16QAM | 3 | 1 | 21.73 | 21.71 | 21.72 |                           |             |
| 1.4             | 16QAM | 3 | 3 | 21.66 | 21.68 | 21.74 |                           |             |
| 1.4             | 16QAM | 6 | 0 | 20.74 | 20.88 | 20.80 | 22                        | 2           |
| 1.4             | 64QAM | 1 | 0 | 20.47 | 20.49 | 20.61 | 22                        | 2           |
| 1.4             | 64QAM | 1 | 3 | 20.43 | 20.64 | 20.52 |                           |             |
| 1.4             | 64QAM | 1 | 5 | 20.41 | 20.60 | 20.47 |                           |             |
| 1.4             | 64QAM | 3 | 0 | 20.69 | 20.78 | 20.80 |                           |             |
| 1.4             | 64QAM | 3 | 1 | 20.71 | 20.72 | 20.85 |                           |             |
| 1.4             | 64QAM | 3 | 3 | 20.68 | 20.70 | 20.77 |                           |             |
| 1.4             | 64QAM | 6 | 0 | 19.89 | 19.99 | 19.97 | 21                        | 3           |

**<LTE Band 7>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|---------------------------|-------------|
| Channel         |            |         |           | 20850                    | 21100                       | 21350                     |                           |             |
| Frequency (MHz) |            |         |           | 2510                     | 2535                        | 2560                      |                           |             |
| 20              | QPSK       | 1       | 0         | 22.15                    | 22.24                       | 22.33                     | 24                        | 0           |
| 20              | QPSK       | 1       | 49        | 22.18                    | 22.22                       | 22.23                     |                           |             |
| 20              | QPSK       | 1       | 99        | 22.06                    | 22.10                       | 22.13                     |                           |             |
| 20              | QPSK       | 50      | 0         | 21.22                    | 21.28                       | 21.29                     | 23                        | 1           |
| 20              | QPSK       | 50      | 24        | 21.22                    | 21.16                       | 21.26                     |                           |             |
| 20              | QPSK       | 50      | 50        | 21.21                    | 21.15                       | 21.18                     |                           |             |
| 20              | QPSK       | 100     | 0         | 21.20                    | 21.18                       | 21.25                     |                           |             |
| 20              | 16QAM      | 1       | 0         | 21.14                    | 21.07                       | 21.23                     | 23                        | 1           |
| 20              | 16QAM      | 1       | 49        | 21.18                    | 21.01                       | 21.13                     |                           |             |
| 20              | 16QAM      | 1       | 99        | 21.05                    | 21.10                       | 21.07                     |                           |             |
| 20              | 16QAM      | 50      | 0         | 20.20                    | 20.22                       | 20.33                     | 22                        | 2           |
| 20              | 16QAM      | 50      | 24        | 20.22                    | 20.20                       | 20.25                     |                           |             |
| 20              | 16QAM      | 50      | 50        | 20.22                    | 20.17                       | 20.23                     |                           |             |
| 20              | 16QAM      | 100     | 0         | 20.23                    | 20.19                       | 20.27                     |                           |             |
| 20              | 64QAM      | 1       | 0         | 20.25                    | 20.25                       | 20.27                     | 22                        | 2           |
| 20              | 64QAM      | 1       | 49        | 20.13                    | 20.11                       | 20.21                     |                           |             |
| 20              | 64QAM      | 1       | 99        | 20.22                    | 20.15                       | 20.17                     |                           |             |
| 20              | 64QAM      | 50      | 0         | 19.49                    | 19.51                       | 19.52                     | 21                        | 3           |
| 20              | 64QAM      | 50      | 24        | 19.41                    | 19.47                       | 19.53                     |                           |             |
| 20              | 64QAM      | 50      | 50        | 19.41                    | 19.44                       | 19.52                     |                           |             |
| 20              | 64QAM      | 100     | 0         | 19.41                    | 19.35                       | 19.47                     |                           |             |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 20825  | 21100 | 21375  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 2507.5 | 2535  | 2562.5 |                     |          |
| 15              | QPSK  | 1  | 0  | 22.23  | 22.25 | 22.32  | 24                  | 0        |
| 15              | QPSK  | 1  | 37 | 22.18  | 22.29 | 22.25  |                     |          |
| 15              | QPSK  | 1  | 74 | 22.14  | 22.27 | 22.26  |                     |          |
| 15              | QPSK  | 36 | 0  | 21.18  | 21.21 | 21.25  | 23                  | 1        |
| 15              | QPSK  | 36 | 20 | 21.21  | 21.21 | 21.24  |                     |          |
| 15              | QPSK  | 36 | 39 | 21.17  | 21.19 | 21.18  |                     |          |
| 15              | QPSK  | 75 | 0  | 21.19  | 21.18 | 21.18  | 23                  | 1        |
| 15              | 16QAM | 1  | 0  | 21.05  | 21.04 | 21.05  |                     |          |
| 15              | 16QAM | 1  | 37 | 21.05  | 21.08 | 21.07  |                     |          |
| 15              | 16QAM | 1  | 74 | 21.06  | 21.01 | 21.05  | 22                  | 2        |
| 15              | 16QAM | 36 | 0  | 20.16  | 20.20 | 20.22  |                     |          |
| 15              | 16QAM | 36 | 20 | 20.19  | 20.14 | 20.20  |                     |          |
| 15              | 16QAM | 36 | 39 | 20.14  | 20.15 | 20.18  | 22                  | 2        |
| 15              | 16QAM | 75 | 0  | 20.17  | 20.23 | 20.28  |                     |          |
| 15              | 64QAM | 1  | 0  | 20.27  | 20.11 | 20.20  |                     |          |
| 15              | 64QAM | 1  | 37 | 20.16  | 20.11 | 20.09  | 21                  | 3        |
| 15              | 64QAM | 1  | 74 | 20.21  | 20.15 | 20.07  |                     |          |
| 15              | 64QAM | 36 | 0  | 19.43  | 19.49 | 19.42  |                     |          |
| 15              | 64QAM | 36 | 20 | 19.36  | 19.41 | 19.42  | 21                  | 3        |
| 15              | 64QAM | 36 | 39 | 19.44  | 19.38 | 19.37  |                     |          |
| 15              | 64QAM | 75 | 0  | 19.42  | 19.38 | 19.40  |                     |          |
| Channel         |       |    |    | 20800  | 21100 | 21400  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 2505   | 2535  | 2565   |                     |          |
| 10              | QPSK  | 1  | 0  | 22.23  | 22.29 | 22.31  | 24                  | 0        |
| 10              | QPSK  | 1  | 25 | 22.22  | 22.24 | 22.28  |                     |          |
| 10              | QPSK  | 1  | 49 | 22.19  | 22.20 | 22.28  |                     |          |
| 10              | QPSK  | 25 | 0  | 21.18  | 21.18 | 21.25  | 23                  | 1        |
| 10              | QPSK  | 25 | 12 | 21.19  | 21.19 | 21.19  |                     |          |
| 10              | QPSK  | 25 | 25 | 21.10  | 21.21 | 21.25  |                     |          |
| 10              | QPSK  | 50 | 0  | 21.18  | 21.19 | 21.31  | 23                  | 1        |
| 10              | 16QAM | 1  | 0  | 21.07  | 21.07 | 21.04  |                     |          |
| 10              | 16QAM | 1  | 25 | 21.12  | 21.01 | 21.04  |                     |          |
| 10              | 16QAM | 1  | 49 | 21.08  | 21.02 | 21.03  | 22                  | 2        |
| 10              | 16QAM | 25 | 0  | 20.14  | 20.21 | 20.32  |                     |          |
| 10              | 16QAM | 25 | 12 | 20.24  | 20.20 | 20.29  |                     |          |
| 10              | 16QAM | 25 | 25 | 20.18  | 20.22 | 20.27  | 22                  | 2        |
| 10              | 16QAM | 50 | 0  | 20.17  | 20.22 | 20.26  |                     |          |
| 10              | 64QAM | 1  | 0  | 20.10  | 20.27 | 20.35  |                     |          |
| 10              | 64QAM | 1  | 25 | 20.12  | 20.26 | 20.30  | 21                  | 3        |
| 10              | 64QAM | 1  | 49 | 20.20  | 20.12 | 20.21  |                     |          |
| 10              | 64QAM | 25 | 0  | 19.41  | 19.41 | 19.44  |                     |          |
| 10              | 64QAM | 25 | 12 | 19.36  | 19.36 | 19.46  | 21                  | 3        |
| 10              | 64QAM | 25 | 25 | 19.35  | 19.37 | 19.38  |                     |          |
| 10              | 64QAM | 50 | 0  | 19.40  | 19.46 | 19.46  |                     |          |

| Channel         |       |    |    | 20775  | 21100 | 21425  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------------|-------------|
| Frequency (MHz) |       |    |    | 2502.5 | 2535  | 2567.5 |                           |             |
| 5               | QPSK  | 1  | 0  | 22.18  | 22.26 | 22.32  | 24                        | 0           |
| 5               | QPSK  | 1  | 12 | 22.23  | 22.25 | 22.28  |                           |             |
| 5               | QPSK  | 1  | 24 | 22.17  | 22.23 | 22.28  |                           |             |
| 5               | QPSK  | 12 | 0  | 21.19  | 21.19 | 21.22  | 23                        | 1           |
| 5               | QPSK  | 12 | 7  | 21.16  | 21.21 | 21.22  |                           |             |
| 5               | QPSK  | 12 | 13 | 21.18  | 21.15 | 21.24  |                           |             |
| 5               | QPSK  | 25 | 0  | 21.20  | 21.23 | 21.30  | 23                        | 1           |
| 5               | 16QAM | 1  | 0  | 21.17  | 21.03 | 21.04  |                           |             |
| 5               | 16QAM | 1  | 12 | 21.32  | 21.00 | 21.10  |                           |             |
| 5               | 16QAM | 1  | 24 | 21.06  | 21.12 | 21.07  | 22                        | 2           |
| 5               | 16QAM | 12 | 0  | 20.14  | 20.13 | 20.23  |                           |             |
| 5               | 16QAM | 12 | 7  | 20.12  | 20.14 | 20.22  |                           |             |
| 5               | 16QAM | 12 | 13 | 20.14  | 20.11 | 20.20  | 22                        | 2           |
| 5               | 16QAM | 25 | 0  | 20.23  | 20.18 | 20.27  |                           |             |
| 5               | 64QAM | 1  | 0  | 20.09  | 20.20 | 20.11  |                           |             |
| 5               | 64QAM | 1  | 12 | 20.15  | 20.22 | 20.20  | 21                        | 3           |
| 5               | 64QAM | 1  | 24 | 20.14  | 20.14 | 20.18  |                           |             |
| 5               | 64QAM | 12 | 0  | 19.30  | 19.34 | 19.45  |                           |             |
| 5               | 64QAM | 12 | 7  | 19.32  | 19.35 | 19.45  | 21                        | 3           |
| 5               | 64QAM | 12 | 13 | 19.34  | 19.36 | 19.36  |                           |             |
| 5               | 64QAM | 25 | 0  | 19.33  | 19.42 | 19.48  |                           |             |

**<LTE Band 12>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|---------------------------|-------------|
| Channel         |            |         |           | 23060                    | 23095                       | 23130                     |                           |             |
| Frequency (MHz) |            |         |           | 704                      | 707.5                       | 711                       |                           |             |
| 10              | QPSK       | 1       | 0         | 22.54                    | 22.61                       | 22.59                     | 24                        | 0           |
| 10              | QPSK       | 1       | 25        | 22.51                    | 22.53                       | 22.43                     |                           |             |
| 10              | QPSK       | 1       | 49        | 22.49                    | 22.50                       | 22.45                     |                           |             |
| 10              | QPSK       | 25      | 0         | 21.46                    | 21.51                       | 21.49                     | 23                        | 1           |
| 10              | QPSK       | 25      | 12        | 21.50                    | 21.43                       | 21.44                     |                           |             |
| 10              | QPSK       | 25      | 25        | 21.44                    | 21.46                       | 21.42                     |                           |             |
| 10              | QPSK       | 50      | 0         | 21.49                    | 21.48                       | 21.47                     |                           |             |
| 10              | 16QAM      | 1       | 0         | 21.27                    | 21.46                       | 21.10                     | 23                        | 1           |
| 10              | 16QAM      | 1       | 25        | 21.19                    | 21.36                       | 21.15                     |                           |             |
| 10              | 16QAM      | 1       | 49        | 21.12                    | 21.35                       | 21.13                     |                           |             |
| 10              | 16QAM      | 25      | 0         | 20.44                    | 20.41                       | 20.31                     | 22                        | 2           |
| 10              | 16QAM      | 25      | 12        | 20.42                    | 20.47                       | 20.38                     |                           |             |
| 10              | 16QAM      | 25      | 25        | 20.37                    | 20.39                       | 20.29                     |                           |             |
| 10              | 16QAM      | 50      | 0         | 20.41                    | 20.42                       | 20.39                     |                           |             |
| 10              | 64QAM      | 1       | 0         | 20.45                    | 20.48                       | 20.32                     | 22                        | 2           |
| 10              | 64QAM      | 1       | 25        | 20.44                    | 20.41                       | 20.42                     |                           |             |
| 10              | 64QAM      | 1       | 49        | 20.47                    | 20.49                       | 20.29                     |                           |             |
| 10              | 64QAM      | 25      | 0         | 19.63                    | 19.70                       | 19.52                     | 21                        | 3           |
| 10              | 64QAM      | 25      | 12        | 19.67                    | 19.68                       | 19.46                     |                           |             |
| 10              | 64QAM      | 25      | 25        | 19.64                    | 19.60                       | 19.49                     |                           |             |
| 10              | 64QAM      | 50      | 0         | 19.59                    | 19.61                       | 19.61                     |                           |             |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 23035 | 23095 | 23155 | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|-------|-------|-------|---------------------|----------|
| Frequency (MHz) |       |    |    | 701.5 | 707.5 | 713.5 |                     |          |
| 5               | QPSK  | 1  | 0  | 22.60 | 22.59 | 22.58 | 24                  | 0        |
| 5               | QPSK  | 1  | 12 | 22.50 | 22.43 | 22.46 |                     |          |
| 5               | QPSK  | 1  | 24 | 22.53 | 22.45 | 22.41 |                     |          |
| 5               | QPSK  | 12 | 0  | 21.48 | 21.49 | 21.46 | 23                  | 1        |
| 5               | QPSK  | 12 | 7  | 21.49 | 21.44 | 21.42 |                     |          |
| 5               | QPSK  | 12 | 13 | 21.49 | 21.42 | 21.40 |                     |          |
| 5               | QPSK  | 25 | 0  | 21.48 | 21.47 | 21.43 | 23                  | 1        |
| 5               | 16QAM | 1  | 0  | 21.43 | 21.10 | 21.10 |                     |          |
| 5               | 16QAM | 1  | 12 | 21.26 | 21.15 | 21.17 |                     |          |
| 5               | 16QAM | 1  | 24 | 21.23 | 21.13 | 21.18 | 22                  | 2        |
| 5               | 16QAM | 12 | 0  | 20.34 | 20.31 | 20.30 |                     |          |
| 5               | 16QAM | 12 | 7  | 20.38 | 20.38 | 20.30 |                     |          |
| 5               | 16QAM | 12 | 13 | 20.38 | 20.29 | 20.34 | 22                  | 2        |
| 5               | 16QAM | 25 | 0  | 20.42 | 20.39 | 20.39 |                     |          |
| 5               | 64QAM | 1  | 0  | 20.32 | 20.32 | 20.43 |                     |          |
| 5               | 64QAM | 1  | 12 | 20.29 | 20.42 | 20.39 | 21                  | 3        |
| 5               | 64QAM | 1  | 24 | 20.38 | 20.29 | 20.31 |                     |          |
| 5               | 64QAM | 12 | 0  | 19.62 | 19.52 | 19.54 |                     |          |
| 5               | 64QAM | 12 | 7  | 19.56 | 19.46 | 19.51 | 21                  | 3        |
| 5               | 64QAM | 12 | 13 | 19.53 | 19.49 | 19.56 |                     |          |
| 5               | 64QAM | 25 | 0  | 19.67 | 19.61 | 19.60 |                     |          |
| Channel         |       |    |    | 23025 | 23095 | 23165 | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 700.5 | 707.5 | 714.5 |                     |          |
| 3               | QPSK  | 1  | 0  | 22.52 | 22.46 | 22.54 | 24                  | 0        |
| 3               | QPSK  | 1  | 8  | 22.53 | 22.52 | 22.51 |                     |          |
| 3               | QPSK  | 1  | 14 | 22.50 | 22.47 | 22.49 |                     |          |
| 3               | QPSK  | 8  | 0  | 21.48 | 21.48 | 21.46 | 23                  | 1        |
| 3               | QPSK  | 8  | 4  | 21.43 | 21.49 | 21.50 |                     |          |
| 3               | QPSK  | 8  | 7  | 21.46 | 21.44 | 21.44 |                     |          |
| 3               | QPSK  | 15 | 0  | 21.48 | 21.45 | 21.49 | 23                  | 1        |
| 3               | 16QAM | 1  | 0  | 21.46 | 21.34 | 21.27 |                     |          |
| 3               | 16QAM | 1  | 8  | 21.36 | 21.16 | 21.19 |                     |          |
| 3               | 16QAM | 1  | 14 | 21.35 | 21.07 | 21.12 | 22                  | 2        |
| 3               | 16QAM | 8  | 0  | 20.41 | 20.36 | 20.44 |                     |          |
| 3               | 16QAM | 8  | 4  | 20.47 | 20.36 | 20.42 |                     |          |
| 3               | 16QAM | 8  | 7  | 20.39 | 20.35 | 20.37 | 22                  | 2        |
| 3               | 16QAM | 15 | 0  | 20.42 | 20.33 | 20.41 |                     |          |
| 3               | 64QAM | 1  | 0  | 20.48 | 20.37 | 20.45 |                     |          |
| 3               | 64QAM | 1  | 8  | 20.41 | 20.38 | 20.44 | 21                  | 3        |
| 3               | 64QAM | 1  | 14 | 20.49 | 20.47 | 20.47 |                     |          |
| 3               | 64QAM | 8  | 0  | 19.70 | 19.58 | 19.63 |                     |          |
| 3               | 64QAM | 8  | 4  | 19.68 | 19.65 | 19.67 | 21                  | 3        |
| 3               | 64QAM | 8  | 7  | 19.60 | 19.65 | 19.64 |                     |          |
| 3               | 64QAM | 15 | 0  | 19.61 | 19.53 | 19.59 |                     |          |

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FCC ID : IHDT56YD3

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| Channel         |       |   |   | 23017 | 23095 | 23173 | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|---|---|-------|-------|-------|---------------------|----------|
| Frequency (MHz) |       |   |   | 699.7 | 707.5 | 715.3 |                     |          |
| 1.4             | QPSK  | 1 | 0 | 22.43 | 22.40 | 22.39 | 24                  | 0        |
| 1.4             | QPSK  | 1 | 3 | 22.49 | 22.45 | 22.47 |                     |          |
| 1.4             | QPSK  | 1 | 5 | 22.45 | 22.49 | 22.43 |                     |          |
| 1.4             | QPSK  | 3 | 0 | 22.53 | 22.43 | 22.47 |                     |          |
| 1.4             | QPSK  | 3 | 1 | 22.46 | 22.42 | 22.43 |                     |          |
| 1.4             | QPSK  | 3 | 3 | 22.47 | 22.41 | 22.39 |                     |          |
| 1.4             | QPSK  | 6 | 0 | 21.48 | 21.38 | 21.40 | 23                  | 1        |
| 1.4             | 16QAM | 1 | 0 | 21.50 | 21.16 | 21.23 | 23                  | 1        |
| 1.4             | 16QAM | 1 | 3 | 21.47 | 21.24 | 21.29 |                     |          |
| 1.4             | 16QAM | 1 | 5 | 21.43 | 21.26 | 21.36 |                     |          |
| 1.4             | 16QAM | 3 | 0 | 21.38 | 21.32 | 21.30 |                     |          |
| 1.4             | 16QAM | 3 | 1 | 21.35 | 21.23 | 21.37 |                     |          |
| 1.4             | 16QAM | 3 | 3 | 21.32 | 21.34 | 21.28 |                     |          |
| 1.4             | 16QAM | 6 | 0 | 20.46 | 20.41 | 20.44 | 22                  | 2        |
| 1.4             | 64QAM | 1 | 0 | 20.26 | 20.47 | 20.48 | 22                  | 2        |
| 1.4             | 64QAM | 1 | 3 | 20.39 | 20.42 | 20.39 |                     |          |
| 1.4             | 64QAM | 1 | 5 | 20.39 | 20.28 | 20.38 |                     |          |
| 1.4             | 64QAM | 3 | 0 | 20.64 | 20.51 | 20.53 |                     |          |
| 1.4             | 64QAM | 3 | 1 | 20.61 | 20.51 | 20.54 |                     |          |
| 1.4             | 64QAM | 3 | 3 | 20.55 | 20.47 | 20.53 |                     |          |
| 1.4             | 64QAM | 6 | 0 | 19.69 | 19.64 | 19.63 | 21                  | 3        |

**<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<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|---------------------------|-------------|
| Channel         |            |         |           | 23230                    |                             |                           |                           |             |
| Frequency (MHz) |            |         |           | 782                      |                             |                           |                           |             |
| 10              | QPSK       | 1       | 0         |                          | 22.42                       |                           | 24                        | 0           |
| 10              | QPSK       | 1       | 25        |                          | 22.33                       |                           |                           |             |
| 10              | QPSK       | 1       | 49        |                          | 22.20                       |                           |                           |             |
| 10              | QPSK       | 25      | 0         |                          | 21.31                       |                           | 23                        | 1           |
| 10              | QPSK       | 25      | 12        |                          | 21.29                       |                           |                           |             |
| 10              | QPSK       | 25      | 25        |                          | 21.20                       |                           |                           |             |
| 10              | QPSK       | 50      | 0         |                          | 21.28                       |                           | 23                        | 1           |
| 10              | 16QAM      | 1       | 0         |                          | 21.17                       |                           |                           |             |
| 10              | 16QAM      | 1       | 25        |                          | 21.16                       |                           |                           |             |
| 10              | 16QAM      | 1       | 49        |                          | 21.12                       |                           | 22                        | 2           |
| 10              | 16QAM      | 25      | 0         |                          | 20.27                       |                           |                           |             |
| 10              | 16QAM      | 25      | 12        |                          | 20.18                       |                           |                           |             |
| 10              | 16QAM      | 25      | 25        |                          | 20.18                       |                           | 22                        | 2           |
| 10              | 16QAM      | 50      | 0         |                          | 20.20                       |                           |                           |             |
| 10              | 64QAM      | 1       | 0         |                          | 20.32                       |                           |                           |             |
| 10              | 64QAM      | 1       | 25        |                          | 20.22                       |                           | 22                        | 2           |
| 10              | 64QAM      | 1       | 49        |                          | 20.10                       |                           |                           |             |
| 10              | 64QAM      | 25      | 0         |                          | 19.42                       |                           |                           |             |
| 10              | 64QAM      | 25      | 12        |                          | 19.42                       |                           | 21                        | 3           |
| 10              | 64QAM      | 25      | 25        |                          | 19.38                       |                           |                           |             |
| 10              | 64QAM      | 50      | 0         |                          | 19.48                       |                           |                           |             |

| Channel         |       |    |    | 23205 | 23230 | 23255 | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|-------|-------|-------|---------------------------|-------------|
| Frequency (MHz) |       |    |    | 779.5 | 782   | 784.5 |                           |             |
| 5               | QPSK  | 1  | 0  | 22.41 | 22.34 | 22.40 | 24                        | 0           |
| 5               | QPSK  | 1  | 12 | 22.39 | 22.23 | 22.32 |                           |             |
| 5               | QPSK  | 1  | 24 | 22.34 | 22.27 | 22.33 |                           |             |
| 5               | QPSK  | 12 | 0  | 21.36 | 21.24 | 21.30 | 23                        | 1           |
| 5               | QPSK  | 12 | 7  | 21.28 | 21.23 | 21.28 |                           |             |
| 5               | QPSK  | 12 | 13 | 21.31 | 21.19 | 21.27 |                           |             |
| 5               | QPSK  | 25 | 0  | 21.28 | 21.23 | 21.27 | 23                        | 1           |
| 5               | 16QAM | 1  | 0  | 21.16 | 21.11 | 21.01 |                           |             |
| 5               | 16QAM | 1  | 12 | 21.11 | 21.16 | 21.18 |                           |             |
| 5               | 16QAM | 1  | 24 | 21.03 | 21.12 | 21.10 | 22                        | 2           |
| 5               | 16QAM | 12 | 0  | 20.20 | 20.20 | 20.21 |                           |             |
| 5               | 16QAM | 12 | 7  | 20.25 | 20.12 | 20.16 |                           |             |
| 5               | 16QAM | 12 | 13 | 20.16 | 20.08 | 20.15 | 22                        | 2           |
| 5               | 16QAM | 25 | 0  | 20.25 | 20.19 | 20.27 |                           |             |
| 5               | 64QAM | 1  | 0  | 20.33 | 20.32 | 20.21 |                           |             |
| 5               | 64QAM | 1  | 12 | 20.23 | 20.17 | 20.16 | 21                        | 3           |
| 5               | 64QAM | 1  | 24 | 20.18 | 20.12 | 20.24 |                           |             |
| 5               | 64QAM | 12 | 0  | 19.40 | 19.33 | 19.39 |                           |             |
| 5               | 64QAM | 12 | 7  | 19.37 | 19.36 | 19.36 | 21                        | 3           |
| 5               | 64QAM | 12 | 13 | 19.36 | 19.29 | 19.42 |                           |             |
| 5               | 64QAM | 25 | 0  | 19.47 | 19.38 | 19.45 |                           |             |

**<LTE Band 17>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|---------------------------|-------------|
| Channel         |            |         |           | 23780                    | 23790                       | 23800                     |                           |             |
| Frequency (MHz) |            |         |           | 709                      | 710                         | 711                       |                           |             |
| 10              | QPSK       | 1       | 0         | 22.46                    | 22.52                       | 22.45                     | 24                        | 0           |
| 10              | QPSK       | 1       | 25        | 22.44                    | 22.39                       | 22.31                     |                           |             |
| 10              | QPSK       | 1       | 49        | 22.37                    | 22.30                       | 22.29                     |                           |             |
| 10              | QPSK       | 25      | 0         | 21.43                    | 21.45                       | 21.41                     | 23                        | 1           |
| 10              | QPSK       | 25      | 12        | 21.44                    | 21.37                       | 21.39                     |                           |             |
| 10              | QPSK       | 25      | 25        | 21.37                    | 21.36                       | 21.34                     |                           |             |
| 10              | QPSK       | 50      | 0         | 21.43                    | 21.41                       | 21.38                     | 23                        | 1           |
| 10              | 16QAM      | 1       | 0         | 21.42                    | 21.19                       | 21.18                     |                           |             |
| 10              | 16QAM      | 1       | 25        | 21.27                    | 21.03                       | 21.13                     |                           |             |
| 10              | 16QAM      | 1       | 49        | 21.20                    | 21.02                       | 21.00                     | 22                        | 2           |
| 10              | 16QAM      | 25      | 0         | 20.46                    | 20.47                       | 20.40                     |                           |             |
| 10              | 16QAM      | 25      | 12        | 20.38                    | 20.35                       | 20.39                     |                           |             |
| 10              | 16QAM      | 25      | 25        | 20.33                    | 20.38                       | 20.26                     | 22                        | 2           |
| 10              | 16QAM      | 50      | 0         | 20.44                    | 20.42                       | 20.33                     |                           |             |
| 10              | 64QAM      | 1       | 0         | 20.31                    | 20.48                       | 20.34                     |                           |             |
| 10              | 64QAM      | 1       | 25        | 20.26                    | 20.41                       | 20.34                     | 22                        | 2           |
| 10              | 64QAM      | 1       | 49        | 20.17                    | 20.33                       | 20.35                     |                           |             |
| 10              | 64QAM      | 25      | 0         | 19.70                    | 19.58                       | 19.56                     |                           |             |
| 10              | 64QAM      | 25      | 12        | 19.57                    | 19.61                       | 19.55                     | 21                        | 3           |
| 10              | 64QAM      | 25      | 25        | 19.54                    | 19.57                       | 19.48                     |                           |             |
| 10              | 64QAM      | 50      | 0         | 19.64                    | 19.62                       | 19.58                     |                           |             |

| Channel         |       |    |    | 23755 | 23790 | 23825 | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|-------|-------|-------|---------------------------|-------------|
| Frequency (MHz) |       |    |    | 706.5 | 710   | 713.5 |                           |             |
| 5               | QPSK  | 1  | 0  | 22.51 | 22.49 | 22.44 | 24                        | 0           |
| 5               | QPSK  | 1  | 12 | 22.37 | 22.39 | 22.34 |                           |             |
| 5               | QPSK  | 1  | 24 | 22.38 | 22.36 | 22.33 |                           |             |
| 5               | QPSK  | 12 | 0  | 21.39 | 21.40 | 21.36 | 23                        | 1           |
| 5               | QPSK  | 12 | 7  | 21.39 | 21.44 | 21.34 |                           |             |
| 5               | QPSK  | 12 | 13 | 21.31 | 21.37 | 21.31 |                           |             |
| 5               | QPSK  | 25 | 0  | 21.39 | 21.38 | 21.30 | 23                        | 1           |
| 5               | 16QAM | 1  | 0  | 21.23 | 21.03 | 21.22 |                           |             |
| 5               | 16QAM | 1  | 12 | 21.12 | 21.19 | 21.08 |                           |             |
| 5               | 16QAM | 1  | 24 | 21.18 | 21.14 | 21.06 | 22                        | 2           |
| 5               | 16QAM | 12 | 0  | 20.35 | 20.32 | 20.18 |                           |             |
| 5               | 16QAM | 12 | 7  | 20.25 | 20.32 | 20.20 |                           |             |
| 5               | 16QAM | 12 | 13 | 20.23 | 20.27 | 20.24 | 22                        | 2           |
| 5               | 16QAM | 25 | 0  | 20.38 | 20.38 | 20.37 |                           |             |
| 5               | 64QAM | 1  | 0  | 20.21 | 20.40 | 20.44 |                           |             |
| 5               | 64QAM | 1  | 12 | 20.26 | 20.34 | 20.33 | 21                        | 3           |
| 5               | 64QAM | 1  | 24 | 20.31 | 20.20 | 20.34 |                           |             |
| 5               | 64QAM | 12 | 0  | 19.54 | 19.47 | 19.43 |                           |             |
| 5               | 64QAM | 12 | 7  | 19.50 | 19.42 | 19.47 | 21                        | 3           |
| 5               | 64QAM | 12 | 13 | 19.48 | 19.44 | 19.42 |                           |             |
| 5               | 64QAM | 25 | 0  | 19.52 | 19.56 | 19.47 |                           |             |

**<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         | 22.40                 | 22.75                    | 22.74                  | 24                  | 0        |
| 20              | QPSK       | 1       | 49        | 22.31                 | 22.61                    | 22.68                  |                     |          |
| 20              | QPSK       | 1       | 99        | 22.26                 | 22.64                    | 22.67                  |                     |          |
| 20              | QPSK       | 50      | 0         | 21.36                 | 21.65                    | 21.62                  | 23                  | 1        |
| 20              | QPSK       | 50      | 24        | 21.32                 | 21.38                    | 21.61                  |                     |          |
| 20              | QPSK       | 50      | 50        | 21.30                 | 21.42                    | 21.60                  |                     |          |
| 20              | QPSK       | 100     | 0         | 21.37                 | 21.61                    | 21.60                  | 23                  | 1        |
| 20              | 16QAM      | 1       | 0         | 21.53                 | 21.43                    | 21.62                  |                     |          |
| 20              | 16QAM      | 1       | 49        | 21.38                 | 21.40                    | 21.56                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 21.34                 | 21.39                    | 21.60                  | 22                  | 2        |
| 20              | 16QAM      | 50      | 0         | 20.49                 | 20.62                    | 20.89                  |                     |          |
| 20              | 16QAM      | 50      | 24        | 20.53                 | 20.41                    | 20.86                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 20.62                 | 20.44                    | 20.81                  | 22                  | 2        |
| 20              | 16QAM      | 100     | 0         | 20.34                 | 20.42                    | 20.83                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 20.62                 | 20.62                    | 20.86                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 20.60                 | 20.69                    | 20.78                  | 22                  | 2        |
| 20              | 64QAM      | 1       | 99        | 20.59                 | 20.73                    | 20.78                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 19.61                 | 19.73                    | 19.93                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 19.62                 | 19.64                    | 19.95                  | 21                  | 3        |
| 20              | 64QAM      | 50      | 50        | 19.54                 | 19.61                    | 20.00                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 19.65                 | 19.64                    | 20.10                  |                     |          |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 26115  | 26340 | 26615  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 1857.5 | 1880  | 1907.5 |                     |          |
| 15              | QPSK  | 1  | 0  | 22.50  | 22.44 | 22.61  | 24                  | 0        |
| 15              | QPSK  | 1  | 37 | 22.45  | 22.44 | 22.61  |                     |          |
| 15              | QPSK  | 1  | 74 | 22.40  | 22.46 | 22.57  |                     |          |
| 15              | QPSK  | 36 | 0  | 21.42  | 21.38 | 21.66  | 23                  | 1        |
| 15              | QPSK  | 36 | 20 | 21.37  | 21.35 | 21.66  |                     |          |
| 15              | QPSK  | 36 | 39 | 21.37  | 21.41 | 21.61  |                     |          |
| 15              | QPSK  | 75 | 0  | 21.40  | 21.37 | 21.68  | 23                  | 1        |
| 15              | 16QAM | 1  | 0  | 21.34  | 21.26 | 21.54  |                     |          |
| 15              | 16QAM | 1  | 37 | 21.28  | 21.36 | 21.55  |                     |          |
| 15              | 16QAM | 1  | 74 | 21.16  | 21.26 | 21.60  | 22                  | 2        |
| 15              | 16QAM | 36 | 0  | 20.36  | 20.33 | 20.65  |                     |          |
| 15              | 16QAM | 36 | 20 | 20.31  | 20.34 | 20.63  |                     |          |
| 15              | 16QAM | 36 | 39 | 20.36  | 20.31 | 20.57  | 22                  | 2        |
| 15              | 16QAM | 75 | 0  | 20.39  | 20.33 | 20.77  |                     |          |
| 15              | 64QAM | 1  | 0  | 20.29  | 20.30 | 20.70  |                     |          |
| 15              | 64QAM | 1  | 37 | 20.27  | 20.28 | 20.72  | 21                  | 3        |
| 15              | 64QAM | 1  | 74 | 20.39  | 20.33 | 20.66  |                     |          |
| 15              | 64QAM | 36 | 0  | 19.64  | 19.55 | 19.63  |                     |          |
| 15              | 64QAM | 36 | 20 | 19.59  | 19.60 | 19.67  | 21                  | 3        |
| 15              | 64QAM | 36 | 39 | 19.56  | 19.61 | 19.69  |                     |          |
| 15              | 64QAM | 75 | 0  | 19.56  | 19.58 | 19.71  |                     |          |
| Channel         |       |    |    | 26090  | 26340 | 26640  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1855   | 1880  | 1910   |                     |          |
| 10              | QPSK  | 1  | 0  | 22.51  | 22.44 | 22.64  | 24                  | 0        |
| 10              | QPSK  | 1  | 25 | 22.45  | 22.39 | 22.63  |                     |          |
| 10              | QPSK  | 1  | 49 | 22.33  | 22.46 | 22.51  |                     |          |
| 10              | QPSK  | 25 | 0  | 21.39  | 21.40 | 21.63  | 23                  | 1        |
| 10              | QPSK  | 25 | 12 | 21.38  | 21.44 | 21.68  |                     |          |
| 10              | QPSK  | 25 | 25 | 21.38  | 21.43 | 21.68  |                     |          |
| 10              | QPSK  | 50 | 0  | 21.34  | 21.41 | 21.66  | 23                  | 1        |
| 10              | 16QAM | 1  | 0  | 21.30  | 21.36 | 21.67  |                     |          |
| 10              | 16QAM | 1  | 25 | 21.32  | 21.24 | 21.64  |                     |          |
| 10              | 16QAM | 1  | 49 | 21.23  | 21.22 | 21.66  | 22                  | 2        |
| 10              | 16QAM | 25 | 0  | 20.37  | 20.38 | 20.61  |                     |          |
| 10              | 16QAM | 25 | 12 | 20.34  | 20.42 | 20.63  |                     |          |
| 10              | 16QAM | 25 | 25 | 20.39  | 20.42 | 20.56  | 22                  | 2        |
| 10              | 16QAM | 50 | 0  | 20.34  | 20.48 | 20.56  |                     |          |
| 10              | 64QAM | 1  | 0  | 20.28  | 20.31 | 20.60  |                     |          |
| 10              | 64QAM | 1  | 25 | 20.24  | 20.32 | 20.58  | 21                  | 3        |
| 10              | 64QAM | 1  | 49 | 20.30  | 20.32 | 20.52  |                     |          |
| 10              | 64QAM | 25 | 0  | 19.62  | 19.58 | 19.66  |                     |          |
| 10              | 64QAM | 25 | 12 | 19.59  | 19.57 | 19.61  | 21                  | 3        |
| 10              | 64QAM | 25 | 25 | 19.44  | 19.66 | 19.65  |                     |          |
| 10              | 64QAM | 50 | 0  | 19.62  | 19.65 | 20.11  |                     |          |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 26065  | 26340 | 26665  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 1852.5 | 1880  | 1912.5 |                     |          |
| 5               | QPSK  | 1  | 0  | 22.49  | 22.45 | 22.64  | 24                  | 0        |
| 5               | QPSK  | 1  | 12 | 22.48  | 22.40 | 22.54  |                     |          |
| 5               | QPSK  | 1  | 24 | 22.46  | 22.50 | 22.54  |                     |          |
| 5               | QPSK  | 12 | 0  | 21.44  | 21.33 | 21.62  | 23                  | 1        |
| 5               | QPSK  | 12 | 7  | 21.45  | 21.41 | 21.65  |                     |          |
| 5               | QPSK  | 12 | 13 | 21.48  | 21.42 | 21.61  |                     |          |
| 5               | QPSK  | 25 | 0  | 21.48  | 21.41 | 21.87  | 23                  | 1        |
| 5               | 16QAM | 1  | 0  | 21.25  | 21.25 | 21.58  |                     |          |
| 5               | 16QAM | 1  | 12 | 21.19  | 21.22 | 21.58  |                     |          |
| 5               | 16QAM | 1  | 24 | 21.16  | 21.12 | 21.49  | 22                  | 2        |
| 5               | 16QAM | 12 | 0  | 20.37  | 20.38 | 20.73  |                     |          |
| 5               | 16QAM | 12 | 7  | 20.40  | 20.32 | 20.75  |                     |          |
| 5               | 16QAM | 12 | 13 | 20.32  | 20.35 | 20.77  | 22                  | 2        |
| 5               | 16QAM | 25 | 0  | 20.41  | 20.41 | 20.85  |                     |          |
| 5               | 64QAM | 1  | 0  | 20.35  | 20.30 | 20.75  |                     |          |
| 5               | 64QAM | 1  | 12 | 20.38  | 20.34 | 20.68  | 22                  | 2        |
| 5               | 64QAM | 1  | 24 | 20.47  | 20.35 | 20.77  |                     |          |
| 5               | 64QAM | 12 | 0  | 19.53  | 19.53 | 19.65  |                     |          |
| 5               | 64QAM | 12 | 7  | 19.52  | 19.50 | 19.65  | 21                  | 3        |
| 5               | 64QAM | 12 | 13 | 19.45  | 19.60 | 19.66  |                     |          |
| 5               | 64QAM | 25 | 0  | 19.62  | 19.58 | 20.02  |                     |          |
| Channel         |       |    |    | 26055  | 26340 | 26675  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1851.5 | 1880  | 1913.5 |                     |          |
| 3               | QPSK  | 1  | 0  | 22.51  | 22.41 | 22.63  | 24                  | 0        |
| 3               | QPSK  | 1  | 8  | 22.47  | 22.43 | 22.67  |                     |          |
| 3               | QPSK  | 1  | 14 | 22.44  | 22.44 | 22.63  |                     |          |
| 3               | QPSK  | 8  | 0  | 21.52  | 21.43 | 21.89  | 23                  | 1        |
| 3               | QPSK  | 8  | 4  | 21.44  | 21.42 | 21.88  |                     |          |
| 3               | QPSK  | 8  | 7  | 21.46  | 21.42 | 21.91  |                     |          |
| 3               | QPSK  | 15 | 0  | 21.44  | 21.46 | 21.89  | 23                  | 1        |
| 3               | 16QAM | 1  | 0  | 21.19  | 21.35 | 21.56  |                     |          |
| 3               | 16QAM | 1  | 8  | 21.24  | 21.26 | 21.61  |                     |          |
| 3               | 16QAM | 1  | 14 | 21.18  | 21.35 | 21.56  | 22                  | 2        |
| 3               | 16QAM | 8  | 0  | 20.38  | 20.38 | 20.65  |                     |          |
| 3               | 16QAM | 8  | 4  | 20.31  | 20.38 | 20.61  |                     |          |
| 3               | 16QAM | 8  | 7  | 20.35  | 20.30 | 20.56  | 22                  | 2        |
| 3               | 16QAM | 15 | 0  | 20.35  | 20.33 | 20.83  |                     |          |
| 3               | 64QAM | 1  | 0  | 20.43  | 20.32 | 20.72  |                     |          |
| 3               | 64QAM | 1  | 8  | 20.34  | 20.36 | 20.54  | 22                  | 2        |
| 3               | 64QAM | 1  | 14 | 20.44  | 20.36 | 20.65  |                     |          |
| 3               | 64QAM | 8  | 0  | 19.63  | 19.62 | 20.08  |                     |          |
| 3               | 64QAM | 8  | 4  | 19.63  | 19.68 | 20.10  | 21                  | 3        |
| 3               | 64QAM | 8  | 7  | 19.65  | 19.65 | 20.07  |                     |          |
| 3               | 64QAM | 15 | 0  | 19.63  | 19.60 | 20.07  |                     |          |

| Channel         |       |   |   | 26047  | 26340 | 26683  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|---|---|--------|-------|--------|---------------------------|-------------|
| Frequency (MHz) |       |   |   | 1850.7 | 1880  | 1914.3 |                           |             |
| 1.4             | QPSK  | 1 | 0 | 22.42  | 22.38 | 22.63  | 24                        | 0           |
| 1.4             | QPSK  | 1 | 3 | 22.41  | 22.44 | 22.61  |                           |             |
| 1.4             | QPSK  | 1 | 5 | 22.38  | 22.49 | 22.61  |                           |             |
| 1.4             | QPSK  | 3 | 0 | 22.40  | 22.39 | 22.56  |                           |             |
| 1.4             | QPSK  | 3 | 1 | 22.38  | 22.40 | 22.45  |                           |             |
| 1.4             | QPSK  | 3 | 3 | 22.37  | 22.37 | 22.67  |                           |             |
| 1.4             | QPSK  | 6 | 0 | 21.36  | 21.37 | 21.85  | 23                        | 1           |
| 1.4             | 16QAM | 1 | 0 | 21.25  | 21.21 | 21.56  | 23                        | 1           |
| 1.4             | 16QAM | 1 | 3 | 21.20  | 21.23 | 21.63  |                           |             |
| 1.4             | 16QAM | 1 | 5 | 21.16  | 21.26 | 21.61  |                           |             |
| 1.4             | 16QAM | 3 | 0 | 21.39  | 21.32 | 21.56  |                           |             |
| 1.4             | 16QAM | 3 | 1 | 21.26  | 21.24 | 21.26  |                           |             |
| 1.4             | 16QAM | 3 | 3 | 21.25  | 21.38 | 21.66  |                           |             |
| 1.4             | 16QAM | 6 | 0 | 20.44  | 20.38 | 20.87  | 22                        | 2           |
| 1.4             | 64QAM | 1 | 0 | 20.18  | 20.13 | 20.45  | 22                        | 2           |
| 1.4             | 64QAM | 1 | 3 | 20.27  | 20.14 | 20.54  |                           |             |
| 1.4             | 64QAM | 1 | 5 | 20.27  | 20.13 | 20.34  |                           |             |
| 1.4             | 64QAM | 3 | 0 | 20.50  | 20.53 | 20.56  |                           |             |
| 1.4             | 64QAM | 3 | 1 | 20.55  | 20.53 | 20.51  |                           |             |
| 1.4             | 64QAM | 3 | 3 | 20.52  | 20.52 | 20.66  |                           |             |
| 1.4             | 64QAM | 6 | 0 | 19.69  | 19.71 | 20.13  | 21                        | 3           |

**<LTE Band 26>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|---------------------------|-------------|
| Channel         |            |         |           | 26765                    | 26865                       | 26965                     |                           |             |
| Frequency (MHz) |            |         |           | 821.5                    | 831.5                       | 841.5                     |                           |             |
| 15              | QPSK       | 1       | 0         | 22.83                    | 22.86                       | 22.77                     | 24                        | 0           |
| 15              | QPSK       | 1       | 37        | 22.79                    | 22.78                       | 22.58                     |                           |             |
| 15              | QPSK       | 1       | 74        | 22.59                    | 22.68                       | 22.69                     |                           |             |
| 15              | QPSK       | 36      | 0         | 21.81                    | 21.93                       | 21.91                     | 23                        | 1           |
| 15              | QPSK       | 36      | 20        | 21.82                    | 21.89                       | 21.89                     |                           |             |
| 15              | QPSK       | 36      | 39        | 21.86                    | 21.85                       | 21.86                     |                           |             |
| 15              | QPSK       | 75      | 0         | 21.83                    | 21.85                       | 21.81                     | 23                        | 1           |
| 15              | 16QAM      | 1       | 0         | 21.61                    | 21.52                       | 21.73                     |                           |             |
| 15              | 16QAM      | 1       | 37        | 21.67                    | 21.49                       | 21.63                     |                           |             |
| 15              | 16QAM      | 1       | 74        | 21.68                    | 21.72                       | 21.56                     | 22                        | 2           |
| 15              | 16QAM      | 36      | 0         | 20.75                    | 20.85                       | 20.83                     |                           |             |
| 15              | 16QAM      | 36      | 20        | 20.74                    | 20.78                       | 20.81                     |                           |             |
| 15              | 16QAM      | 36      | 39        | 20.71                    | 20.69                       | 20.80                     | 22                        | 2           |
| 15              | 16QAM      | 75      | 0         | 20.84                    | 20.91                       | 20.88                     |                           |             |
| 15              | 64QAM      | 1       | 0         | 20.66                    | 20.67                       | 20.81                     |                           |             |
| 15              | 64QAM      | 1       | 37        | 20.52                    | 20.61                       | 20.59                     | 21                        | 3           |
| 15              | 64QAM      | 1       | 74        | 20.47                    | 20.65                       | 20.70                     |                           |             |
| 15              | 64QAM      | 36      | 0         | 19.71                    | 19.82                       | 19.87                     |                           |             |
| 15              | 64QAM      | 36      | 20        | 19.69                    | 19.84                       | 19.80                     | 21                        | 3           |
| 15              | 64QAM      | 36      | 39        | 19.71                    | 19.76                       | 19.73                     |                           |             |
| 15              | 64QAM      | 75      | 0         | 19.83                    | 19.86                       | 19.88                     |                           |             |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 26740 | 26865 | 26990 | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|-------|-------|-------|---------------------|----------|
| Frequency (MHz) |       |    |    | 819   | 831.5 | 844   |                     |          |
| 10              | QPSK  | 1  | 0  | 22.74 | 22.78 | 22.78 | 24                  | 0        |
| 10              | QPSK  | 1  | 25 | 22.78 | 22.74 | 22.78 |                     |          |
| 10              | QPSK  | 1  | 49 | 22.74 | 22.78 | 22.78 |                     |          |
| 10              | QPSK  | 25 | 0  | 21.82 | 21.89 | 21.93 | 23                  | 1        |
| 10              | QPSK  | 25 | 12 | 21.79 | 21.86 | 21.90 |                     |          |
| 10              | QPSK  | 25 | 25 | 21.85 | 21.89 | 21.87 |                     |          |
| 10              | QPSK  | 50 | 0  | 21.85 | 21.85 | 21.87 |                     |          |
| 10              | 16QAM | 1  | 0  | 21.63 | 21.75 | 21.69 | 23                  | 1        |
| 10              | 16QAM | 1  | 25 | 21.69 | 21.61 | 21.63 |                     |          |
| 10              | 16QAM | 1  | 49 | 21.61 | 21.65 | 21.71 |                     |          |
| 10              | 16QAM | 25 | 0  | 20.85 | 20.91 | 20.93 | 22                  | 2        |
| 10              | 16QAM | 25 | 12 | 20.82 | 20.83 | 20.86 |                     |          |
| 10              | 16QAM | 25 | 25 | 20.76 | 20.83 | 20.88 |                     |          |
| 10              | 16QAM | 50 | 0  | 20.76 | 20.83 | 20.87 |                     |          |
| 10              | 64QAM | 1  | 0  | 20.67 | 20.60 | 20.69 | 22                  | 2        |
| 10              | 64QAM | 1  | 25 | 20.52 | 20.67 | 20.67 |                     |          |
| 10              | 64QAM | 1  | 49 | 20.67 | 20.60 | 20.76 |                     |          |
| 10              | 64QAM | 25 | 0  | 19.73 | 19.91 | 19.92 | 21                  | 3        |
| 10              | 64QAM | 25 | 12 | 19.80 | 19.87 | 19.89 |                     |          |
| 10              | 64QAM | 25 | 25 | 19.81 | 19.93 | 19.93 |                     |          |
| 10              | 64QAM | 50 | 0  | 19.80 | 19.86 | 19.91 |                     |          |
| Channel         |       |    |    | 26715 | 26865 | 27015 | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 816.5 | 831.5 | 846.5 |                     |          |
| 5               | QPSK  | 1  | 0  | 22.75 | 22.75 | 22.75 | 24                  | 0        |
| 5               | QPSK  | 1  | 12 | 22.78 | 22.78 | 22.75 |                     |          |
| 5               | QPSK  | 1  | 24 | 22.80 | 22.75 | 22.79 |                     |          |
| 5               | QPSK  | 12 | 0  | 22.79 | 22.75 | 22.79 | 23                  | 1        |
| 5               | QPSK  | 12 | 7  | 22.77 | 22.79 | 22.75 |                     |          |
| 5               | QPSK  | 12 | 13 | 22.76 | 22.78 | 22.75 |                     |          |
| 5               | QPSK  | 25 | 0  | 21.75 | 21.81 | 21.89 |                     |          |
| 5               | 16QAM | 1  | 0  | 21.66 | 21.59 | 21.79 | 23                  | 1        |
| 5               | 16QAM | 1  | 12 | 21.66 | 21.63 | 21.63 |                     |          |
| 5               | 16QAM | 1  | 24 | 21.68 | 21.68 | 21.55 |                     |          |
| 5               | 16QAM | 12 | 0  | 21.64 | 21.81 | 21.70 | 22                  | 2        |
| 5               | 16QAM | 12 | 7  | 21.73 | 21.71 | 21.72 |                     |          |
| 5               | 16QAM | 12 | 13 | 21.66 | 21.68 | 21.74 |                     |          |
| 5               | 16QAM | 25 | 0  | 20.74 | 20.88 | 20.80 |                     |          |
| 5               | 64QAM | 1  | 0  | 20.47 | 20.49 | 20.61 | 22                  | 2        |
| 5               | 64QAM | 1  | 12 | 20.43 | 20.64 | 20.52 |                     |          |
| 5               | 64QAM | 1  | 24 | 20.41 | 20.60 | 20.47 |                     |          |
| 5               | 64QAM | 12 | 0  | 20.69 | 20.78 | 20.80 | 21                  | 3        |
| 5               | 64QAM | 12 | 7  | 20.71 | 20.72 | 20.85 |                     |          |
| 5               | 64QAM | 12 | 13 | 20.68 | 20.70 | 20.77 |                     |          |
| 5               | 64QAM | 25 | 0  | 19.89 | 19.99 | 19.97 |                     |          |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 26705 | 26865 | 27025 | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|-------|-------|-------|---------------------|----------|
| Frequency (MHz) |       |    |    | 815.5 | 831.5 | 847.5 |                     |          |
| 3               | QPSK  | 1  | 0  | 22.74 | 22.74 | 22.74 | 24                  | 0        |
| 3               | QPSK  | 1  | 8  | 22.78 | 22.75 | 22.71 |                     |          |
| 3               | QPSK  | 1  | 14 | 22.74 | 22.74 | 22.73 |                     |          |
| 3               | QPSK  | 8  | 0  | 21.81 | 21.93 | 21.86 | 23                  | 1        |
| 3               | QPSK  | 8  | 4  | 21.82 | 21.89 | 21.88 |                     |          |
| 3               | QPSK  | 8  | 7  | 21.86 | 21.85 | 21.78 |                     |          |
| 3               | QPSK  | 15 | 0  | 21.83 | 21.85 | 21.80 | 23                  | 1        |
| 3               | 16QAM | 1  | 0  | 21.67 | 21.65 | 21.63 |                     |          |
| 3               | 16QAM | 1  | 8  | 21.65 | 21.56 | 21.70 |                     |          |
| 3               | 16QAM | 1  | 14 | 21.63 | 21.46 | 21.52 | 22                  | 2        |
| 3               | 16QAM | 8  | 0  | 20.81 | 20.89 | 20.98 |                     |          |
| 3               | 16QAM | 8  | 4  | 20.82 | 20.90 | 20.86 |                     |          |
| 3               | 16QAM | 8  | 7  | 20.76 | 20.85 | 20.84 | 22                  | 2        |
| 3               | 16QAM | 15 | 0  | 20.79 | 20.92 | 20.88 |                     |          |
| 3               | 64QAM | 1  | 0  | 20.94 | 20.93 | 20.94 |                     |          |
| 3               | 64QAM | 1  | 8  | 21.06 | 20.80 | 21.00 | 21                  | 3        |
| 3               | 64QAM | 1  | 14 | 20.87 | 20.83 | 20.95 |                     |          |
| 3               | 64QAM | 8  | 0  | 19.79 | 19.86 | 19.91 |                     |          |
| 3               | 64QAM | 8  | 4  | 19.79 | 19.97 | 19.90 | 21                  | 3        |
| 3               | 64QAM | 8  | 7  | 19.72 | 19.86 | 19.82 |                     |          |
| 3               | 64QAM | 15 | 0  | 19.82 | 19.94 | 19.94 |                     |          |
| Channel         |       |    |    | 26697 | 26865 | 27033 | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 814.7 | 831.5 | 848.3 |                     |          |
| 1.4             | QPSK  | 1  | 0  | 22.19 | 22.17 | 22.67 | 24                  | 0        |
| 1.4             | QPSK  | 1  | 3  | 22.21 | 22.20 | 22.55 |                     |          |
| 1.4             | QPSK  | 1  | 5  | 22.19 | 22.19 | 22.65 |                     |          |
| 1.4             | QPSK  | 3  | 0  | 22.24 | 22.19 | 22.56 | 23                  | 1        |
| 1.4             | QPSK  | 3  | 1  | 22.21 | 22.15 | 22.57 |                     |          |
| 1.4             | QPSK  | 3  | 3  | 22.22 | 22.13 | 22.53 |                     |          |
| 1.4             | QPSK  | 6  | 0  | 21.20 | 21.10 | 21.56 | 23                  | 1        |
| 1.4             | 16QAM | 1  | 0  | 21.10 | 21.20 | 21.56 |                     |          |
| 1.4             | 16QAM | 1  | 3  | 21.16 | 21.18 | 21.56 |                     |          |
| 1.4             | 16QAM | 1  | 5  | 21.18 | 21.16 | 21.46 | 22                  | 2        |
| 1.4             | 16QAM | 3  | 0  | 21.08 | 21.10 | 21.46 |                     |          |
| 1.4             | 16QAM | 3  | 1  | 21.09 | 21.02 | 21.39 |                     |          |
| 1.4             | 16QAM | 3  | 3  | 21.06 | 21.26 | 21.33 | 22                  | 2        |
| 1.4             | 16QAM | 6  | 0  | 20.16 | 20.16 | 20.56 |                     |          |
| 1.4             | 64QAM | 1  | 0  | 20.85 | 20.77 | 20.88 |                     |          |
| 1.4             | 64QAM | 1  | 3  | 20.72 | 20.81 | 20.81 | 22                  | 2        |
| 1.4             | 64QAM | 1  | 5  | 20.89 | 20.70 | 20.99 |                     |          |
| 1.4             | 64QAM | 3  | 0  | 21.26 | 21.27 | 21.53 |                     |          |
| 1.4             | 64QAM | 3  | 1  | 21.12 | 21.15 | 21.51 | 21                  | 3        |
| 1.4             | 64QAM | 3  | 3  | 21.14 | 21.16 | 21.51 |                     |          |
| 1.4             | 64QAM | 6  | 0  | 20.24 | 20.23 | 20.61 |                     |          |

**<LTE Band 66>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|---------------------------|-------------|
| Channel         |            |         |           | 132072                   | 132322                      | 132572                    |                           |             |
| Frequency (MHz) |            |         |           | 1720                     | 1745                        | 1770                      |                           |             |
| 20              | QPSK       | 1       | 0         | 22.22                    | 22.59                       | 22.33                     | 24                        | 0           |
| 20              | QPSK       | 1       | 49        | 22.51                    | 22.15                       | 22.12                     |                           |             |
| 20              | QPSK       | 1       | 99        | 22.52                    | 22.55                       | 22.26                     |                           |             |
| 20              | QPSK       | 50      | 0         | 21.47                    | 21.54                       | 21.43                     | 23                        | 1           |
| 20              | QPSK       | 50      | 24        | 21.50                    | 21.24                       | 21.21                     |                           |             |
| 20              | QPSK       | 50      | 50        | 21.51                    | 21.52                       | 21.25                     |                           |             |
| 20              | QPSK       | 100     | 0         | 21.40                    | 21.41                       | 21.18                     |                           |             |
| 20              | 16QAM      | 1       | 0         | 21.34                    | 21.66                       | 21.60                     | 23                        | 1           |
| 20              | 16QAM      | 1       | 49        | 21.64                    | 21.59                       | 21.52                     |                           |             |
| 20              | 16QAM      | 1       | 99        | 21.82                    | 21.56                       | 21.56                     |                           |             |
| 20              | 16QAM      | 50      | 0         | 20.35                    | 20.42                       | 20.46                     | 22                        | 2           |
| 20              | 16QAM      | 50      | 24        | 20.44                    | 20.25                       | 20.25                     |                           |             |
| 20              | 16QAM      | 50      | 50        | 20.45                    | 20.39                       | 20.41                     |                           |             |
| 20              | 16QAM      | 100     | 0         | 20.40                    | 20.24                       | 20.23                     |                           |             |
| 20              | 64QAM      | 1       | 0         | 20.76                    | 20.70                       | 20.79                     | 22                        | 2           |
| 20              | 64QAM      | 1       | 49        | 20.75                    | 20.54                       | 20.60                     |                           |             |
| 20              | 64QAM      | 1       | 99        | 20.84                    | 20.55                       | 20.76                     |                           |             |
| 20              | 64QAM      | 50      | 0         | 19.51                    | 19.61                       | 19.69                     | 21                        | 3           |
| 20              | 64QAM      | 50      | 24        | 19.60                    | 19.45                       | 19.49                     |                           |             |
| 20              | 64QAM      | 50      | 50        | 19.62                    | 19.23                       | 19.19                     |                           |             |
| 20              | 64QAM      | 100     | 0         | 19.58                    | 19.44                       | 19.48                     |                           |             |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 132047 | 132322 | 132597 | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|--------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 1717.5 | 1745   | 1772.5 |                     |          |
| 15              | QPSK  | 1  | 0  | 22.15  | 22.36  | 22.25  | 24                  | 0        |
| 15              | QPSK  | 1  | 37 | 22.42  | 22.48  | 22.27  |                     |          |
| 15              | QPSK  | 1  | 74 | 22.36  | 22.12  | 22.00  |                     |          |
| 15              | QPSK  | 36 | 0  | 21.31  | 21.64  | 21.58  | 23                  | 1        |
| 15              | QPSK  | 36 | 20 | 21.37  | 21.44  | 21.33  |                     |          |
| 15              | QPSK  | 36 | 39 | 21.35  | 21.23  | 21.14  |                     |          |
| 15              | QPSK  | 75 | 0  | 21.29  | 21.40  | 21.34  | 23                  | 1        |
| 15              | 16QAM | 1  | 0  | 21.21  | 21.52  | 21.56  |                     |          |
| 15              | 16QAM | 1  | 37 | 21.59  | 21.57  | 21.46  |                     |          |
| 15              | 16QAM | 1  | 74 | 21.56  | 21.27  | 21.22  | 22                  | 2        |
| 15              | 16QAM | 36 | 0  | 20.21  | 20.54  | 20.55  |                     |          |
| 15              | 16QAM | 36 | 20 | 20.30  | 20.35  | 20.31  |                     |          |
| 15              | 16QAM | 36 | 39 | 20.28  | 20.15  | 20.12  | 22                  | 2        |
| 15              | 16QAM | 75 | 0  | 20.24  | 20.34  | 20.34  |                     |          |
| 15              | 64QAM | 1  | 0  | 20.69  | 20.91  | 20.97  |                     |          |
| 15              | 64QAM | 1  | 37 | 20.61  | 20.61  | 20.53  | 21                  | 3        |
| 15              | 64QAM | 1  | 74 | 20.74  | 20.56  | 20.76  |                     |          |
| 15              | 64QAM | 36 | 0  | 19.83  | 19.67  | 19.75  |                     |          |
| 15              | 64QAM | 36 | 20 | 19.89  | 19.48  | 19.50  | 21                  | 3        |
| 15              | 64QAM | 36 | 39 | 19.64  | 19.56  | 19.56  |                     |          |
| 15              | 64QAM | 75 | 0  | 19.49  | 19.50  | 19.53  |                     |          |
| Channel         |       |    |    | 132022 | 132322 | 132622 | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1715   | 1745   | 1775   |                     |          |
| 10              | QPSK  | 1  | 0  | 22.12  | 22.39  | 22.41  | 24                  | 0        |
| 10              | QPSK  | 1  | 25 | 22.55  | 22.34  | 22.39  |                     |          |
| 10              | QPSK  | 1  | 49 | 22.25  | 22.41  | 22.34  |                     |          |
| 10              | QPSK  | 25 | 0  | 21.34  | 21.63  | 21.46  | 23                  | 1        |
| 10              | QPSK  | 25 | 12 | 21.47  | 21.53  | 21.39  |                     |          |
| 10              | QPSK  | 25 | 25 | 21.41  | 21.31  | 21.24  |                     |          |
| 10              | QPSK  | 50 | 0  | 21.36  | 21.42  | 21.35  | 23                  | 1        |
| 10              | 16QAM | 1  | 0  | 21.59  | 21.64  | 21.59  |                     |          |
| 10              | 16QAM | 1  | 25 | 21.74  | 21.74  | 21.72  |                     |          |
| 10              | 16QAM | 1  | 49 | 21.40  | 21.64  | 21.31  | 22                  | 2        |
| 10              | 16QAM | 25 | 0  | 20.25  | 20.52  | 20.43  |                     |          |
| 10              | 16QAM | 25 | 12 | 20.38  | 20.46  | 20.38  |                     |          |
| 10              | 16QAM | 25 | 25 | 20.34  | 20.21  | 20.24  | 22                  | 2        |
| 10              | 16QAM | 50 | 0  | 20.29  | 20.34  | 20.35  |                     |          |
| 10              | 64QAM | 1  | 0  | 20.69  | 20.63  | 20.62  |                     |          |
| 10              | 64QAM | 1  | 25 | 20.61  | 20.67  | 20.57  | 21                  | 3        |
| 10              | 64QAM | 1  | 49 | 20.74  | 20.61  | 20.27  |                     |          |
| 10              | 64QAM | 25 | 0  | 19.83  | 19.64  | 19.61  |                     |          |
| 10              | 64QAM | 25 | 12 | 19.89  | 19.56  | 19.57  | 21                  | 3        |
| 10              | 64QAM | 25 | 25 | 19.64  | 19.64  | 19.42  |                     |          |
| 10              | 64QAM | 50 | 0  | 19.49  | 19.51  | 19.53  |                     |          |



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Report No. : FA932901-02

| Channel         |       |    |    | 131997 | 132322 | 132647 | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|--------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 1712.5 | 1745   | 1777.5 |                     |          |
| 5               | QPSK  | 1  | 0  | 22.27  | 22.27  | 22.49  | 24                  | 0        |
| 5               | QPSK  | 1  | 12 | 22.44  | 22.22  | 22.44  |                     |          |
| 5               | QPSK  | 1  | 24 | 22.39  | 22.27  | 22.27  |                     |          |
| 5               | QPSK  | 12 | 0  | 21.31  | 21.31  | 21.04  | 23                  | 1        |
| 5               | QPSK  | 12 | 7  | 21.38  | 21.24  | 21.03  |                     |          |
| 5               | QPSK  | 12 | 13 | 21.39  | 21.13  | 21.39  |                     |          |
| 5               | QPSK  | 25 | 0  | 21.31  | 21.21  | 21.01  | 23                  | 1        |
| 5               | 16QAM | 1  | 0  | 21.30  | 21.46  | 21.19  |                     |          |
| 5               | 16QAM | 1  | 12 | 21.55  | 21.47  | 21.32  |                     |          |
| 5               | 16QAM | 1  | 24 | 21.60  | 21.23  | 21.47  | 22                  | 2        |
| 5               | 16QAM | 12 | 0  | 20.21  | 20.29  | 20.05  |                     |          |
| 5               | 16QAM | 12 | 7  | 20.31  | 20.26  | 20.02  |                     |          |
| 5               | 16QAM | 12 | 13 | 20.34  | 20.18  | 20.01  | 22                  | 2        |
| 5               | 16QAM | 25 | 0  | 20.27  | 20.23  | 20.03  |                     |          |
| 5               | 64QAM | 1  | 0  | 20.31  | 20.58  | 20.32  |                     |          |
| 5               | 64QAM | 1  | 12 | 20.65  | 20.44  | 20.26  | 22                  | 2        |
| 5               | 64QAM | 1  | 24 | 20.63  | 20.27  | 20.21  |                     |          |
| 5               | 64QAM | 12 | 0  | 19.36  | 19.45  | 19.19  |                     |          |
| 5               | 64QAM | 12 | 7  | 19.45  | 19.44  | 19.20  | 21                  | 3        |
| 5               | 64QAM | 12 | 13 | 19.44  | 19.34  | 19.16  |                     |          |
| 5               | 64QAM | 25 | 0  | 19.87  | 19.41  | 19.44  |                     |          |
| Channel         |       |    |    | 131987 | 132322 | 132657 | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1711.5 | 1745   | 1778.5 |                     |          |
| 3               | QPSK  | 1  | 0  | 22.49  | 22.05  | 22.01  | 24                  | 0        |
| 3               | QPSK  | 1  | 8  | 22.22  | 22.22  | 22.44  |                     |          |
| 3               | QPSK  | 1  | 14 | 22.27  | 22.27  | 22.27  |                     |          |
| 3               | QPSK  | 8  | 0  | 21.50  | 21.40  | 21.55  | 23                  | 1        |
| 3               | QPSK  | 8  | 4  | 21.54  | 21.40  | 21.50  |                     |          |
| 3               | QPSK  | 8  | 7  | 21.55  | 21.38  | 21.40  |                     |          |
| 3               | QPSK  | 15 | 0  | 21.50  | 21.07  | 21.23  | 23                  | 1        |
| 3               | 16QAM | 1  | 0  | 21.64  | 21.39  | 21.42  |                     |          |
| 3               | 16QAM | 1  | 8  | 21.70  | 21.42  | 21.42  |                     |          |
| 3               | 16QAM | 1  | 14 | 21.84  | 21.42  | 21.42  | 22                  | 2        |
| 3               | 16QAM | 8  | 0  | 20.47  | 20.16  | 20.10  |                     |          |
| 3               | 16QAM | 8  | 4  | 20.51  | 20.12  | 20.09  |                     |          |
| 3               | 16QAM | 8  | 7  | 20.57  | 20.11  | 20.07  | 22                  | 2        |
| 3               | 16QAM | 15 | 0  | 20.47  | 20.12  | 20.06  |                     |          |
| 3               | 64QAM | 1  | 0  | 20.54  | 20.45  | 20.21  |                     |          |
| 3               | 64QAM | 1  | 8  | 20.45  | 20.31  | 20.41  | 22                  | 2        |
| 3               | 64QAM | 1  | 14 | 20.45  | 20.23  | 20.22  |                     |          |
| 3               | 64QAM | 8  | 0  | 19.59  | 19.40  | 19.26  |                     |          |
| 3               | 64QAM | 8  | 4  | 19.66  | 19.33  | 19.27  | 21                  | 3        |
| 3               | 64QAM | 8  | 7  | 19.66  | 19.31  | 19.25  |                     |          |
| 3               | 64QAM | 15 | 0  | 19.62  | 19.33  | 19.24  |                     |          |

| Channel         |       |   |   | 131979 | 132322 | 132665 | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|---|---|--------|--------|--------|---------------------------|-------------|
| Frequency (MHz) |       |   |   | 1710.7 | 1745   | 1779.3 |                           |             |
| 1.4             | QPSK  | 1 | 0 | 22.22  | 22.49  | 22.27  | 24                        | 0           |
| 1.4             | QPSK  | 1 | 3 | 22.50  | 22.22  | 22.22  |                           |             |
| 1.4             | QPSK  | 1 | 5 | 22.51  | 22.27  | 22.27  |                           |             |
| 1.4             | QPSK  | 3 | 0 | 22.39  | 22.05  | 22.01  |                           |             |
| 1.4             | QPSK  | 3 | 1 | 22.39  | 22.22  | 22.44  |                           |             |
| 1.4             | QPSK  | 3 | 3 | 22.37  | 22.27  | 22.27  |                           |             |
| 1.4             | QPSK  | 6 | 0 | 21.37  | 21.23  | 21.10  | 23                        | 1           |
| 1.4             | 16QAM | 1 | 0 | 21.67  | 21.40  | 21.40  | 23                        | 1           |
| 1.4             | 16QAM | 1 | 3 | 21.67  | 21.23  | 21.40  |                           |             |
| 1.4             | 16QAM | 1 | 5 | 21.65  | 21.40  | 21.23  |                           |             |
| 1.4             | 16QAM | 3 | 0 | 21.41  | 21.04  | 21.23  |                           |             |
| 1.4             | 16QAM | 3 | 1 | 21.40  | 21.02  | 21.14  |                           |             |
| 1.4             | 16QAM | 3 | 3 | 21.43  | 21.14  | 21.10  |                           |             |
| 1.4             | 16QAM | 6 | 0 | 20.35  | 20.56  | 20.26  | 22                        | 2           |
| 1.4             | 64QAM | 1 | 0 | 20.59  | 20.28  | 20.21  | 22                        | 2           |
| 1.4             | 64QAM | 1 | 3 | 20.65  | 20.18  | 20.28  |                           |             |
| 1.4             | 64QAM | 1 | 5 | 20.56  | 20.26  | 20.56  |                           |             |
| 1.4             | 64QAM | 3 | 0 | 20.46  | 20.19  | 20.12  |                           |             |
| 1.4             | 64QAM | 3 | 1 | 20.55  | 20.18  | 20.10  |                           |             |
| 1.4             | 64QAM | 3 | 3 | 20.52  | 20.14  | 20.08  |                           |             |
| 1.4             | 64QAM | 6 | 0 | 19.46  | 19.19  | 19.08  | 21                        | 3           |

### <Reduced Power Mode for P-Sensor On>

#### <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<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|---------------------------|-------------|
| Channel         |            |         |           | 18700                    | 18900                       | 19100                     |                           |             |
| Frequency (MHz) |            |         |           | 1860                     | 1880                        | 1900                      |                           |             |
| 20              | QPSK       | 1       | 0         | 18.07                    | 18.12                       | 18.53                     | 20                        | 0           |
| 20              | QPSK       | 1       | 49        | 18.34                    | 18.07                       | 18.48                     |                           |             |
| 20              | QPSK       | 1       | 99        | 18.06                    | 18.54                       | 18.34                     |                           |             |
| 20              | QPSK       | 50      | 0         | 18.11                    | 18.45                       | 18.44                     | 20                        | 0           |
| 20              | QPSK       | 50      | 24        | 18.03                    | 18.43                       | 18.44                     |                           |             |
| 20              | QPSK       | 50      | 50        | 18.05                    | 18.07                       | 18.39                     |                           |             |
| 20              | QPSK       | 100     | 0         | 18.09                    | 18.04                       | 18.45                     | 20                        | 0           |
| 20              | 16QAM      | 1       | 0         | 18.12                    | 18.11                       | 18.30                     |                           |             |
| 20              | 16QAM      | 1       | 49        | 18.10                    | 18.07                       | 18.27                     |                           |             |
| 20              | 16QAM      | 1       | 99        | 18.13                    | 18.04                       | 18.27                     | 20                        | 0           |
| 20              | 16QAM      | 50      | 0         | 18.11                    | 18.11                       | 18.49                     |                           |             |
| 20              | 16QAM      | 50      | 24        | 18.11                    | 18.10                       | 18.50                     |                           |             |
| 20              | 16QAM      | 50      | 50        | 18.06                    | 18.12                       | 18.47                     | 20                        | 0           |
| 20              | 16QAM      | 100     | 0         | 18.08                    | 18.04                       | 18.45                     |                           |             |
| 20              | 64QAM      | 1       | 0         | 18.08                    | 18.10                       | 18.40                     |                           |             |
| 20              | 64QAM      | 1       | 49        | 18.03                    | 18.12                       | 18.40                     | 20                        | 0           |
| 20              | 64QAM      | 1       | 99        | 18.18                    | 18.36                       | 18.45                     |                           |             |
| 20              | 64QAM      | 50      | 0         | 18.08                    | 18.13                       | 18.45                     |                           |             |
| 20              | 64QAM      | 50      | 24        | 18.11                    | 18.13                       | 18.51                     | 20                        | 0           |
| 20              | 64QAM      | 50      | 50        | 18.08                    | 18.14                       | 18.48                     |                           |             |
| 20              | 64QAM      | 100     | 0         | 18.11                    | 18.17                       | 18.50                     |                           |             |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 18675  | 18900 | 19125  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 1857.5 | 1880  | 1902.5 |                     |          |
| 15              | QPSK  | 1  | 0  | 18.10  | 18.02 | 18.50  | 20                  | 0        |
| 15              | QPSK  | 1  | 37 | 18.00  | 18.06 | 18.46  |                     |          |
| 15              | QPSK  | 1  | 74 | 18.06  | 18.05 | 18.33  |                     |          |
| 15              | QPSK  | 36 | 0  | 18.05  | 18.03 | 18.46  | 20                  | 0        |
| 15              | QPSK  | 36 | 20 | 18.00  | 18.06 | 18.44  |                     |          |
| 15              | QPSK  | 36 | 39 | 18.02  | 18.04 | 18.39  |                     |          |
| 15              | QPSK  | 75 | 0  | 18.04  | 18.07 | 18.43  | 20                  | 0        |
| 15              | 16QAM | 1  | 0  | 18.11  | 18.02 | 18.41  |                     |          |
| 15              | 16QAM | 1  | 37 | 18.15  | 18.09 | 18.37  |                     |          |
| 15              | 16QAM | 1  | 74 | 18.03  | 18.11 | 18.06  | 20                  | 0        |
| 15              | 16QAM | 36 | 0  | 18.07  | 18.03 | 18.50  |                     |          |
| 15              | 16QAM | 36 | 20 | 18.02  | 18.09 | 18.45  |                     |          |
| 15              | 16QAM | 36 | 39 | 18.02  | 18.02 | 18.40  | 20                  | 0        |
| 15              | 16QAM | 75 | 0  | 18.07  | 18.10 | 18.46  |                     |          |
| 15              | 64QAM | 1  | 0  | 18.02  | 18.01 | 18.48  |                     |          |
| 15              | 64QAM | 1  | 37 | 18.07  | 18.02 | 18.37  | 20                  | 0        |
| 15              | 64QAM | 1  | 74 | 18.02  | 18.06 | 18.26  |                     |          |
| 15              | 64QAM | 36 | 0  | 18.02  | 18.06 | 18.42  |                     |          |
| 15              | 64QAM | 36 | 20 | 18.07  | 18.09 | 18.45  | 20                  | 0        |
| 15              | 64QAM | 36 | 39 | 18.05  | 18.05 | 18.40  |                     |          |
| 15              | 64QAM | 75 | 0  | 18.07  | 18.08 | 18.48  |                     |          |
| Channel         |       |    |    | 18650  | 18900 | 19150  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1855   | 1880  | 1905   |                     |          |
| 10              | QPSK  | 1  | 0  | 18.06  | 18.07 | 18.55  | 20                  | 0        |
| 10              | QPSK  | 1  | 25 | 18.09  | 18.06 | 18.49  |                     |          |
| 10              | QPSK  | 1  | 49 | 18.06  | 18.06 | 18.42  |                     |          |
| 10              | QPSK  | 25 | 0  | 18.08  | 18.07 | 18.45  | 20                  | 0        |
| 10              | QPSK  | 25 | 12 | 18.11  | 18.07 | 18.42  |                     |          |
| 10              | QPSK  | 25 | 25 | 18.01  | 18.09 | 18.43  |                     |          |
| 10              | QPSK  | 50 | 0  | 18.17  | 18.03 | 18.42  | 20                  | 0        |
| 10              | 16QAM | 1  | 0  | 18.02  | 18.07 | 18.42  |                     |          |
| 10              | 16QAM | 1  | 25 | 18.06  | 18.09 | 18.28  |                     |          |
| 10              | 16QAM | 1  | 49 | 18.14  | 18.00 | 18.23  | 20                  | 0        |
| 10              | 16QAM | 25 | 0  | 18.06  | 18.07 | 18.45  |                     |          |
| 10              | 16QAM | 25 | 12 | 18.03  | 18.09 | 18.47  |                     |          |
| 10              | 16QAM | 25 | 25 | 18.07  | 18.11 | 18.46  | 20                  | 0        |
| 10              | 16QAM | 50 | 0  | 18.03  | 18.12 | 18.43  |                     |          |
| 10              | 64QAM | 1  | 0  | 18.15  | 18.11 | 18.41  |                     |          |
| 10              | 64QAM | 1  | 25 | 18.14  | 18.07 | 18.45  | 20                  | 0        |
| 10              | 64QAM | 1  | 49 | 18.06  | 18.03 | 18.25  |                     |          |
| 10              | 64QAM | 25 | 0  | 18.10  | 18.08 | 18.50  |                     |          |
| 10              | 64QAM | 25 | 12 | 18.04  | 18.06 | 18.47  | 20                  | 0        |
| 10              | 64QAM | 25 | 25 | 18.04  | 18.09 | 18.42  |                     |          |
| 10              | 64QAM | 50 | 0  | 18.10  | 18.11 | 18.52  |                     |          |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 18625  | 18900 | 19175  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 1852.5 | 1880  | 1907.5 |                     |          |
| 5               | QPSK  | 1  | 0  | 18.00  | 18.04 | 18.49  | 20                  | 0        |
| 5               | QPSK  | 1  | 12 | 18.03  | 18.02 | 18.35  |                     |          |
| 5               | QPSK  | 1  | 24 | 18.12  | 18.07 | 18.40  |                     |          |
| 5               | QPSK  | 12 | 0  | 18.09  | 18.02 | 18.44  | 20                  | 0        |
| 5               | QPSK  | 12 | 7  | 18.04  | 18.01 | 18.39  |                     |          |
| 5               | QPSK  | 12 | 13 | 18.12  | 18.05 | 18.36  |                     |          |
| 5               | QPSK  | 25 | 0  | 18.19  | 18.01 | 18.39  | 20                  | 0        |
| 5               | 16QAM | 1  | 0  | 18.05  | 18.05 | 18.28  |                     |          |
| 5               | 16QAM | 1  | 12 | 18.05  | 18.05 | 18.25  |                     |          |
| 5               | 16QAM | 1  | 24 | 18.04  | 18.07 | 18.35  | 20                  | 0        |
| 5               | 16QAM | 12 | 0  | 18.10  | 18.16 | 18.45  |                     |          |
| 5               | 16QAM | 12 | 7  | 18.01  | 18.04 | 18.37  |                     |          |
| 5               | 16QAM | 12 | 13 | 18.00  | 18.05 | 18.29  | 20                  | 0        |
| 5               | 16QAM | 25 | 0  | 18.19  | 18.09 | 18.45  |                     |          |
| 5               | 64QAM | 1  | 0  | 18.10  | 18.16 | 18.39  |                     |          |
| 5               | 64QAM | 1  | 12 | 18.01  | 18.04 | 18.36  | 20                  | 0        |
| 5               | 64QAM | 1  | 24 | 18.10  | 18.16 | 18.39  |                     |          |
| 5               | 64QAM | 12 | 0  | 18.00  | 18.05 | 18.45  |                     |          |
| 5               | 64QAM | 12 | 7  | 18.00  | 18.03 | 18.42  | 20                  | 0        |
| 5               | 64QAM | 12 | 13 | 18.17  | 18.03 | 18.41  |                     |          |
| 5               | 64QAM | 25 | 0  | 18.12  | 18.09 | 18.44  |                     |          |
| Channel         |       |    |    | 18615  | 18900 | 19185  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1851.5 | 1880  | 1908.5 |                     |          |
| 3               | QPSK  | 1  | 0  | 18.05  | 18.10 | 18.45  | 20                  | 0        |
| 3               | QPSK  | 1  | 8  | 18.08  | 18.08 | 18.42  |                     |          |
| 3               | QPSK  | 1  | 14 | 18.02  | 18.11 | 18.40  |                     |          |
| 3               | QPSK  | 8  | 0  | 18.13  | 18.09 | 18.42  | 20                  | 0        |
| 3               | QPSK  | 8  | 4  | 18.14  | 18.08 | 18.39  |                     |          |
| 3               | QPSK  | 8  | 7  | 18.15  | 18.04 | 18.39  |                     |          |
| 3               | QPSK  | 15 | 0  | 18.04  | 18.01 | 18.44  | 20                  | 0        |
| 3               | 16QAM | 1  | 0  | 18.06  | 18.11 | 18.32  |                     |          |
| 3               | 16QAM | 1  | 8  | 18.13  | 18.08 | 18.23  |                     |          |
| 3               | 16QAM | 1  | 14 | 18.09  | 18.04 | 18.14  | 20                  | 0        |
| 3               | 16QAM | 8  | 0  | 18.12  | 18.10 | 18.42  |                     |          |
| 3               | 16QAM | 8  | 4  | 18.00  | 18.02 | 18.43  |                     |          |
| 3               | 16QAM | 8  | 7  | 18.08  | 18.03 | 18.40  | 20                  | 0        |
| 3               | 16QAM | 15 | 0  | 18.04  | 18.05 | 18.45  |                     |          |
| 3               | 64QAM | 1  | 0  | 18.01  | 18.11 | 18.48  |                     |          |
| 3               | 64QAM | 1  | 8  | 18.09  | 18.08 | 18.40  | 20                  | 0        |
| 3               | 64QAM | 1  | 14 | 18.14  | 18.14 | 18.48  |                     |          |
| 3               | 64QAM | 8  | 0  | 18.01  | 18.03 | 18.40  |                     |          |
| 3               | 64QAM | 8  | 4  | 18.11  | 18.09 | 18.44  | 20                  | 0        |
| 3               | 64QAM | 8  | 7  | 18.00  | 18.03 | 18.45  |                     |          |
| 3               | 64QAM | 15 | 0  | 18.01  | 18.07 | 18.44  |                     |          |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |   |   | 18607  | 18900 | 19193  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|---|---|--------|-------|--------|---------------------------|-------------|
| Frequency (MHz) |       |   |   | 1850.7 | 1880  | 1909.3 |                           |             |
| 1.4             | QPSK  | 1 | 0 | 18.11  | 18.06 | 18.29  | 20                        | 0           |
| 1.4             | QPSK  | 1 | 3 | 18.09  | 18.04 | 18.30  |                           |             |
| 1.4             | QPSK  | 1 | 5 | 18.12  | 18.01 | 18.30  |                           |             |
| 1.4             | QPSK  | 3 | 0 | 18.03  | 18.06 | 18.37  |                           |             |
| 1.4             | QPSK  | 3 | 1 | 18.09  | 18.05 | 18.37  |                           |             |
| 1.4             | QPSK  | 3 | 3 | 18.12  | 18.03 | 18.38  |                           |             |
| 1.4             | QPSK  | 6 | 0 | 18.09  | 18.04 | 18.36  | 20                        | 0           |
| 1.4             | 16QAM | 1 | 0 | 18.15  | 18.12 | 18.34  | 20                        | 0           |
| 1.4             | 16QAM | 1 | 3 | 18.10  | 18.02 | 18.22  |                           |             |
| 1.4             | 16QAM | 1 | 5 | 18.09  | 18.05 | 18.09  |                           |             |
| 1.4             | 16QAM | 3 | 0 | 18.02  | 18.00 | 18.37  |                           |             |
| 1.4             | 16QAM | 3 | 1 | 18.02  | 18.02 | 18.25  |                           |             |
| 1.4             | 16QAM | 3 | 3 | 18.02  | 18.02 | 18.23  |                           |             |
| 1.4             | 16QAM | 6 | 0 | 18.14  | 18.06 | 18.28  | 20                        | 0           |
| 1.4             | 64QAM | 1 | 0 | 18.17  | 18.06 | 18.42  | 20                        | 0           |
| 1.4             | 64QAM | 1 | 3 | 18.16  | 18.04 | 18.46  |                           |             |
| 1.4             | 64QAM | 1 | 5 | 18.04  | 18.05 | 18.39  |                           |             |
| 1.4             | 64QAM | 3 | 0 | 18.09  | 18.11 | 18.32  |                           |             |
| 1.4             | 64QAM | 3 | 1 | 18.04  | 18.09 | 18.34  |                           |             |
| 1.4             | 64QAM | 3 | 3 | 18.02  | 18.08 | 18.32  |                           |             |
| 1.4             | 64QAM | 6 | 0 | 18.02  | 18.03 | 18.36  | 20                        | 0           |

**<LTE Band 4>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|---------------------------|-------------|
| Channel         |            |         |           | 20050                    | 20175                       | 20300                     |                           |             |
| Frequency (MHz) |            |         |           | 1720                     | 1732.5                      | 1745                      |                           |             |
| 20              | QPSK       | 1       | 0         | 17.76                    | 17.98                       | 17.82                     | 19.5                      | 0           |
| 20              | QPSK       | 1       | 49        | 17.72                    | 17.73                       | 17.79                     |                           |             |
| 20              | QPSK       | 1       | 99        | 17.69                    | 17.68                       | 17.82                     |                           |             |
| 20              | QPSK       | 50      | 0         | 17.75                    | 17.84                       | 17.81                     | 19.5                      | 0           |
| 20              | QPSK       | 50      | 24        | 17.69                    | 17.77                       | 17.77                     |                           |             |
| 20              | QPSK       | 50      | 50        | 17.68                    | 17.79                       | 17.81                     |                           |             |
| 20              | QPSK       | 100     | 0         | 17.67                    | 17.77                       | 17.84                     | 19.5                      | 0           |
| 20              | 16QAM      | 1       | 0         | 17.52                    | 17.55                       | 17.52                     |                           |             |
| 20              | 16QAM      | 1       | 49        | 17.51                    | 17.51                       | 17.51                     |                           |             |
| 20              | 16QAM      | 1       | 99        | 17.58                    | 17.62                       | 17.67                     | 19.5                      | 0           |
| 20              | 16QAM      | 50      | 0         | 17.74                    | 17.77                       | 17.92                     |                           |             |
| 20              | 16QAM      | 50      | 24        | 17.75                    | 17.83                       | 17.96                     |                           |             |
| 20              | 16QAM      | 50      | 50        | 17.74                    | 17.78                       | 17.95                     | 19.5                      | 0           |
| 20              | 16QAM      | 100     | 0         | 17.72                    | 17.76                       | 17.90                     |                           |             |
| 20              | 64QAM      | 1       | 0         | 17.75                    | 17.92                       | 17.75                     |                           |             |
| 20              | 64QAM      | 1       | 49        | 17.68                    | 17.92                       | 17.73                     | 19.5                      | 0           |
| 20              | 64QAM      | 1       | 99        | 17.83                    | 17.72                       | 17.84                     |                           |             |
| 20              | 64QAM      | 50      | 0         | 17.77                    | 17.75                       | 17.92                     |                           |             |
| 20              | 64QAM      | 50      | 24        | 17.70                    | 17.83                       | 17.94                     | 19.5                      | 0           |
| 20              | 64QAM      | 50      | 50        | 17.73                    | 17.69                       | 17.87                     |                           |             |
| 20              | 64QAM      | 100     | 0         | 17.79                    | 17.78                       | 17.66                     |                           |             |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 20025  | 20175  | 20325  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|--------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 1717.5 | 1732.5 | 1747.5 |                     |          |
| 15              | QPSK  | 1  | 0  | 17.84  | 17.83  | 17.92  | 19.5                | 0        |
| 15              | QPSK  | 1  | 37 | 17.78  | 17.75  | 17.92  |                     |          |
| 15              | QPSK  | 1  | 74 | 17.75  | 17.76  | 17.88  |                     |          |
| 15              | QPSK  | 36 | 0  | 17.73  | 17.78  | 17.86  | 19.5                | 0        |
| 15              | QPSK  | 36 | 20 | 17.73  | 17.76  | 17.84  |                     |          |
| 15              | QPSK  | 36 | 39 | 17.72  | 17.74  | 17.83  |                     |          |
| 15              | QPSK  | 75 | 0  | 17.69  | 17.76  | 17.88  | 19.5                | 0        |
| 15              | 16QAM | 1  | 0  | 17.50  | 17.54  | 17.57  |                     |          |
| 15              | 16QAM | 1  | 37 | 17.56  | 17.55  | 17.58  |                     |          |
| 15              | 16QAM | 1  | 74 | 17.57  | 17.67  | 17.55  | 19.5                | 0        |
| 15              | 16QAM | 36 | 0  | 17.74  | 17.80  | 17.83  |                     |          |
| 15              | 16QAM | 36 | 20 | 17.67  | 17.70  | 17.88  |                     |          |
| 15              | 16QAM | 36 | 39 | 17.77  | 17.79  | 17.89  | 19.5                | 0        |
| 15              | 16QAM | 75 | 0  | 17.74  | 17.88  | 17.93  |                     |          |
| 15              | 64QAM | 1  | 0  | 17.85  | 17.88  | 17.88  |                     |          |
| 15              | 64QAM | 1  | 37 | 17.88  | 17.55  | 17.96  | 19.5                | 0        |
| 15              | 64QAM | 1  | 74 | 17.85  | 17.84  | 17.87  |                     |          |
| 15              | 64QAM | 36 | 0  | 17.81  | 17.87  | 17.93  |                     |          |
| 15              | 64QAM | 36 | 20 | 17.76  | 17.87  | 17.94  | 19.5                | 0        |
| 15              | 64QAM | 36 | 39 | 17.74  | 17.87  | 17.93  |                     |          |
| 15              | 64QAM | 75 | 0  | 17.81  | 17.75  | 17.89  |                     |          |
| Channel         |       |    |    | 20000  | 20175  | 20350  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1715   | 1732.5 | 1750   |                     |          |
| 10              | QPSK  | 1  | 0  | 17.77  | 17.74  | 17.90  | 19.5                | 0        |
| 10              | QPSK  | 1  | 25 | 17.80  | 17.70  | 17.88  |                     |          |
| 10              | QPSK  | 1  | 49 | 17.80  | 17.76  | 17.84  |                     |          |
| 10              | QPSK  | 25 | 0  | 17.76  | 17.74  | 17.94  | 19.5                | 0        |
| 10              | QPSK  | 25 | 12 | 17.73  | 17.69  | 17.88  |                     |          |
| 10              | QPSK  | 25 | 25 | 17.75  | 17.67  | 17.88  |                     |          |
| 10              | QPSK  | 50 | 0  | 17.77  | 17.74  | 17.86  | 19.5                | 0        |
| 10              | 16QAM | 1  | 0  | 17.61  | 17.54  | 17.69  |                     |          |
| 10              | 16QAM | 1  | 25 | 17.67  | 17.65  | 17.53  |                     |          |
| 10              | 16QAM | 1  | 49 | 17.51  | 17.68  | 17.73  | 19.5                | 0        |
| 10              | 16QAM | 25 | 0  | 17.77  | 17.70  | 17.95  |                     |          |
| 10              | 16QAM | 25 | 12 | 17.79  | 17.74  | 17.90  |                     |          |
| 10              | 16QAM | 25 | 25 | 17.76  | 17.81  | 17.92  | 19.5                | 0        |
| 10              | 16QAM | 50 | 0  | 17.79  | 17.80  | 17.94  |                     |          |
| 10              | 64QAM | 1  | 0  | 17.79  | 17.66  | 17.90  |                     |          |
| 10              | 64QAM | 1  | 25 | 17.73  | 17.78  | 17.87  | 19.5                | 0        |
| 10              | 64QAM | 1  | 49 | 17.80  | 17.67  | 17.93  |                     |          |
| 10              | 64QAM | 25 | 0  | 17.78  | 17.82  | 17.87  |                     |          |
| 10              | 64QAM | 25 | 12 | 17.76  | 17.80  | 17.90  | 19.5                | 0        |
| 10              | 64QAM | 25 | 25 | 17.70  | 17.69  | 17.93  |                     |          |
| 10              | 64QAM | 50 | 0  | 17.74  | 17.77  | 17.94  |                     |          |



# FCC SAR Test Report

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| Channel         |       |    |    | 19975  | 20175  | 20375  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|--------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 1712.5 | 1732.5 | 1752.5 |                     |          |
| 5               | QPSK  | 1  | 0  | 17.77  | 17.80  | 17.83  | 19.5                | 0        |
| 5               | QPSK  | 1  | 12 | 17.71  | 17.83  | 17.83  |                     |          |
| 5               | QPSK  | 1  | 24 | 17.71  | 17.78  | 17.91  |                     |          |
| 5               | QPSK  | 12 | 0  | 17.74  | 17.75  | 17.90  | 19.5                | 0        |
| 5               | QPSK  | 12 | 7  | 17.73  | 17.73  | 17.86  |                     |          |
| 5               | QPSK  | 12 | 13 | 17.71  | 17.66  | 17.95  |                     |          |
| 5               | QPSK  | 25 | 0  | 17.73  | 17.70  | 17.88  | 19.5                | 0        |
| 5               | 16QAM | 1  | 0  | 17.52  | 17.64  | 17.57  |                     |          |
| 5               | 16QAM | 1  | 12 | 17.68  | 17.70  | 17.57  |                     |          |
| 5               | 16QAM | 1  | 24 | 17.64  | 17.69  | 17.71  | 19.5                | 0        |
| 5               | 16QAM | 12 | 0  | 17.75  | 17.75  | 17.93  |                     |          |
| 5               | 16QAM | 12 | 7  | 17.74  | 17.68  | 17.80  |                     |          |
| 5               | 16QAM | 12 | 13 | 17.64  | 17.73  | 17.86  | 19.5                | 0        |
| 5               | 16QAM | 25 | 0  | 17.80  | 17.75  | 17.97  |                     |          |
| 5               | 64QAM | 1  | 0  | 17.88  | 17.78  | 17.73  |                     |          |
| 5               | 64QAM | 1  | 12 | 17.73  | 17.76  | 17.70  | 19.5                | 0        |
| 5               | 64QAM | 1  | 24 | 17.76  | 17.78  | 17.79  |                     |          |
| 5               | 64QAM | 12 | 0  | 17.80  | 17.78  | 17.89  |                     |          |
| 5               | 64QAM | 12 | 7  | 17.77  | 17.83  | 17.87  | 19.5                | 0        |
| 5               | 64QAM | 12 | 13 | 17.70  | 17.78  | 17.85  |                     |          |
| 5               | 64QAM | 25 | 0  | 17.71  | 17.82  | 17.97  |                     |          |
| Channel         |       |    |    | 19965  | 20175  | 20385  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1711.5 | 1732.5 | 1753.5 |                     |          |
| 3               | QPSK  | 1  | 0  | 17.78  | 17.75  | 17.91  | 19.5                | 0        |
| 3               | QPSK  | 1  | 8  | 17.80  | 17.72  | 17.92  |                     |          |
| 3               | QPSK  | 1  | 14 | 17.84  | 17.70  | 17.89  |                     |          |
| 3               | QPSK  | 8  | 0  | 17.73  | 17.74  | 17.92  | 19.5                | 0        |
| 3               | QPSK  | 8  | 4  | 17.70  | 17.75  | 17.86  |                     |          |
| 3               | QPSK  | 8  | 7  | 17.71  | 17.77  | 17.89  |                     |          |
| 3               | QPSK  | 15 | 0  | 17.75  | 17.73  | 17.92  | 19.5                | 0        |
| 3               | 16QAM | 1  | 0  | 17.72  | 17.71  | 17.81  |                     |          |
| 3               | 16QAM | 1  | 8  | 17.64  | 17.62  | 17.84  |                     |          |
| 3               | 16QAM | 1  | 14 | 17.56  | 17.73  | 17.89  | 19.5                | 0        |
| 3               | 16QAM | 8  | 0  | 17.72  | 17.77  | 17.93  |                     |          |
| 3               | 16QAM | 8  | 4  | 17.66  | 17.78  | 17.95  |                     |          |
| 3               | 16QAM | 8  | 7  | 17.76  | 17.82  | 17.94  | 19.5                | 0        |
| 3               | 16QAM | 15 | 0  | 17.62  | 17.76  | 17.91  |                     |          |
| 3               | 64QAM | 1  | 0  | 17.70  | 17.85  | 17.93  |                     |          |
| 3               | 64QAM | 1  | 8  | 17.63  | 17.77  | 17.95  | 19.5                | 0        |
| 3               | 64QAM | 1  | 14 | 17.82  | 17.80  | 17.94  |                     |          |
| 3               | 64QAM | 8  | 0  | 17.79  | 17.83  | 17.96  |                     |          |
| 3               | 64QAM | 8  | 4  | 17.78  | 17.80  | 17.90  | 19.5                | 0        |
| 3               | 64QAM | 8  | 7  | 17.79  | 17.69  | 17.94  |                     |          |
| 3               | 64QAM | 15 | 0  | 17.72  | 17.77  | 17.91  |                     |          |

| Channel         |       |   |   | 19957  | 20175  | 20393  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|---|---|--------|--------|--------|---------------------------|-------------|
| Frequency (MHz) |       |   |   | 1710.7 | 1732.5 | 1754.3 |                           |             |
| 1.4             | QPSK  | 1 | 0 | 17.78  | 17.67  | 17.91  | 19.5                      | 0           |
| 1.4             | QPSK  | 1 | 3 | 17.74  | 17.75  | 17.86  |                           |             |
| 1.4             | QPSK  | 1 | 5 | 17.72  | 17.75  | 17.84  |                           |             |
| 1.4             | QPSK  | 3 | 0 | 17.72  | 17.68  | 17.86  |                           |             |
| 1.4             | QPSK  | 3 | 1 | 17.74  | 17.69  | 17.93  |                           |             |
| 1.4             | QPSK  | 3 | 3 | 17.77  | 17.77  | 17.96  |                           |             |
| 1.4             | QPSK  | 6 | 0 | 17.74  | 17.79  | 17.84  | 19.5                      | 0           |
| 1.4             | 16QAM | 1 | 0 | 17.70  | 17.50  | 17.82  | 19.5                      | 0           |
| 1.4             | 16QAM | 1 | 3 | 17.59  | 17.61  | 17.88  |                           |             |
| 1.4             | 16QAM | 1 | 5 | 17.61  | 17.52  | 17.67  |                           |             |
| 1.4             | 16QAM | 3 | 0 | 17.59  | 17.71  | 17.92  |                           |             |
| 1.4             | 16QAM | 3 | 1 | 17.67  | 17.78  | 17.91  |                           |             |
| 1.4             | 16QAM | 3 | 3 | 17.53  | 17.79  | 17.90  |                           |             |
| 1.4             | 16QAM | 6 | 0 | 17.67  | 17.73  | 17.85  | 19.5                      | 0           |
| 1.4             | 64QAM | 1 | 0 | 17.79  | 17.75  | 17.92  | 19.5                      | 0           |
| 1.4             | 64QAM | 1 | 3 | 17.64  | 17.68  | 17.87  |                           |             |
| 1.4             | 64QAM | 1 | 5 | 17.71  | 17.78  | 17.90  |                           |             |
| 1.4             | 64QAM | 3 | 0 | 17.55  | 17.70  | 17.89  |                           |             |
| 1.4             | 64QAM | 3 | 1 | 17.58  | 17.74  | 17.85  |                           |             |
| 1.4             | 64QAM | 3 | 3 | 17.61  | 17.61  | 17.83  |                           |             |
| 1.4             | 64QAM | 6 | 0 | 17.71  | 17.64  | 17.89  | 19.5                      | 0           |

**<LTE Band 5>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|---------------------------|-------------|
| Channel         |            |         |           | 20450                    | 20525                       | 20600                     |                           |             |
| Frequency (MHz) |            |         |           | 829                      | 836.5                       | 844                       |                           |             |
| 10              | QPSK       | 1       | 0         | 20.39                    | 20.24                       | 20.38                     | 21.5                      | 0           |
| 10              | QPSK       | 1       | 25        | 20.33                    | 20.26                       | 20.28                     |                           |             |
| 10              | QPSK       | 1       | 49        | 20.28                    | 20.20                       | 20.24                     |                           |             |
| 10              | QPSK       | 25      | 0         | 20.29                    | 20.28                       | 20.32                     | 21.5                      | 0           |
| 10              | QPSK       | 25      | 12        | 20.29                    | 20.26                       | 20.30                     |                           |             |
| 10              | QPSK       | 25      | 25        | 20.29                    | 20.23                       | 20.22                     |                           |             |
| 10              | QPSK       | 50      | 0         | 20.32                    | 20.22                       | 20.26                     | 21.5                      | 0           |
| 10              | 16QAM      | 1       | 0         | 20.19                    | 20.11                       | 20.03                     |                           |             |
| 10              | 16QAM      | 1       | 25        | 20.03                    | 20.01                       | 19.99                     |                           |             |
| 10              | 16QAM      | 1       | 49        | 19.99                    | 19.85                       | 20.06                     | 21.5                      | 0           |
| 10              | 16QAM      | 25      | 0         | 20.28                    | 20.32                       | 20.37                     |                           |             |
| 10              | 16QAM      | 25      | 12        | 20.30                    | 20.28                       | 20.27                     |                           |             |
| 10              | 16QAM      | 25      | 25        | 20.22                    | 20.25                       | 20.32                     | 21.5                      | 0           |
| 10              | 16QAM      | 50      | 0         | 20.33                    | 20.27                       | 20.27                     |                           |             |
| 10              | 64QAM      | 1       | 0         | 20.12                    | 20.15                       | 20.03                     |                           |             |
| 10              | 64QAM      | 1       | 25        | 20.11                    | 19.97                       | 20.03                     | 21.5                      | 0           |
| 10              | 64QAM      | 1       | 49        | 20.11                    | 20.01                       | 20.08                     |                           |             |
| 10              | 64QAM      | 25      | 0         | 19.82                    | 19.75                       | 19.88                     |                           |             |
| 10              | 64QAM      | 25      | 12        | 19.76                    | 19.78                       | 19.86                     | 21                        | 0.5         |
| 10              | 64QAM      | 25      | 25        | 19.74                    | 19.68                       | 19.76                     |                           |             |
| 10              | 64QAM      | 50      | 0         | 19.85                    | 19.74                       | 19.79                     |                           |             |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 20425 | 20525 | 20625 | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|-------|-------|-------|---------------------|----------|
| Frequency (MHz) |       |    |    | 826.5 | 836.5 | 846.5 |                     |          |
| 5               | QPSK  | 1  | 0  | 20.20 | 20.38 | 20.38 | 21.5                | 0        |
| 5               | QPSK  | 1  | 12 | 20.30 | 20.22 | 20.30 |                     |          |
| 5               | QPSK  | 1  | 24 | 20.25 | 20.19 | 20.25 |                     |          |
| 5               | QPSK  | 12 | 0  | 20.38 | 20.25 | 20.25 | 21.5                | 0        |
| 5               | QPSK  | 12 | 7  | 20.34 | 20.22 | 20.31 |                     |          |
| 5               | QPSK  | 12 | 13 | 20.35 | 20.26 | 20.24 |                     |          |
| 5               | QPSK  | 25 | 0  | 20.33 | 20.20 | 20.29 | 21.5                | 0        |
| 5               | 16QAM | 1  | 0  | 20.37 | 20.35 | 20.27 |                     |          |
| 5               | 16QAM | 1  | 12 | 20.21 | 20.21 | 20.07 |                     |          |
| 5               | 16QAM | 1  | 24 | 20.33 | 20.20 | 20.15 | 21.5                | 0        |
| 5               | 16QAM | 12 | 0  | 20.31 | 20.15 | 20.30 |                     |          |
| 5               | 16QAM | 12 | 7  | 20.27 | 20.20 | 20.23 |                     |          |
| 5               | 16QAM | 12 | 13 | 20.31 | 20.16 | 20.21 | 21.5                | 0        |
| 5               | 16QAM | 25 | 0  | 20.36 | 20.27 | 20.30 |                     |          |
| 5               | 64QAM | 1  | 0  | 20.22 | 20.31 | 20.16 |                     |          |
| 5               | 64QAM | 1  | 12 | 20.15 | 20.23 | 20.27 | 21.5                | 0        |
| 5               | 64QAM | 1  | 24 | 20.18 | 20.06 | 20.14 |                     |          |
| 5               | 64QAM | 12 | 0  | 19.88 | 19.74 | 19.71 |                     |          |
| 5               | 64QAM | 12 | 7  | 19.87 | 19.60 | 19.69 | 21                  | 0.5      |
| 5               | 64QAM | 12 | 13 | 19.83 | 19.68 | 19.74 |                     |          |
| 5               | 64QAM | 25 | 0  | 19.86 | 19.75 | 19.69 |                     |          |
| Channel         |       |    |    | 20415 | 20525 | 20635 | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 825.5 | 836.5 | 847.5 |                     |          |
| 3               | QPSK  | 1  | 0  | 20.37 | 20.25 | 20.28 | 21.5                | 0        |
| 3               | QPSK  | 1  | 8  | 20.33 | 20.25 | 20.29 |                     |          |
| 3               | QPSK  | 1  | 14 | 20.34 | 20.27 | 20.27 |                     |          |
| 3               | QPSK  | 8  | 0  | 20.37 | 20.25 | 20.31 | 21.5                | 0        |
| 3               | QPSK  | 8  | 4  | 20.23 | 20.21 | 20.30 |                     |          |
| 3               | QPSK  | 8  | 7  | 20.31 | 20.22 | 20.28 |                     |          |
| 3               | QPSK  | 15 | 0  | 20.27 | 20.25 | 20.31 | 21.5                | 0        |
| 3               | 16QAM | 1  | 0  | 20.10 | 19.93 | 20.20 |                     |          |
| 3               | 16QAM | 1  | 8  | 20.30 | 19.93 | 20.06 |                     |          |
| 3               | 16QAM | 1  | 14 | 20.23 | 20.25 | 20.20 | 21.5                | 0        |
| 3               | 16QAM | 8  | 0  | 20.36 | 20.23 | 20.30 |                     |          |
| 3               | 16QAM | 8  | 4  | 20.37 | 20.16 | 20.24 |                     |          |
| 3               | 16QAM | 8  | 7  | 20.29 | 20.24 | 20.24 | 21.5                | 0        |
| 3               | 16QAM | 15 | 0  | 20.27 | 19.87 | 20.28 |                     |          |
| 3               | 64QAM | 1  | 0  | 20.11 | 20.17 | 20.02 |                     |          |
| 3               | 64QAM | 1  | 8  | 20.17 | 20.04 | 20.17 | 21.5                | 0        |
| 3               | 64QAM | 1  | 14 | 20.13 | 20.30 | 20.04 |                     |          |
| 3               | 64QAM | 8  | 0  | 19.71 | 19.78 | 19.76 |                     |          |
| 3               | 64QAM | 8  | 4  | 19.75 | 19.71 | 19.81 | 21                  | 0.5      |
| 3               | 64QAM | 8  | 7  | 19.74 | 19.67 | 19.79 |                     |          |
| 3               | 64QAM | 15 | 0  | 19.85 | 19.36 | 19.75 |                     |          |

| Channel         |       |   |   | 20.2  | 20525 | 20643 | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|---|---|-------|-------|-------|---------------------------|-------------|
| Frequency (MHz) |       |   |   | 824.7 | 836.5 | 848.3 |                           |             |
| 1.4             | QPSK  | 1 | 0 | 20.28 | 20.14 | 20.27 | 21.5                      | 0           |
| 1.4             | QPSK  | 1 | 3 | 20.32 | 20.23 | 20.28 |                           |             |
| 1.4             | QPSK  | 1 | 5 | 20.32 | 20.17 | 20.32 |                           |             |
| 1.4             | QPSK  | 3 | 0 | 20.37 | 20.31 | 20.29 |                           |             |
| 1.4             | QPSK  | 3 | 1 | 20.35 | 20.33 | 20.28 |                           |             |
| 1.4             | QPSK  | 3 | 3 | 20.30 | 20.26 | 20.22 |                           |             |
| 1.4             | QPSK  | 6 | 0 | 20.31 | 20.21 | 20.25 | 21.5                      | 0           |
| 1.4             | 16QAM | 1 | 0 | 20.21 | 20.29 | 19.93 | 21.5                      | 0           |
| 1.4             | 16QAM | 1 | 3 | 20.06 | 20.11 | 19.84 |                           |             |
| 1.4             | 16QAM | 1 | 5 | 20.22 | 20.14 | 20.01 |                           |             |
| 1.4             | 16QAM | 3 | 0 | 20.20 | 20.17 | 20.24 |                           |             |
| 1.4             | 16QAM | 3 | 1 | 20.23 | 20.21 | 20.10 |                           |             |
| 1.4             | 16QAM | 3 | 3 | 20.23 | 20.18 | 20.10 |                           |             |
| 1.4             | 16QAM | 6 | 0 | 20.21 | 20.17 | 20.27 | 21.5                      | 0           |
| 1.4             | 64QAM | 1 | 0 | 19.88 | 19.97 | 19.97 | 21.5                      | 0           |
| 1.4             | 64QAM | 1 | 3 | 19.89 | 19.96 | 19.73 |                           |             |
| 1.4             | 64QAM | 1 | 5 | 19.89 | 19.82 | 19.91 |                           |             |
| 1.4             | 64QAM | 3 | 0 | 20.17 | 20.15 | 20.18 |                           |             |
| 1.4             | 64QAM | 3 | 1 | 20.18 | 20.18 | 20.19 |                           |             |
| 1.4             | 64QAM | 3 | 3 | 20.29 | 20.15 | 20.16 |                           |             |
| 1.4             | 64QAM | 6 | 0 | 19.63 | 19.78 | 19.77 | 21                        | 0.5         |

**<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         | 18.80                 | 18.76                    | 18.91                  | 20                  | 0        |
| 20              | QPSK       | 1       | 49        | 18.73                 | 18.71                    | 18.85                  |                     |          |
| 20              | QPSK       | 1       | 99        | 18.80                 | 18.88                    | 18.81                  |                     |          |
| 20              | QPSK       | 50      | 0         | 18.74                 | 18.76                    | 18.76                  | 20                  | 0        |
| 20              | QPSK       | 50      | 24        | 18.68                 | 18.60                    | 18.75                  |                     |          |
| 20              | QPSK       | 50      | 50        | 18.73                 | 18.74                    | 18.76                  |                     |          |
| 20              | QPSK       | 100     | 0         | 18.68                 | 18.62                    | 18.70                  | 20                  | 0        |
| 20              | 16QAM      | 1       | 0         | 18.85                 | 18.78                    | 18.66                  |                     |          |
| 20              | 16QAM      | 1       | 49        | 18.73                 | 18.70                    | 18.69                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 18.65                 | 18.55                    | 18.64                  | 20                  | 0        |
| 20              | 16QAM      | 50      | 0         | 18.70                 | 18.70                    | 18.76                  |                     |          |
| 20              | 16QAM      | 50      | 24        | 18.89                 | 18.62                    | 18.74                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 18.85                 | 18.90                    | 18.76                  | 20                  | 0        |
| 20              | 16QAM      | 100     | 0         | 18.89                 | 18.90                    | 18.63                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 18.75                 | 18.74                    | 18.83                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 18.74                 | 18.81                    | 18.83                  | 20                  | 0        |
| 20              | 64QAM      | 1       | 99        | 18.80                 | 18.79                    | 18.80                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 18.62                 | 18.74                    | 18.71                  | 20                  | 0        |
| 20              | 64QAM      | 50      | 24        | 18.86                 | 18.80                    | 18.76                  |                     |          |
| 20              | 64QAM      | 50      | 50        | 18.70                 | 18.76                    | 18.90                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 18.80                 | 18.84                    | 18.84                  |                     |          |



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Report No. : FA932901-02

| Channel         |       |    |    | 20825  | 21100 | 21375  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 2507.5 | 2535  | 2562.5 |                     |          |
| 15              | QPSK  | 1  | 0  | 18.73  | 18.74 | 18.81  | 20                  | 0        |
| 15              | QPSK  | 1  | 37 | 18.88  | 18.62 | 18.87  |                     |          |
| 15              | QPSK  | 1  | 74 | 18.85  | 18.88 | 18.85  |                     |          |
| 15              | QPSK  | 36 | 0  | 18.62  | 18.89 | 18.90  | 20                  | 0        |
| 15              | QPSK  | 36 | 20 | 18.77  | 18.89 | 18.87  |                     |          |
| 15              | QPSK  | 36 | 39 | 18.88  | 18.87 | 18.84  |                     |          |
| 15              | QPSK  | 75 | 0  | 18.63  | 18.61 | 18.90  | 20                  | 0        |
| 15              | 16QAM | 1  | 0  | 18.81  | 18.88 | 18.71  |                     |          |
| 15              | 16QAM | 1  | 37 | 18.73  | 18.68 | 18.69  |                     |          |
| 15              | 16QAM | 1  | 74 | 18.81  | 18.59 | 18.63  | 20                  | 0        |
| 15              | 16QAM | 36 | 0  | 18.76  | 18.84 | 18.87  |                     |          |
| 15              | 16QAM | 36 | 20 | 18.84  | 18.88 | 18.89  |                     |          |
| 15              | 16QAM | 36 | 39 | 18.85  | 18.85 | 18.81  | 20                  | 0        |
| 15              | 16QAM | 75 | 0  | 18.63  | 18.61 | 18.90  |                     |          |
| 15              | 64QAM | 1  | 0  | 18.64  | 18.76 | 18.86  |                     |          |
| 15              | 64QAM | 1  | 37 | 18.70  | 18.71 | 18.81  | 20                  | 0        |
| 15              | 64QAM | 1  | 74 | 18.61  | 18.56 | 18.75  |                     |          |
| 15              | 64QAM | 36 | 0  | 18.74  | 18.70 | 18.86  |                     |          |
| 15              | 64QAM | 36 | 20 | 18.89  | 18.90 | 18.63  | 20                  | 0        |
| 15              | 64QAM | 36 | 39 | 18.62  | 18.74 | 18.88  |                     |          |
| 15              | 64QAM | 75 | 0  | 18.62  | 18.73 | 18.69  |                     |          |
| Channel         |       |    |    | 20800  | 21100 | 21400  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 2505   | 2535  | 2565   |                     |          |
| 10              | QPSK  | 1  | 0  | 18.75  | 18.62 | 18.62  | 20                  | 0        |
| 10              | QPSK  | 1  | 25 | 18.73  | 18.62 | 18.73  |                     |          |
| 10              | QPSK  | 1  | 49 | 18.86  | 18.62 | 18.76  |                     |          |
| 10              | QPSK  | 25 | 0  | 18.71  | 18.88 | 18.63  | 20                  | 0        |
| 10              | QPSK  | 25 | 12 | 18.65  | 18.73 | 18.73  |                     |          |
| 10              | QPSK  | 25 | 25 | 18.42  | 18.88 | 18.90  |                     |          |
| 10              | QPSK  | 50 | 0  | 18.72  | 18.88 | 18.88  | 20                  | 0        |
| 10              | 16QAM | 1  | 0  | 18.81  | 18.67 | 18.69  |                     |          |
| 10              | 16QAM | 1  | 25 | 18.82  | 18.66 | 18.79  |                     |          |
| 10              | 16QAM | 1  | 49 | 18.78  | 18.73 | 18.66  | 20                  | 0        |
| 10              | 16QAM | 25 | 0  | 18.71  | 18.71 | 18.77  |                     |          |
| 10              | 16QAM | 25 | 12 | 18.71  | 18.73 | 18.74  |                     |          |
| 10              | 16QAM | 25 | 25 | 18.72  | 18.73 | 18.75  | 20                  | 0        |
| 10              | 16QAM | 50 | 0  | 18.75  | 18.75 | 18.88  |                     |          |
| 10              | 64QAM | 1  | 0  | 18.69  | 18.73 | 18.84  |                     |          |
| 10              | 64QAM | 1  | 25 | 18.69  | 18.73 | 18.65  | 20                  | 0        |
| 10              | 64QAM | 1  | 49 | 18.65  | 18.68 | 18.57  |                     |          |
| 10              | 64QAM | 25 | 0  | 18.71  | 18.76 | 18.77  |                     |          |
| 10              | 64QAM | 25 | 12 | 18.73  | 18.72 | 18.89  | 20                  | 0        |
| 10              | 64QAM | 25 | 25 | 18.90  | 18.90 | 18.90  |                     |          |
| 10              | 64QAM | 50 | 0  | 18.76  | 18.72 | 18.76  |                     |          |

| Channel         |       |    |    | 20775  | 21100 | 21425  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------------|-------------|
| Frequency (MHz) |       |    |    | 2502.5 | 2535  | 2567.5 |                           |             |
| 5               | QPSK  | 1  | 0  | 18.89  | 18.73 | 18.83  | 20                        | 0           |
| 5               | QPSK  | 1  | 12 | 18.89  | 18.75 | 18.90  |                           |             |
| 5               | QPSK  | 1  | 24 | 18.76  | 18.89 | 18.72  |                           |             |
| 5               | QPSK  | 12 | 0  | 18.88  | 18.87 | 18.75  | 20                        | 0           |
| 5               | QPSK  | 12 | 7  | 18.62  | 18.74 | 18.73  |                           |             |
| 5               | QPSK  | 12 | 13 | 18.75  | 18.75 | 18.73  |                           |             |
| 5               | QPSK  | 25 | 0  | 18.74  | 18.61 | 18.72  | 20                        | 0           |
| 5               | 16QAM | 1  | 0  | 18.90  | 18.75 | 18.82  |                           |             |
| 5               | 16QAM | 1  | 12 | 18.86  | 18.72 | 18.84  |                           |             |
| 5               | 16QAM | 1  | 24 | 18.71  | 18.79 | 18.81  | 20                        | 0           |
| 5               | 16QAM | 12 | 0  | 18.71  | 18.80 | 18.63  |                           |             |
| 5               | 16QAM | 12 | 7  | 18.73  | 18.76 | 18.89  |                           |             |
| 5               | 16QAM | 12 | 13 | 18.72  | 18.87 | 18.61  | 20                        | 0           |
| 5               | 16QAM | 25 | 0  | 18.78  | 18.61 | 18.76  |                           |             |
| 5               | 64QAM | 1  | 0  | 18.66  | 18.53 | 18.76  |                           |             |
| 5               | 64QAM | 1  | 12 | 18.62  | 18.76 | 18.61  | 20                        | 0           |
| 5               | 64QAM | 1  | 24 | 18.41  | 18.57 | 18.75  |                           |             |
| 5               | 64QAM | 12 | 0  | 18.90  | 18.82 | 18.88  |                           |             |
| 5               | 64QAM | 12 | 7  | 18.85  | 18.81 | 18.87  | 20                        | 0           |
| 5               | 64QAM | 12 | 13 | 18.87  | 18.84 | 18.85  |                           |             |
| 5               | 64QAM | 25 | 0  | 18.72  | 18.70 | 18.70  |                           |             |

**<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         | 18.20                 | 18.19                    | 18.51                  | 20                  | 0        |
| 20              | QPSK       | 1       | 49        | 18.19                 | 18.21                    | 18.50                  |                     |          |
| 20              | QPSK       | 1       | 99        | 18.09                 | 18.29                    | 18.37                  |                     |          |
| 20              | QPSK       | 50      | 0         | 18.19                 | 18.27                    | 18.35                  | 20                  | 0        |
| 20              | QPSK       | 50      | 24        | 18.15                 | 18.22                    | 18.44                  |                     |          |
| 20              | QPSK       | 50      | 50        | 18.12                 | 18.20                    | 18.46                  |                     |          |
| 20              | QPSK       | 100     | 0         | 18.22                 | 18.19                    | 18.33                  |                     |          |
| 20              | 16QAM      | 1       | 0         | 18.19                 | 18.16                    | 18.36                  | 20                  | 0        |
| 20              | 16QAM      | 1       | 49        | 18.15                 | 18.10                    | 18.30                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 18.12                 | 18.12                    | 18.10                  |                     |          |
| 20              | 16QAM      | 50      | 0         | 18.19                 | 18.26                    | 18.36                  | 20                  | 0        |
| 20              | 16QAM      | 50      | 24        | 18.23                 | 18.29                    | 18.30                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 18.20                 | 18.29                    | 18.33                  |                     |          |
| 20              | 16QAM      | 100     | 0         | 18.17                 | 18.27                    | 18.48                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 18.24                 | 18.27                    | 18.36                  | 20                  | 0        |
| 20              | 64QAM      | 1       | 49        | 18.05                 | 18.17                    | 18.30                  |                     |          |
| 20              | 64QAM      | 1       | 99        | 18.01                 | 18.10                    | 18.44                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 18.25                 | 18.28                    | 18.46                  | 20                  | 0        |
| 20              | 64QAM      | 50      | 24        | 18.20                 | 18.21                    | 18.33                  |                     |          |
| 20              | 64QAM      | 50      | 50        | 18.20                 | 18.30                    | 18.42                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 18.21                 | 18.30                    | 18.35                  |                     |          |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 26115  | 26340 | 26615  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 1857.5 | 1880  | 1907.5 |                     |          |
| 15              | QPSK  | 1  | 0  | 18.15  | 18.33 | 18.43  | 20                  | 0        |
| 15              | QPSK  | 1  | 37 | 18.21  | 18.31 | 18.35  |                     |          |
| 15              | QPSK  | 1  | 74 | 18.11  | 18.24 | 18.24  |                     |          |
| 15              | QPSK  | 36 | 0  | 18.21  | 18.23 | 18.35  | 20                  | 0        |
| 15              | QPSK  | 36 | 20 | 18.08  | 18.23 | 18.34  |                     |          |
| 15              | QPSK  | 36 | 39 | 18.06  | 18.19 | 18.28  |                     |          |
| 15              | QPSK  | 75 | 0  | 18.15  | 18.25 | 18.25  | 20                  | 0        |
| 15              | 16QAM | 1  | 0  | 18.27  | 18.06 | 18.40  |                     |          |
| 15              | 16QAM | 1  | 37 | 18.04  | 18.16 | 18.27  |                     |          |
| 15              | 16QAM | 1  | 74 | 18.10  | 18.14 | 18.14  | 20                  | 0        |
| 15              | 16QAM | 36 | 0  | 18.18  | 18.30 | 18.32  |                     |          |
| 15              | 16QAM | 36 | 20 | 18.15  | 18.21 | 18.31  |                     |          |
| 15              | 16QAM | 36 | 39 | 18.16  | 18.27 | 18.28  | 20                  | 0        |
| 15              | 16QAM | 75 | 0  | 18.19  | 18.33 | 18.34  |                     |          |
| 15              | 64QAM | 1  | 0  | 18.20  | 18.28 | 18.45  |                     |          |
| 15              | 64QAM | 1  | 37 | 18.10  | 18.29 | 18.36  | 20                  | 0        |
| 15              | 64QAM | 1  | 74 | 18.13  | 18.49 | 18.30  |                     |          |
| 15              | 64QAM | 36 | 0  | 18.22  | 18.33 | 18.45  |                     |          |
| 15              | 64QAM | 36 | 20 | 18.24  | 18.43 | 18.43  | 20                  | 0        |
| 15              | 64QAM | 36 | 39 | 18.24  | 18.39 | 18.39  |                     |          |
| 15              | 64QAM | 75 | 0  | 18.22  | 18.27 | 18.35  |                     |          |
| Channel         |       |    |    | 26090  | 26340 | 26640  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1855   | 1880  | 1910   |                     |          |
| 10              | QPSK  | 1  | 0  | 18.26  | 18.22 | 18.43  | 20                  | 0        |
| 10              | QPSK  | 1  | 25 | 18.24  | 18.22 | 18.34  |                     |          |
| 10              | QPSK  | 1  | 49 | 18.13  | 18.28 | 18.39  |                     |          |
| 10              | QPSK  | 25 | 0  | 18.11  | 18.20 | 18.39  | 20                  | 0        |
| 10              | QPSK  | 25 | 12 | 18.13  | 18.23 | 18.36  |                     |          |
| 10              | QPSK  | 25 | 25 | 18.13  | 18.28 | 18.29  |                     |          |
| 10              | QPSK  | 50 | 0  | 18.13  | 18.29 | 18.37  | 20                  | 0        |
| 10              | 16QAM | 1  | 0  | 18.11  | 18.10 | 18.24  |                     |          |
| 10              | 16QAM | 1  | 25 | 18.10  | 18.09 | 18.21  |                     |          |
| 10              | 16QAM | 1  | 49 | 18.07  | 18.26 | 18.25  | 20                  | 0        |
| 10              | 16QAM | 25 | 0  | 18.25  | 18.28 | 18.36  |                     |          |
| 10              | 16QAM | 25 | 12 | 18.22  | 18.33 | 18.42  |                     |          |
| 10              | 16QAM | 25 | 25 | 18.16  | 18.28 | 18.33  | 20                  | 0        |
| 10              | 16QAM | 50 | 0  | 18.22  | 18.29 | 18.43  |                     |          |
| 10              | 64QAM | 1  | 0  | 18.10  | 18.37 | 18.31  |                     |          |
| 10              | 64QAM | 1  | 25 | 18.30  | 18.33 | 18.47  | 20                  | 0        |
| 10              | 64QAM | 1  | 49 | 18.30  | 18.31 | 18.37  |                     |          |
| 10              | 64QAM | 25 | 0  | 18.19  | 18.27 | 18.43  |                     |          |
| 10              | 64QAM | 25 | 12 | 18.23  | 18.32 | 18.42  | 20                  | 0        |
| 10              | 64QAM | 25 | 25 | 18.22  | 18.29 | 18.32  |                     |          |
| 10              | 64QAM | 50 | 0  | 18.22  | 18.31 | 18.37  |                     |          |

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# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 26065  | 26340 | 26665  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 1852.5 | 1880  | 1912.5 |                     |          |
| 5               | QPSK  | 1  | 0  | 18.18  | 18.15 | 18.36  | 20                  | 0        |
| 5               | QPSK  | 1  | 12 | 18.16  | 18.16 | 18.33  |                     |          |
| 5               | QPSK  | 1  | 24 | 18.12  | 18.19 | 18.30  |                     |          |
| 5               | QPSK  | 12 | 0  | 18.15  | 18.16 | 18.34  | 20                  | 0        |
| 5               | QPSK  | 12 | 7  | 18.10  | 18.17 | 18.26  |                     |          |
| 5               | QPSK  | 12 | 13 | 18.12  | 18.12 | 18.32  |                     |          |
| 5               | QPSK  | 25 | 0  | 18.09  | 18.18 | 18.30  | 20                  | 0        |
| 5               | 16QAM | 1  | 0  | 18.09  | 18.07 | 18.37  |                     |          |
| 5               | 16QAM | 1  | 12 | 18.08  | 18.07 | 18.01  |                     |          |
| 5               | 16QAM | 1  | 24 | 18.11  | 18.20 | 18.09  | 20                  | 0        |
| 5               | 16QAM | 12 | 0  | 18.12  | 18.13 | 18.36  |                     |          |
| 5               | 16QAM | 12 | 7  | 18.09  | 18.11 | 18.28  |                     |          |
| 5               | 16QAM | 12 | 13 | 18.09  | 18.11 | 18.33  | 20                  | 0        |
| 5               | 16QAM | 25 | 0  | 18.18  | 18.25 | 18.29  |                     |          |
| 5               | 64QAM | 1  | 0  | 18.26  | 18.11 | 18.48  |                     |          |
| 5               | 64QAM | 1  | 12 | 18.11  | 18.23 | 18.35  | 20                  | 0        |
| 5               | 64QAM | 1  | 24 | 18.17  | 18.14 | 18.41  |                     |          |
| 5               | 64QAM | 12 | 0  | 18.20  | 18.06 | 18.32  |                     |          |
| 5               | 64QAM | 12 | 7  | 18.11  | 18.21 | 18.28  | 20                  | 0        |
| 5               | 64QAM | 12 | 13 | 18.12  | 18.14 | 18.33  |                     |          |
| 5               | 64QAM | 25 | 0  | 18.09  | 18.30 | 18.37  |                     |          |
| Channel         |       |    |    | 26055  | 26340 | 26675  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1851.5 | 1880  | 1913.5 |                     |          |
| 3               | QPSK  | 1  | 0  | 18.17  | 18.12 | 18.34  | 20                  | 0        |
| 3               | QPSK  | 1  | 8  | 18.18  | 18.17 | 18.34  |                     |          |
| 3               | QPSK  | 1  | 14 | 18.15  | 18.18 | 18.36  |                     |          |
| 3               | QPSK  | 8  | 0  | 18.14  | 18.11 | 18.34  | 20                  | 0        |
| 3               | QPSK  | 8  | 4  | 18.12  | 18.17 | 18.31  |                     |          |
| 3               | QPSK  | 8  | 7  | 18.11  | 18.24 | 18.33  |                     |          |
| 3               | QPSK  | 15 | 0  | 18.10  | 18.18 | 18.35  | 20                  | 0        |
| 3               | 16QAM | 1  | 0  | 18.01  | 18.14 | 18.21  |                     |          |
| 3               | 16QAM | 1  | 8  | 18.14  | 18.09 | 18.15  |                     |          |
| 3               | 16QAM | 1  | 14 | 18.11  | 18.10 | 18.24  | 20                  | 0        |
| 3               | 16QAM | 8  | 0  | 18.11  | 18.22 | 18.25  |                     |          |
| 3               | 16QAM | 8  | 4  | 18.20  | 18.27 | 18.37  |                     |          |
| 3               | 16QAM | 8  | 7  | 18.08  | 18.23 | 18.35  | 20                  | 0        |
| 3               | 16QAM | 15 | 0  | 18.08  | 18.23 | 18.26  |                     |          |
| 3               | 64QAM | 1  | 0  | 18.29  | 18.25 | 18.39  |                     |          |
| 3               | 64QAM | 1  | 8  | 18.25  | 18.22 | 18.45  | 20                  | 0        |
| 3               | 64QAM | 1  | 14 | 18.19  | 18.49 | 18.49  |                     |          |
| 3               | 64QAM | 8  | 0  | 18.14  | 18.27 | 18.29  |                     |          |
| 3               | 64QAM | 8  | 4  | 18.20  | 18.17 | 18.42  | 20                  | 0        |
| 3               | 64QAM | 8  | 7  | 18.21  | 18.27 | 18.36  |                     |          |
| 3               | 64QAM | 15 | 0  | 18.11  | 18.20 | 18.35  |                     |          |

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| Channel         |       |   |   | 26047  | 26340 | 26683  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|---|---|--------|-------|--------|---------------------------|-------------|
| Frequency (MHz) |       |   |   | 1850.7 | 1880  | 1914.3 |                           |             |
| 1.4             | QPSK  | 1 | 0 | 18.15  | 18.15 | 18.35  | 20                        | 0           |
| 1.4             | QPSK  | 1 | 3 | 18.11  | 18.23 | 18.33  |                           |             |
| 1.4             | QPSK  | 1 | 5 | 18.18  | 18.20 | 18.29  |                           |             |
| 1.4             | QPSK  | 3 | 0 | 18.16  | 18.22 | 18.34  |                           |             |
| 1.4             | QPSK  | 3 | 1 | 18.17  | 18.23 | 18.31  |                           |             |
| 1.4             | QPSK  | 3 | 3 | 18.12  | 18.19 | 18.33  |                           |             |
| 1.4             | QPSK  | 6 | 0 | 18.14  | 18.12 | 18.32  | 20                        | 0           |
| 1.4             | 16QAM | 1 | 0 | 18.19  | 18.11 | 18.16  | 20                        | 0           |
| 1.4             | 16QAM | 1 | 3 | 18.19  | 18.05 | 18.27  |                           |             |
| 1.4             | 16QAM | 1 | 5 | 18.09  | 18.11 | 18.39  |                           |             |
| 1.4             | 16QAM | 3 | 0 | 18.18  | 18.18 | 18.30  |                           |             |
| 1.4             | 16QAM | 3 | 1 | 18.17  | 18.02 | 18.29  |                           |             |
| 1.4             | 16QAM | 3 | 3 | 18.10  | 18.11 | 18.26  |                           |             |
| 1.4             | 16QAM | 6 | 0 | 18.15  | 18.32 | 18.34  | 20                        | 0           |
| 1.4             | 64QAM | 1 | 0 | 18.02  | 18.40 | 18.42  | 20                        | 0           |
| 1.4             | 64QAM | 1 | 3 | 18.22  | 18.30 | 18.43  |                           |             |
| 1.4             | 64QAM | 1 | 5 | 18.26  | 18.42 | 18.38  |                           |             |
| 1.4             | 64QAM | 3 | 0 | 18.13  | 18.17 | 18.23  |                           |             |
| 1.4             | 64QAM | 3 | 1 | 18.25  | 18.15 | 18.28  |                           |             |
| 1.4             | 64QAM | 3 | 3 | 18.18  | 18.20 | 18.24  |                           |             |
| 1.4             | 64QAM | 6 | 0 | 18.19  | 18.17 | 18.36  | 20                        | 0           |

**<LTE Band 26>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|---------------------------|-------------|
| Channel         |            |         |           | 26765                    | 26865                       | 26965                     |                           |             |
| Frequency (MHz) |            |         |           | 821.5                    | 831.5                       | 841.5                     |                           |             |
| 15              | QPSK       | 1       | 0         | 20.08                    | 20.15                       | 19.96                     | 21.5                      | 0           |
| 15              | QPSK       | 1       | 37        | 19.93                    | 19.94                       | 19.90                     |                           |             |
| 15              | QPSK       | 1       | 74        | 19.84                    | 19.82                       | 19.81                     |                           |             |
| 15              | QPSK       | 36      | 0         | 20.00                    | 19.93                       | 19.89                     | 21.5                      | 0           |
| 15              | QPSK       | 36      | 20        | 19.98                    | 19.90                       | 19.96                     |                           |             |
| 15              | QPSK       | 36      | 39        | 19.93                    | 19.83                       | 19.85                     |                           |             |
| 15              | QPSK       | 75      | 0         | 19.99                    | 19.92                       | 19.85                     | 21.5                      | 0           |
| 15              | 16QAM      | 1       | 0         | 20.04                    | 19.82                       | 19.91                     |                           |             |
| 15              | 16QAM      | 1       | 37        | 19.98                    | 19.84                       | 19.71                     |                           |             |
| 15              | 16QAM      | 1       | 74        | 19.78                    | 19.66                       | 19.63                     | 21.5                      | 0           |
| 15              | 16QAM      | 36      | 0         | 19.99                    | 19.87                       | 19.85                     |                           |             |
| 15              | 16QAM      | 36      | 20        | 19.89                    | 19.86                       | 19.82                     |                           |             |
| 15              | 16QAM      | 36      | 39        | 19.86                    | 19.82                       | 19.81                     | 21.5                      | 0           |
| 15              | 16QAM      | 75      | 0         | 19.98                    | 19.93                       | 19.89                     |                           |             |
| 15              | 64QAM      | 1       | 0         | 20.10                    | 20.00                       | 19.95                     |                           |             |
| 15              | 64QAM      | 1       | 37        | 19.95                    | 19.80                       | 19.81                     | 21.5                      | 0           |
| 15              | 64QAM      | 1       | 74        | 19.96                    | 19.87                       | 19.72                     |                           |             |
| 15              | 64QAM      | 36      | 0         | 19.57                    | 19.55                       | 19.53                     | 21                        | 0.5         |
| 15              | 64QAM      | 36      | 20        | 19.52                    | 19.51                       | 19.53                     |                           |             |
| 15              | 64QAM      | 36      | 39        | 19.51                    | 19.60                       | 19.61                     |                           |             |
| 15              | 64QAM      | 75      | 0         | 19.59                    | 19.69                       | 19.63                     |                           |             |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 26740 | 26865 | 26990 | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|-------|-------|-------|---------------------|----------|
| Frequency (MHz) |       |    |    | 819   | 831.5 | 844   |                     |          |
| 10              | QPSK  | 1  | 0  | 20.10 | 19.99 | 19.96 | 21.5                | 0        |
| 10              | QPSK  | 1  | 25 | 20.00 | 19.96 | 19.84 |                     |          |
| 10              | QPSK  | 1  | 49 | 19.97 | 19.87 | 19.83 |                     |          |
| 10              | QPSK  | 25 | 0  | 20.09 | 19.96 | 19.85 | 21.5                | 0        |
| 10              | QPSK  | 25 | 12 | 20.03 | 19.87 | 19.86 |                     |          |
| 10              | QPSK  | 25 | 25 | 20.01 | 19.93 | 19.83 |                     |          |
| 10              | QPSK  | 50 | 0  | 20.06 | 19.92 | 19.78 | 21.5                | 0        |
| 10              | 16QAM | 1  | 0  | 19.92 | 19.85 | 19.71 |                     |          |
| 10              | 16QAM | 1  | 25 | 19.82 | 19.85 | 19.62 |                     |          |
| 10              | 16QAM | 1  | 49 | 19.72 | 19.88 | 19.78 | 21.5                | 0        |
| 10              | 16QAM | 25 | 0  | 20.01 | 19.95 | 19.92 |                     |          |
| 10              | 16QAM | 25 | 12 | 19.99 | 19.98 | 19.83 |                     |          |
| 10              | 16QAM | 25 | 25 | 19.91 | 19.89 | 19.82 | 21.5                | 0        |
| 10              | 16QAM | 50 | 0  | 19.98 | 19.93 | 19.84 |                     |          |
| 10              | 64QAM | 1  | 0  | 19.76 | 19.77 | 19.77 |                     |          |
| 10              | 64QAM | 1  | 25 | 19.78 | 19.80 | 19.88 | 21.5                | 0        |
| 10              | 64QAM | 1  | 49 | 19.74 | 19.71 | 19.78 |                     |          |
| 10              | 64QAM | 25 | 0  | 20.04 | 19.97 | 19.83 |                     |          |
| 10              | 64QAM | 25 | 12 | 20.02 | 19.92 | 19.84 | 21                  | 0.5      |
| 10              | 64QAM | 25 | 25 | 19.95 | 19.91 | 19.83 |                     |          |
| 10              | 64QAM | 50 | 0  | 20.07 | 19.99 | 19.89 |                     |          |
| Channel         |       |    |    | 26715 | 26865 | 27015 | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 816.5 | 831.5 | 846.5 |                     |          |
| 5               | QPSK  | 1  | 0  | 19.98 | 19.88 | 19.82 | 21.5                | 0        |
| 5               | QPSK  | 1  | 12 | 19.91 | 19.88 | 19.89 |                     |          |
| 5               | QPSK  | 1  | 24 | 20.03 | 19.86 | 19.87 |                     |          |
| 5               | QPSK  | 12 | 0  | 19.99 | 19.99 | 19.83 | 21.5                | 0        |
| 5               | QPSK  | 12 | 7  | 20.00 | 19.91 | 19.81 |                     |          |
| 5               | QPSK  | 12 | 13 | 19.99 | 19.87 | 19.83 |                     |          |
| 5               | QPSK  | 25 | 0  | 20.02 | 19.89 | 19.78 | 21.5                | 0        |
| 5               | 16QAM | 1  | 0  | 19.80 | 19.72 | 19.76 |                     |          |
| 5               | 16QAM | 1  | 12 | 19.81 | 19.83 | 19.54 |                     |          |
| 5               | 16QAM | 1  | 24 | 19.76 | 19.83 | 19.52 | 21.5                | 0        |
| 5               | 16QAM | 12 | 0  | 20.02 | 19.89 | 19.84 |                     |          |
| 5               | 16QAM | 12 | 7  | 19.96 | 19.86 | 19.73 |                     |          |
| 5               | 16QAM | 12 | 13 | 20.02 | 19.83 | 19.71 | 21.5                | 0        |
| 5               | 16QAM | 25 | 0  | 19.99 | 19.83 | 19.86 |                     |          |
| 5               | 64QAM | 1  | 0  | 19.75 | 19.87 | 19.76 |                     |          |
| 5               | 64QAM | 1  | 12 | 19.82 | 19.93 | 19.67 | 21.5                | 0        |
| 5               | 64QAM | 1  | 24 | 19.95 | 19.95 | 19.63 |                     |          |
| 5               | 64QAM | 12 | 0  | 20.00 | 19.84 | 19.73 |                     |          |
| 5               | 64QAM | 12 | 7  | 20.01 | 19.80 | 19.76 | 21                  | 0.5      |
| 5               | 64QAM | 12 | 13 | 19.87 | 19.75 | 19.71 |                     |          |
| 5               | 64QAM | 25 | 0  | 20.03 | 19.88 | 19.79 |                     |          |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 26705 | 26865 | 27025 | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|-------|-------|-------|---------------------------|-------------|
| Frequency (MHz) |       |    |    | 815.5 | 831.5 | 847.5 |                           |             |
| 3               | QPSK  | 1  | 0  | 20.02 | 19.89 | 19.86 | 21.5                      | 0           |
| 3               | QPSK  | 1  | 8  | 20.04 | 19.93 | 19.77 |                           |             |
| 3               | QPSK  | 1  | 14 | 20.03 | 19.80 | 19.77 |                           |             |
| 3               | QPSK  | 8  | 0  | 20.12 | 19.89 | 19.84 | 21.5                      | 0           |
| 3               | QPSK  | 8  | 4  | 20.05 | 19.86 | 19.86 |                           |             |
| 3               | QPSK  | 8  | 7  | 20.08 | 19.89 | 19.84 |                           |             |
| 3               | QPSK  | 15 | 0  | 20.02 | 19.91 | 19.80 | 21.5                      | 0           |
| 3               | 16QAM | 1  | 0  | 20.01 | 19.92 | 19.71 |                           |             |
| 3               | 16QAM | 1  | 8  | 20.00 | 19.93 | 19.74 |                           |             |
| 3               | 16QAM | 1  | 14 | 20.07 | 20.01 | 19.75 | 21.5                      | 0           |
| 3               | 16QAM | 8  | 0  | 20.04 | 19.92 | 19.84 |                           |             |
| 3               | 16QAM | 8  | 4  | 19.95 | 20.00 | 19.90 |                           |             |
| 3               | 16QAM | 8  | 7  | 20.03 | 19.96 | 19.79 | 21.5                      | 0           |
| 3               | 16QAM | 15 | 0  | 20.03 | 19.86 | 19.75 |                           |             |
| 3               | 64QAM | 1  | 0  | 19.75 | 19.87 | 19.76 |                           |             |
| 3               | 64QAM | 1  | 8  | 19.78 | 19.83 | 19.83 | 21.5                      | 0           |
| 3               | 64QAM | 1  | 14 | 19.97 | 19.86 | 19.75 |                           |             |
| 3               | 64QAM | 8  | 0  | 20.05 | 19.96 | 19.83 |                           |             |
| 3               | 64QAM | 8  | 4  | 20.11 | 19.92 | 19.85 | 21                        | 0.5         |
| 3               | 64QAM | 8  | 7  | 20.05 | 20.01 | 19.87 |                           |             |
| 3               | 64QAM | 15 | 0  | 20.02 | 19.89 | 19.80 |                           |             |
| Channel         |       |    |    | 26697 | 26865 | 27033 | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 814.7 | 831.5 | 848.3 |                           |             |
| 1.4             | QPSK  | 1  | 0  | 20.01 | 19.87 | 19.87 | 21.5                      | 0           |
| 1.4             | QPSK  | 1  | 3  | 20.01 | 19.91 | 19.87 |                           |             |
| 1.4             | QPSK  | 1  | 5  | 20.03 | 19.87 | 19.84 |                           |             |
| 1.4             | QPSK  | 3  | 0  | 20.10 | 19.86 | 19.82 |                           |             |
| 1.4             | QPSK  | 3  | 1  | 20.11 | 19.94 | 19.81 |                           |             |
| 1.4             | QPSK  | 3  | 3  | 20.11 | 19.90 | 19.84 |                           |             |
| 1.4             | QPSK  | 6  | 0  | 20.07 | 19.90 | 19.81 | 21.5                      | 0           |
| 1.4             | 16QAM | 1  | 0  | 19.95 | 19.85 | 19.75 | 21.5                      | 0           |
| 1.4             | 16QAM | 1  | 3  | 20.05 | 19.68 | 19.65 |                           |             |
| 1.4             | 16QAM | 1  | 5  | 19.94 | 19.82 | 19.87 |                           |             |
| 1.4             | 16QAM | 3  | 0  | 20.05 | 19.86 | 19.79 |                           |             |
| 1.4             | 16QAM | 3  | 1  | 19.98 | 19.91 | 19.87 |                           |             |
| 1.4             | 16QAM | 3  | 3  | 20.11 | 19.94 | 19.80 |                           |             |
| 1.4             | 16QAM | 6  | 0  | 20.10 | 19.82 | 19.90 | 21.5                      | 0           |
| 1.4             | 64QAM | 1  | 0  | 19.89 | 19.66 | 19.87 | 21.5                      | 0           |
| 1.4             | 64QAM | 1  | 3  | 19.72 | 19.80 | 19.87 |                           |             |
| 1.4             | 64QAM | 1  | 5  | 19.75 | 19.78 | 19.79 |                           |             |
| 1.4             | 64QAM | 3  | 0  | 20.04 | 19.73 | 19.75 |                           |             |
| 1.4             | 64QAM | 3  | 1  | 19.99 | 19.79 | 19.70 |                           |             |
| 1.4             | 64QAM | 3  | 3  | 19.91 | 19.76 | 19.83 |                           |             |
| 1.4             | 64QAM | 6  | 0  | 20.01 | 20.02 | 19.87 | 21                        | 0.5         |

**<LTE Band 66>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|---------------------------|-------------|
| Channel         |            |         |           | 132072                   | 132322                      | 132572                    |                           |             |
| Frequency (MHz) |            |         |           | 1720                     | 1745                        | 1770                      |                           |             |
| 20              | QPSK       | 1       | 0         | 17.97                    | 18.09                       | 18.16                     | 19.5                      | 0           |
| 20              | QPSK       | 1       | 49        | 18.07                    | 18.07                       | 18.12                     |                           |             |
| 20              | QPSK       | 1       | 99        | 18.27                    | 18.13                       | 18.10                     |                           |             |
| 20              | QPSK       | 50      | 0         | 17.99                    | 18.13                       | 18.12                     | 19.5                      | 0           |
| 20              | QPSK       | 50      | 24        | 18.13                    | 18.00                       | 18.11                     |                           |             |
| 20              | QPSK       | 50      | 50        | 17.90                    | 18.06                       | 18.10                     |                           |             |
| 20              | QPSK       | 100     | 0         | 18.12                    | 18.06                       | 18.11                     | 19.5                      | 0           |
| 20              | 16QAM      | 1       | 0         | 17.86                    | 17.92                       | 18.00                     |                           |             |
| 20              | 16QAM      | 1       | 49        | 17.65                    | 17.98                       | 18.04                     |                           |             |
| 20              | 16QAM      | 1       | 99        | 17.64                    | 17.83                       | 17.80                     | 19.5                      | 0           |
| 20              | 16QAM      | 50      | 0         | 18.02                    | 18.12                       | 18.17                     |                           |             |
| 20              | 16QAM      | 50      | 24        | 17.97                    | 18.08                       | 18.12                     |                           |             |
| 20              | 16QAM      | 50      | 50        | 17.94                    | 18.15                       | 18.10                     | 19.5                      | 0           |
| 20              | 16QAM      | 100     | 0         | 18.01                    | 18.04                       | 18.16                     |                           |             |
| 20              | 64QAM      | 1       | 0         | 18.13                    | 18.02                       | 18.10                     |                           |             |
| 20              | 64QAM      | 1       | 49        | 17.97                    | 18.10                       | 18.12                     | 19.5                      | 0           |
| 20              | 64QAM      | 1       | 99        | 18.16                    | 18.18                       | 17.99                     |                           |             |
| 20              | 64QAM      | 50      | 0         | 18.08                    | 18.14                       | 18.18                     |                           |             |
| 20              | 64QAM      | 50      | 24        | 17.92                    | 18.18                       | 18.20                     | 19.5                      | 0           |
| 20              | 64QAM      | 50      | 50        | 18.01                    | 18.18                       | 18.18                     |                           |             |
| 20              | 64QAM      | 100     | 0         | 18.09                    | 18.17                       | 18.22                     |                           |             |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 132047 | 132322 | 132597 | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|--------|--------|---------------------------|-------------|
| Frequency (MHz) |       |    |    | 1717.5 | 1745   | 1772.5 |                           |             |
| 15              | QPSK  | 1  | 0  | 17.97  | 18.16  | 18.21  | 19.5                      | 0           |
| 15              | QPSK  | 1  | 37 | 17.98  | 18.11  | 18.16  |                           |             |
| 15              | QPSK  | 1  | 74 | 17.99  | 18.09  | 18.12  |                           |             |
| 15              | QPSK  | 36 | 0  | 17.99  | 18.10  | 18.11  | 19.5                      | 0           |
| 15              | QPSK  | 36 | 20 | 17.94  | 18.04  | 18.14  |                           |             |
| 15              | QPSK  | 36 | 39 | 17.88  | 18.04  | 18.14  |                           |             |
| 15              | QPSK  | 75 | 0  | 17.95  | 18.12  | 18.08  | 19.5                      | 0           |
| 15              | 16QAM | 1  | 0  | 17.82  | 17.95  | 17.93  |                           |             |
| 15              | 16QAM | 1  | 37 | 17.88  | 17.75  | 17.89  |                           |             |
| 15              | 16QAM | 1  | 74 | 17.71  | 17.95  | 17.74  | 19.5                      | 0           |
| 15              | 16QAM | 36 | 0  | 17.92  | 17.99  | 18.10  |                           |             |
| 15              | 16QAM | 36 | 20 | 17.88  | 18.05  | 18.04  |                           |             |
| 15              | 16QAM | 36 | 39 | 17.84  | 18.03  | 18.13  | 19.5                      | 0           |
| 15              | 16QAM | 75 | 0  | 17.90  | 18.11  | 18.16  |                           |             |
| 15              | 64QAM | 1  | 0  | 18.06  | 18.08  | 18.12  |                           |             |
| 15              | 64QAM | 1  | 37 | 17.82  | 18.10  | 18.06  | 19.5                      | 0           |
| 15              | 64QAM | 1  | 74 | 18.19  | 18.12  | 18.09  |                           |             |
| 15              | 64QAM | 36 | 0  | 18.00  | 18.14  | 18.10  |                           |             |
| 15              | 64QAM | 36 | 20 | 18.01  | 18.14  | 18.17  | 19.5                      | 0           |
| 15              | 64QAM | 36 | 39 | 18.01  | 18.16  | 18.16  |                           |             |
| 15              | 64QAM | 75 | 0  | 17.98  | 18.12  | 18.18  |                           |             |
| Channel         |       |    |    | 132022 | 132322 | 132622 | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1715   | 1745   | 1775   |                           |             |
| 10              | QPSK  | 1  | 0  | 17.99  | 18.17  | 18.13  | 19.5                      | 0           |
| 10              | QPSK  | 1  | 25 | 17.94  | 18.09  | 18.12  |                           |             |
| 10              | QPSK  | 1  | 49 | 17.92  | 18.10  | 18.19  |                           |             |
| 10              | QPSK  | 25 | 0  | 17.90  | 18.10  | 18.09  | 19.5                      | 0           |
| 10              | QPSK  | 25 | 12 | 17.87  | 18.12  | 18.15  |                           |             |
| 10              | QPSK  | 25 | 25 | 17.89  | 18.04  | 18.14  |                           |             |
| 10              | QPSK  | 50 | 0  | 17.82  | 18.06  | 18.15  | 19.5                      | 0           |
| 10              | 16QAM | 1  | 0  | 17.75  | 17.82  | 18.12  |                           |             |
| 10              | 16QAM | 1  | 25 | 17.65  | 17.78  | 17.94  |                           |             |
| 10              | 16QAM | 1  | 49 | 17.86  | 17.86  | 18.00  | 19.5                      | 0           |
| 10              | 16QAM | 25 | 0  | 17.95  | 18.08  | 18.14  |                           |             |
| 10              | 16QAM | 25 | 12 | 17.96  | 18.03  | 18.20  |                           |             |
| 10              | 16QAM | 25 | 25 | 17.90  | 18.05  | 18.11  | 19.5                      | 0           |
| 10              | 16QAM | 50 | 0  | 17.94  | 18.16  | 18.15  |                           |             |
| 10              | 64QAM | 1  | 0  | 17.95  | 18.04  | 18.15  |                           |             |
| 10              | 64QAM | 1  | 25 | 18.17  | 18.12  | 18.12  | 19.5                      | 0           |
| 10              | 64QAM | 1  | 49 | 18.02  | 18.15  | 18.17  |                           |             |
| 10              | 64QAM | 25 | 0  | 18.00  | 18.07  | 18.12  |                           |             |
| 10              | 64QAM | 25 | 12 | 17.93  | 18.14  | 18.10  | 19.5                      | 0           |
| 10              | 64QAM | 25 | 25 | 17.87  | 18.04  | 18.17  |                           |             |
| 10              | 64QAM | 50 | 0  | 17.94  | 18.12  | 18.16  |                           |             |

| Channel         |       |    |    | 131997 | 132322 | 132647 | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|--------|--------|---------------------------|-------------|
| Frequency (MHz) |       |    |    | 1712.5 | 1745   | 1777.5 |                           |             |
| 5               | QPSK  | 1  | 0  | 17.93  | 18.09  | 18.14  | 19.5                      | 0           |
| 5               | QPSK  | 1  | 12 | 17.99  | 18.02  | 18.03  |                           |             |
| 5               | QPSK  | 1  | 24 | 17.91  | 18.09  | 18.02  |                           |             |
| 5               | QPSK  | 12 | 0  | 17.96  | 18.04  | 18.16  | 19.5                      | 0           |
| 5               | QPSK  | 12 | 7  | 17.92  | 18.05  | 18.14  |                           |             |
| 5               | QPSK  | 12 | 13 | 17.94  | 18.05  | 18.08  |                           |             |
| 5               | QPSK  | 25 | 0  | 18.01  | 18.06  | 18.02  |                           |             |
| 5               | 16QAM | 1  | 0  | 17.71  | 17.85  | 17.96  | 19.5                      | 0           |
| 5               | 16QAM | 1  | 12 | 17.73  | 17.88  | 17.84  |                           |             |
| 5               | 16QAM | 1  | 24 | 17.67  | 17.91  | 17.91  |                           |             |
| 5               | 16QAM | 12 | 0  | 17.93  | 18.12  | 18.16  | 19.5                      | 0           |
| 5               | 16QAM | 12 | 7  | 17.93  | 18.04  | 18.14  |                           |             |
| 5               | 16QAM | 12 | 13 | 17.95  | 18.09  | 18.12  |                           |             |
| 5               | 16QAM | 25 | 0  | 17.95  | 18.12  | 18.09  |                           |             |
| 5               | 64QAM | 1  | 0  | 17.96  | 18.19  | 18.13  | 19.5                      | 0           |
| 5               | 64QAM | 1  | 12 | 18.19  | 18.13  | 17.98  |                           |             |
| 5               | 64QAM | 1  | 24 | 18.08  | 18.12  | 18.12  |                           |             |
| 5               | 64QAM | 12 | 0  | 17.93  | 18.04  | 18.09  | 19.5                      | 0           |
| 5               | 64QAM | 12 | 7  | 17.90  | 18.08  | 18.20  |                           |             |
| 5               | 64QAM | 12 | 13 | 17.98  | 18.12  | 18.02  |                           |             |
| 5               | 64QAM | 25 | 0  | 17.98  | 18.13  | 18.14  |                           |             |
| Channel         |       |    |    | 131987 | 132322 | 132657 | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1711.5 | 1745   | 1778.5 |                           |             |
| 3               | QPSK  | 1  | 0  | 17.98  | 18.04  | 18.10  | 19.5                      | 0           |
| 3               | QPSK  | 1  | 8  | 17.94  | 18.07  | 18.13  |                           |             |
| 3               | QPSK  | 1  | 14 | 17.97  | 18.09  | 18.15  |                           |             |
| 3               | QPSK  | 8  | 0  | 18.03  | 18.15  | 18.13  | 19.5                      | 0           |
| 3               | QPSK  | 8  | 4  | 17.94  | 18.07  | 18.12  |                           |             |
| 3               | QPSK  | 8  | 7  | 17.93  | 18.07  | 18.11  |                           |             |
| 3               | QPSK  | 15 | 0  | 17.95  | 18.12  | 18.13  |                           |             |
| 3               | 16QAM | 1  | 0  | 17.97  | 18.02  | 18.08  | 19.5                      | 0           |
| 3               | 16QAM | 1  | 8  | 17.79  | 17.98  | 17.91  |                           |             |
| 3               | 16QAM | 1  | 14 | 17.91  | 18.14  | 17.97  |                           |             |
| 3               | 16QAM | 8  | 0  | 18.01  | 18.11  | 18.10  | 19.5                      | 0           |
| 3               | 16QAM | 8  | 4  | 17.90  | 18.02  | 18.05  |                           |             |
| 3               | 16QAM | 8  | 7  | 17.94  | 18.10  | 18.12  |                           |             |
| 3               | 16QAM | 15 | 0  | 17.92  | 18.07  | 18.15  |                           |             |
| 3               | 64QAM | 1  | 0  | 17.90  | 18.10  | 18.12  | 19.5                      | 0           |
| 3               | 64QAM | 1  | 8  | 17.97  | 18.18  | 18.11  |                           |             |
| 3               | 64QAM | 1  | 14 | 17.90  | 17.95  | 18.20  |                           |             |
| 3               | 64QAM | 8  | 0  | 17.98  | 18.19  | 18.16  | 19.5                      | 0           |
| 3               | 64QAM | 8  | 4  | 17.93  | 18.18  | 18.15  |                           |             |
| 3               | 64QAM | 8  | 7  | 18.01  | 18.22  | 18.14  |                           |             |
| 3               | 64QAM | 15 | 0  | 17.98  | 18.12  | 18.12  |                           |             |

| Channel         |       |   |   | 131979 | 132322 | 132665 | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|---|---|--------|--------|--------|---------------------------|-------------|
| Frequency (MHz) |       |   |   | 1710.7 | 1745   | 1779.3 |                           |             |
| 1.4             | QPSK  | 1 | 0 | 17.89  | 18.05  | 18.09  | 19.5                      | 0           |
| 1.4             | QPSK  | 1 | 3 | 18.02  | 18.10  | 18.09  |                           |             |
| 1.4             | QPSK  | 1 | 5 | 17.95  | 18.07  | 18.11  |                           |             |
| 1.4             | QPSK  | 3 | 0 | 17.93  | 18.08  | 18.10  |                           |             |
| 1.4             | QPSK  | 3 | 1 | 17.86  | 18.02  | 18.03  |                           |             |
| 1.4             | QPSK  | 3 | 3 | 17.89  | 18.08  | 18.06  |                           |             |
| 1.4             | QPSK  | 6 | 0 | 17.89  | 18.11  | 18.04  | 19.5                      | 0           |
| 1.4             | 16QAM | 1 | 0 | 17.88  | 17.93  | 18.10  | 19.5                      | 0           |
| 1.4             | 16QAM | 1 | 3 | 17.78  | 18.00  | 18.03  |                           |             |
| 1.4             | 16QAM | 1 | 5 | 17.80  | 18.05  | 18.20  |                           |             |
| 1.4             | 16QAM | 3 | 0 | 17.79  | 17.95  | 18.03  |                           |             |
| 1.4             | 16QAM | 3 | 1 | 17.77  | 17.93  | 18.03  |                           |             |
| 1.4             | 16QAM | 3 | 3 | 17.95  | 17.90  | 17.97  |                           |             |
| 1.4             | 16QAM | 6 | 0 | 17.87  | 18.08  | 18.17  | 19.5                      | 0           |
| 1.4             | 64QAM | 1 | 0 | 17.86  | 18.04  | 18.05  | 19.5                      | 0           |
| 1.4             | 64QAM | 1 | 3 | 18.00  | 18.06  | 18.18  |                           |             |
| 1.4             | 64QAM | 1 | 5 | 18.03  | 18.13  | 18.16  |                           |             |
| 1.4             | 64QAM | 3 | 0 | 17.95  | 17.95  | 18.08  |                           |             |
| 1.4             | 64QAM | 3 | 1 | 17.91  | 18.03  | 18.06  |                           |             |
| 1.4             | 64QAM | 3 | 3 | 17.89  | 17.99  | 18.08  |                           |             |
| 1.4             | 64QAM | 6 | 0 | 17.92  | 18.11  | 18.02  | 19.5                      | 0           |

### <Reduced Power Mode for Hotspot On>

#### <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<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|---------------------------|-------------|
| Channel         |            |         |           | 18700                    | 18900                       | 19100                     |                           |             |
| Frequency (MHz) |            |         |           | 1860                     | 1880                        | 1900                      |                           |             |
| 20              | QPSK       | 1       | 0         | 16.56                    | 16.62                       | 17.01                     | 18                        | 0           |
| 20              | QPSK       | 1       | 49        | 16.60                    | 16.66                       | 16.98                     |                           |             |
| 20              | QPSK       | 1       | 99        | 16.66                    | 17.06                       | 16.99                     |                           |             |
| 20              | QPSK       | 50      | 0         | 16.61                    | 17.02                       | 17.01                     | 18                        | 0           |
| 20              | QPSK       | 50      | 24        | 16.57                    | 16.64                       | 16.98                     |                           |             |
| 20              | QPSK       | 50      | 50        | 16.58                    | 16.61                       | 17.01                     |                           |             |
| 20              | QPSK       | 100     | 0         | 16.54                    | 16.60                       | 16.99                     | 18                        | 0           |
| 20              | 16QAM      | 1       | 0         | 16.45                    | 16.53                       | 16.90                     |                           |             |
| 20              | 16QAM      | 1       | 49        | 16.40                    | 16.48                       | 16.86                     |                           |             |
| 20              | 16QAM      | 1       | 99        | 16.48                    | 16.54                       | 16.88                     | 18                        | 0           |
| 20              | 16QAM      | 50      | 0         | 16.55                    | 16.63                       | 16.98                     |                           |             |
| 20              | 16QAM      | 50      | 24        | 16.57                    | 16.57                       | 17.01                     |                           |             |
| 20              | 16QAM      | 50      | 50        | 16.55                    | 16.62                       | 17.01                     | 18                        | 0           |
| 20              | 16QAM      | 100     | 0         | 16.55                    | 16.62                       | 17.01                     |                           |             |
| 20              | 64QAM      | 1       | 0         | 16.30                    | 16.40                       | 16.79                     |                           |             |
| 20              | 64QAM      | 1       | 49        | 16.40                    | 16.37                       | 16.77                     | 18                        | 0           |
| 20              | 64QAM      | 1       | 99        | 16.40                    | 16.47                       | 16.78                     |                           |             |
| 20              | 64QAM      | 50      | 0         | 16.59                    | 16.68                       | 17.03                     |                           |             |
| 20              | 64QAM      | 50      | 24        | 16.56                    | 16.61                       | 16.93                     | 18                        | 0           |
| 20              | 64QAM      | 50      | 50        | 16.61                    | 16.64                       | 17.03                     |                           |             |
| 20              | 64QAM      | 100     | 0         | 16.58                    | 16.61                       | 17.00                     |                           |             |

| Channel         |       |    |    | 18675  | 18900 | 19125  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------------|-------------|
| Frequency (MHz) |       |    |    | 1857.5 | 1880  | 1902.5 |                           |             |
| 15              | QPSK  | 1  | 0  | 16.60  | 16.61 | 17.01  | 18                        | 0           |
| 15              | QPSK  | 1  | 37 | 16.59  | 16.61 | 16.96  |                           |             |
| 15              | QPSK  | 1  | 74 | 16.53  | 16.60 | 16.97  |                           |             |
| 15              | QPSK  | 36 | 0  | 16.56  | 16.57 | 16.97  | 18                        | 0           |
| 15              | QPSK  | 36 | 20 | 16.56  | 16.55 | 17.01  |                           |             |
| 15              | QPSK  | 36 | 39 | 16.51  | 16.59 | 16.98  |                           |             |
| 15              | QPSK  | 75 | 0  | 16.52  | 16.57 | 17.01  | 18                        | 0           |
| 15              | 16QAM | 1  | 0  | 16.43  | 16.46 | 16.77  |                           |             |
| 15              | 16QAM | 1  | 37 | 16.43  | 16.42 | 16.78  |                           |             |
| 15              | 16QAM | 1  | 74 | 16.48  | 16.51 | 16.81  | 18                        | 0           |
| 15              | 16QAM | 36 | 0  | 16.49  | 16.55 | 16.96  |                           |             |
| 15              | 16QAM | 36 | 20 | 16.46  | 16.52 | 16.94  |                           |             |
| 15              | 16QAM | 36 | 39 | 16.47  | 16.54 | 16.94  | 18                        | 0           |
| 15              | 16QAM | 75 | 0  | 16.52  | 16.60 | 17.01  |                           |             |
| 15              | 64QAM | 1  | 0  | 16.40  | 16.46 | 16.81  |                           |             |
| 15              | 64QAM | 1  | 37 | 16.45  | 16.52 | 16.88  | 18                        | 0           |
| 15              | 64QAM | 1  | 74 | 16.54  | 16.41 | 16.90  |                           |             |
| 15              | 64QAM | 36 | 0  | 16.53  | 16.54 | 17.01  |                           |             |
| 15              | 64QAM | 36 | 20 | 16.53  | 16.53 | 17.01  | 18                        | 0           |
| 15              | 64QAM | 36 | 39 | 16.53  | 16.53 | 17.00  |                           |             |
| 15              | 64QAM | 75 | 0  | 16.56  | 16.58 | 16.99  |                           |             |
| Channel         |       |    |    | 18650  | 18900 | 19150  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1855   | 1880  | 1905   |                           |             |
| 10              | QPSK  | 1  | 0  | 16.64  | 16.64 | 17.05  | 18                        | 0           |
| 10              | QPSK  | 1  | 25 | 16.58  | 16.65 | 17.01  |                           |             |
| 10              | QPSK  | 1  | 49 | 16.58  | 16.65 | 16.94  |                           |             |
| 10              | QPSK  | 25 | 0  | 16.54  | 16.62 | 17.01  | 18                        | 0           |
| 10              | QPSK  | 25 | 12 | 16.56  | 16.57 | 16.97  |                           |             |
| 10              | QPSK  | 25 | 25 | 16.56  | 16.58 | 16.91  |                           |             |
| 10              | QPSK  | 50 | 0  | 16.58  | 16.56 | 16.99  | 18                        | 0           |
| 10              | 16QAM | 1  | 0  | 16.44  | 16.44 | 16.77  |                           |             |
| 10              | 16QAM | 1  | 25 | 16.48  | 16.30 | 16.71  |                           |             |
| 10              | 16QAM | 1  | 49 | 16.44  | 16.51 | 16.77  | 18                        | 0           |
| 10              | 16QAM | 25 | 0  | 16.57  | 16.66 | 17.03  |                           |             |
| 10              | 16QAM | 25 | 12 | 16.66  | 16.59 | 17.01  |                           |             |
| 10              | 16QAM | 25 | 25 | 16.57  | 16.61 | 17.00  | 18                        | 0           |
| 10              | 16QAM | 50 | 0  | 16.56  | 16.62 | 17.02  |                           |             |
| 10              | 64QAM | 1  | 0  | 16.62  | 16.58 | 17.03  |                           |             |
| 10              | 64QAM | 1  | 25 | 16.58  | 16.59 | 16.99  | 18                        | 0           |
| 10              | 64QAM | 1  | 49 | 16.58  | 16.62 | 16.90  |                           |             |
| 10              | 64QAM | 25 | 0  | 16.56  | 16.62 | 17.00  |                           |             |
| 10              | 64QAM | 25 | 12 | 16.62  | 16.61 | 17.00  | 18                        | 0           |
| 10              | 64QAM | 25 | 25 | 16.58  | 16.61 | 17.01  |                           |             |
| 10              | 64QAM | 50 | 0  | 16.59  | 16.61 | 17.01  |                           |             |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 18625  | 18900 | 19175  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 1852.5 | 1880  | 1907.5 |                     |          |
| 5               | QPSK  | 1  | 0  | 16.65  | 16.65 | 16.96  | 18                  | 0        |
| 5               | QPSK  | 1  | 12 | 16.64  | 16.64 | 16.90  |                     |          |
| 5               | QPSK  | 1  | 24 | 16.58  | 16.66 | 16.93  |                     |          |
| 5               | QPSK  | 12 | 0  | 16.58  | 16.57 | 16.96  | 18                  | 0        |
| 5               | QPSK  | 12 | 7  | 16.52  | 16.61 | 16.90  |                     |          |
| 5               | QPSK  | 12 | 13 | 16.51  | 16.65 | 16.95  |                     |          |
| 5               | QPSK  | 25 | 0  | 16.58  | 16.59 | 17.00  | 18                  | 0        |
| 5               | 16QAM | 1  | 0  | 16.57  | 16.57 | 16.96  |                     |          |
| 5               | 16QAM | 1  | 12 | 16.53  | 16.58 | 16.90  |                     |          |
| 5               | 16QAM | 1  | 24 | 16.53  | 16.57 | 16.77  | 18                  | 0        |
| 5               | 16QAM | 12 | 0  | 16.54  | 16.57 | 17.00  |                     |          |
| 5               | 16QAM | 12 | 7  | 16.52  | 16.59 | 17.01  |                     |          |
| 5               | 16QAM | 12 | 13 | 16.55  | 16.63 | 16.95  | 18                  | 0        |
| 5               | 16QAM | 25 | 0  | 16.55  | 16.62 | 17.00  |                     |          |
| 5               | 64QAM | 1  | 0  | 16.58  | 16.59 | 16.97  |                     |          |
| 5               | 64QAM | 1  | 12 | 16.57  | 16.57 | 16.91  | 18                  | 0        |
| 5               | 64QAM | 1  | 24 | 16.59  | 16.59 | 16.82  |                     |          |
| 5               | 64QAM | 12 | 0  | 16.63  | 16.63 | 17.05  |                     |          |
| 5               | 64QAM | 12 | 7  | 16.58  | 16.59 | 16.99  | 18                  | 0        |
| 5               | 64QAM | 12 | 13 | 16.58  | 16.59 | 16.94  |                     |          |
| 5               | 64QAM | 25 | 0  | 16.57  | 16.61 | 16.99  |                     |          |
| Channel         |       |    |    | 18615  | 18900 | 19185  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1851.5 | 1880  | 1908.5 |                     |          |
| 3               | QPSK  | 1  | 0  | 16.65  | 16.60 | 17.05  | 18                  | 0        |
| 3               | QPSK  | 1  | 8  | 16.66  | 16.64 | 17.02  |                     |          |
| 3               | QPSK  | 1  | 14 | 16.60  | 16.67 | 16.93  |                     |          |
| 3               | QPSK  | 8  | 0  | 16.64  | 16.58 | 17.00  | 18                  | 0        |
| 3               | QPSK  | 8  | 4  | 16.58  | 16.61 | 16.99  |                     |          |
| 3               | QPSK  | 8  | 7  | 16.57  | 16.63 | 16.94  |                     |          |
| 3               | QPSK  | 15 | 0  | 16.54  | 16.61 | 17.00  | 18                  | 0        |
| 3               | 16QAM | 1  | 0  | 16.41  | 16.53 | 16.82  |                     |          |
| 3               | 16QAM | 1  | 8  | 16.42  | 16.47 | 16.81  |                     |          |
| 3               | 16QAM | 1  | 14 | 16.37  | 16.56 | 16.73  | 18                  | 0        |
| 3               | 16QAM | 8  | 0  | 16.60  | 16.61 | 17.03  |                     |          |
| 3               | 16QAM | 8  | 4  | 16.62  | 16.63 | 17.02  |                     |          |
| 3               | 16QAM | 8  | 7  | 16.57  | 16.62 | 16.97  | 18                  | 0        |
| 3               | 16QAM | 15 | 0  | 16.53  | 16.57 | 17.01  |                     |          |
| 3               | 64QAM | 1  | 0  | 16.57  | 16.59 | 16.94  |                     |          |
| 3               | 64QAM | 1  | 8  | 16.48  | 16.59 | 16.90  | 18                  | 0        |
| 3               | 64QAM | 1  | 14 | 16.59  | 16.54 | 16.80  |                     |          |
| 3               | 64QAM | 8  | 0  | 16.67  | 16.63 | 17.03  |                     |          |
| 3               | 64QAM | 8  | 4  | 16.58  | 16.64 | 17.05  | 18                  | 0        |
| 3               | 64QAM | 8  | 7  | 16.59  | 16.67 | 16.97  |                     |          |
| 3               | 64QAM | 15 | 0  | 16.60  | 16.61 | 16.96  |                     |          |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |   |   | 18607  | 18900 | 19193  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|---|---|--------|-------|--------|---------------------|----------|
| Frequency (MHz) |       |   |   | 1850.7 | 1880  | 1909.3 |                     |          |
| 1.4             | QPSK  | 1 | 0 | 16.47  | 16.55 | 16.66  | 18                  | 0        |
| 1.4             | QPSK  | 1 | 3 | 16.45  | 16.63 | 16.73  |                     |          |
| 1.4             | QPSK  | 1 | 5 | 16.47  | 16.63 | 16.57  |                     |          |
| 1.4             | QPSK  | 3 | 0 | 16.48  | 16.58 | 16.64  |                     |          |
| 1.4             | QPSK  | 3 | 1 | 16.49  | 16.58 | 16.63  |                     |          |
| 1.4             | QPSK  | 3 | 3 | 16.45  | 16.59 | 16.64  |                     |          |
| 1.4             | QPSK  | 6 | 0 | 16.46  | 16.61 | 16.62  | 18                  | 0        |
| 1.4             | 16QAM | 1 | 0 | 16.30  | 16.36 | 16.43  | 18                  | 0        |
| 1.4             | 16QAM | 1 | 3 | 16.37  | 16.47 | 16.42  |                     |          |
| 1.4             | 16QAM | 1 | 5 | 16.35  | 16.42 | 16.36  |                     |          |
| 1.4             | 16QAM | 3 | 0 | 16.50  | 16.60 | 16.68  |                     |          |
| 1.4             | 16QAM | 3 | 1 | 16.46  | 16.61 | 16.66  |                     |          |
| 1.4             | 16QAM | 3 | 3 | 16.48  | 16.58 | 16.60  |                     |          |
| 1.4             | 16QAM | 6 | 0 | 16.47  | 16.62 | 16.71  | 18                  | 0        |
| 1.4             | 64QAM | 1 | 0 | 16.49  | 16.44 | 16.54  | 18                  | 0        |
| 1.4             | 64QAM | 1 | 3 | 16.37  | 16.57 | 16.57  |                     |          |
| 1.4             | 64QAM | 1 | 5 | 16.52  | 16.57 | 16.57  |                     |          |
| 1.4             | 64QAM | 3 | 0 | 16.53  | 16.60 | 16.67  |                     |          |
| 1.4             | 64QAM | 3 | 1 | 16.52  | 16.64 | 16.66  |                     |          |
| 1.4             | 64QAM | 3 | 3 | 16.52  | 16.63 | 16.62  |                     |          |
| 1.4             | 64QAM | 6 | 0 | 16.47  | 16.58 | 16.65  | 18                  | 0        |

**<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         | 16.23                 | 16.49                    | 16.40                  | 18                  | 0        |
| 20              | QPSK       | 1       | 49        | 16.22                 | 16.26                    | 16.39                  |                     |          |
| 20              | QPSK       | 1       | 99        | 16.27                 | 16.25                    | 16.37                  |                     |          |
| 20              | QPSK       | 50      | 0         | 16.28                 | 16.43                    | 16.39                  | 18                  | 0        |
| 20              | QPSK       | 50      | 24        | 16.26                 | 16.25                    | 16.42                  |                     |          |
| 20              | QPSK       | 50      | 50        | 16.27                 | 16.29                    | 16.41                  |                     |          |
| 20              | QPSK       | 100     | 0         | 16.29                 | 16.26                    | 16.38                  | 18                  | 0        |
| 20              | 16QAM      | 1       | 0         | 16.17                 | 16.17                    | 16.19                  |                     |          |
| 20              | 16QAM      | 1       | 49        | 16.22                 | 16.01                    | 16.26                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 16.08                 | 16.07                    | 16.24                  | 18                  | 0        |
| 20              | 16QAM      | 50      | 0         | 16.27                 | 16.24                    | 16.35                  |                     |          |
| 20              | 16QAM      | 50      | 24        | 16.28                 | 16.27                    | 16.37                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 16.32                 | 16.26                    | 16.38                  | 18                  | 0        |
| 20              | 16QAM      | 100     | 0         | 16.21                 | 16.24                    | 16.37                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 16.29                 | 16.25                    | 16.12                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 16.25                 | 16.23                    | 16.16                  | 18                  | 0        |
| 20              | 64QAM      | 1       | 99        | 16.33                 | 16.29                    | 16.19                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 16.25                 | 16.35                    | 16.42                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 16.25                 | 16.28                    | 16.38                  | 18                  | 0        |
| 20              | 64QAM      | 50      | 50        | 16.25                 | 16.32                    | 16.41                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 16.25                 | 16.31                    | 16.39                  |                     |          |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 20025  | 20175  | 20325  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|--------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 1717.5 | 1732.5 | 1747.5 |                     |          |
| 15              | QPSK  | 1  | 0  | 16.32  | 16.27  | 16.35  | 18                  | 0        |
| 15              | QPSK  | 1  | 37 | 16.33  | 16.23  | 16.41  |                     |          |
| 15              | QPSK  | 1  | 74 | 16.27  | 16.26  | 16.32  |                     |          |
| 15              | QPSK  | 36 | 0  | 16.28  | 16.23  | 16.37  | 18                  | 0        |
| 15              | QPSK  | 36 | 20 | 16.27  | 16.24  | 16.39  |                     |          |
| 15              | QPSK  | 36 | 39 | 16.29  | 16.24  | 16.41  |                     |          |
| 15              | QPSK  | 75 | 0  | 16.15  | 16.11  | 16.19  | 18                  | 0        |
| 15              | 16QAM | 1  | 0  | 16.23  | 16.29  | 16.40  |                     |          |
| 15              | 16QAM | 1  | 37 | 16.26  | 16.24  | 16.34  |                     |          |
| 15              | 16QAM | 1  | 74 | 16.03  | 16.30  | 16.11  | 18                  | 0        |
| 15              | 16QAM | 36 | 0  | 16.06  | 16.24  | 16.16  |                     |          |
| 15              | 16QAM | 36 | 20 | 16.05  | 16.22  | 16.27  |                     |          |
| 15              | 16QAM | 36 | 39 | 16.28  | 16.23  | 16.46  | 18                  | 0        |
| 15              | 16QAM | 75 | 0  | 16.27  | 16.23  | 16.35  |                     |          |
| 15              | 64QAM | 1  | 0  | 16.27  | 16.21  | 16.33  |                     |          |
| 15              | 64QAM | 1  | 37 | 16.24  | 16.23  | 16.35  | 18                  | 0        |
| 15              | 64QAM | 1  | 74 | 16.03  | 16.29  | 16.08  |                     |          |
| 15              | 64QAM | 36 | 0  | 16.04  | 16.25  | 16.11  |                     |          |
| 15              | 64QAM | 36 | 20 | 16.29  | 16.24  | 16.41  | 18                  | 0        |
| 15              | 64QAM | 36 | 39 | 16.15  | 16.11  | 16.19  |                     |          |
| 15              | 64QAM | 75 | 0  | 16.20  | 16.10  | 16.21  |                     |          |
| Channel         |       |    |    | 20000  | 20175  | 20350  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1715   | 1732.5 | 1750   |                     |          |
| 10              | QPSK  | 1  | 0  | 16.31  | 16.29  | 16.37  | 18                  | 0        |
| 10              | QPSK  | 1  | 25 | 16.32  | 16.27  | 16.35  |                     |          |
| 10              | QPSK  | 1  | 49 | 16.33  | 16.23  | 16.41  |                     |          |
| 10              | QPSK  | 25 | 0  | 16.27  | 16.26  | 16.32  | 18                  | 0        |
| 10              | QPSK  | 25 | 12 | 16.28  | 16.23  | 16.37  |                     |          |
| 10              | QPSK  | 25 | 25 | 16.27  | 16.24  | 16.39  |                     |          |
| 10              | QPSK  | 50 | 0  | 16.29  | 16.24  | 16.41  | 18                  | 0        |
| 10              | 16QAM | 1  | 0  | 16.15  | 16.11  | 16.19  |                     |          |
| 10              | 16QAM | 1  | 25 | 16.20  | 16.10  | 16.21  |                     |          |
| 10              | 16QAM | 1  | 49 | 16.05  | 16.16  | 16.13  | 18                  | 0        |
| 10              | 16QAM | 25 | 0  | 16.32  | 16.25  | 16.37  |                     |          |
| 10              | 16QAM | 25 | 12 | 16.27  | 16.23  | 16.35  |                     |          |
| 10              | 16QAM | 25 | 25 | 16.27  | 16.21  | 16.33  | 18                  | 0        |
| 10              | 16QAM | 50 | 0  | 16.24  | 16.23  | 16.35  |                     |          |
| 10              | 64QAM | 1  | 0  | 16.03  | 16.29  | 16.08  |                     |          |
| 10              | 64QAM | 1  | 25 | 16.04  | 16.25  | 16.11  | 18                  | 0        |
| 10              | 64QAM | 1  | 49 | 16.09  | 16.27  | 16.20  |                     |          |
| 10              | 64QAM | 25 | 0  | 16.24  | 16.24  | 16.41  |                     |          |
| 10              | 64QAM | 25 | 12 | 16.22  | 16.27  | 16.35  | 18                  | 0        |
| 10              | 64QAM | 25 | 25 | 16.26  | 16.27  | 16.38  |                     |          |
| 10              | 64QAM | 50 | 0  | 16.27  | 16.25  | 16.33  |                     |          |

| Channel         |       |    |    | 19975  | 20175  | 20375  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|--------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 1712.5 | 1732.5 | 1752.5 |                     |          |
| 5               | QPSK  | 1  | 0  | 16.25  | 16.28  | 16.43  | 18                  | 0        |
| 5               | QPSK  | 1  | 12 | 16.25  | 16.25  | 16.45  |                     |          |
| 5               | QPSK  | 1  | 24 | 16.27  | 16.28  | 16.48  |                     |          |
| 5               | QPSK  | 12 | 0  | 16.23  | 16.23  | 16.40  | 18                  | 0        |
| 5               | QPSK  | 12 | 7  | 16.20  | 16.27  | 16.45  |                     |          |
| 5               | QPSK  | 12 | 13 | 16.21  | 16.21  | 16.42  |                     |          |
| 5               | QPSK  | 25 | 0  | 16.25  | 16.25  | 16.42  | 18                  | 0        |
| 5               | 16QAM | 1  | 0  | 16.21  | 16.08  | 16.26  |                     |          |
| 5               | 16QAM | 1  | 12 | 16.19  | 16.07  | 16.31  |                     |          |
| 5               | 16QAM | 1  | 24 | 16.11  | 16.16  | 16.21  | 18                  | 0        |
| 5               | 16QAM | 12 | 0  | 16.24  | 16.22  | 16.41  |                     |          |
| 5               | 16QAM | 12 | 7  | 16.27  | 16.25  | 16.38  |                     |          |
| 5               | 16QAM | 12 | 13 | 16.23  | 16.29  | 16.40  | 18                  | 0        |
| 5               | 16QAM | 25 | 0  | 16.26  | 16.24  | 16.34  |                     |          |
| 5               | 64QAM | 1  | 0  | 16.05  | 16.30  | 16.11  |                     |          |
| 5               | 64QAM | 1  | 12 | 16.06  | 16.24  | 16.16  | 18                  | 0        |
| 5               | 64QAM | 1  | 24 | 16.03  | 16.22  | 16.27  |                     |          |
| 5               | 64QAM | 12 | 0  | 16.28  | 16.23  | 16.46  |                     |          |
| 5               | 64QAM | 12 | 7  | 16.24  | 16.25  | 16.38  | 18                  | 0        |
| 5               | 64QAM | 12 | 13 | 16.24  | 16.28  | 16.37  |                     |          |
| 5               | 64QAM | 25 | 0  | 16.28  | 16.25  | 16.42  |                     |          |
| Channel         |       |    |    | 19965  | 20175  | 20385  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1711.5 | 1732.5 | 1753.5 |                     |          |
| 3               | QPSK  | 1  | 0  | 16.18  | 16.33  | 16.44  | 18                  | 0        |
| 3               | QPSK  | 1  | 8  | 16.19  | 16.35  | 16.42  |                     |          |
| 3               | QPSK  | 1  | 14 | 16.17  | 16.32  | 16.48  |                     |          |
| 3               | QPSK  | 8  | 0  | 16.06  | 16.06  | 16.43  | 18                  | 0        |
| 3               | QPSK  | 8  | 4  | 16.26  | 16.28  | 16.42  |                     |          |
| 3               | QPSK  | 8  | 7  | 16.24  | 16.28  | 16.45  |                     |          |
| 3               | QPSK  | 15 | 0  | 16.24  | 16.27  | 16.44  | 18                  | 0        |
| 3               | 16QAM | 1  | 0  | 16.12  | 16.13  | 16.32  |                     |          |
| 3               | 16QAM | 1  | 8  | 16.00  | 16.29  | 16.41  |                     |          |
| 3               | 16QAM | 1  | 14 | 16.06  | 16.12  | 16.38  | 18                  | 0        |
| 3               | 16QAM | 8  | 0  | 16.18  | 16.32  | 16.46  |                     |          |
| 3               | 16QAM | 8  | 4  | 16.26  | 16.00  | 16.45  |                     |          |
| 3               | 16QAM | 8  | 7  | 16.21  | 16.21  | 16.40  | 18                  | 0        |
| 3               | 16QAM | 15 | 0  | 16.23  | 16.24  | 16.45  |                     |          |
| 3               | 64QAM | 1  | 0  | 16.05  | 16.25  | 16.27  |                     |          |
| 3               | 64QAM | 1  | 8  | 16.29  | 16.29  | 16.23  | 18                  | 0        |
| 3               | 64QAM | 1  | 14 | 16.06  | 16.28  | 16.22  |                     |          |
| 3               | 64QAM | 8  | 0  | 16.26  | 16.35  | 16.45  |                     |          |
| 3               | 64QAM | 8  | 4  | 16.20  | 16.32  | 16.43  | 18                  | 0        |
| 3               | 64QAM | 8  | 7  | 16.27  | 16.24  | 16.46  |                     |          |
| 3               | 64QAM | 15 | 0  | 16.25  | 16.24  | 16.48  |                     |          |

| Channel         |       |   |   | 19957  | 20175  | 20393  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|---|---|--------|--------|--------|---------------------------|-------------|
| Frequency (MHz) |       |   |   | 1710.7 | 1732.5 | 1754.3 |                           |             |
| 1.4             | QPSK  | 1 | 0 | 16.26  | 16.28  | 16.39  | 18                        | 0           |
| 1.4             | QPSK  | 1 | 3 | 16.25  | 16.12  | 16.36  |                           |             |
| 1.4             | QPSK  | 1 | 5 | 16.21  | 16.27  | 16.40  |                           |             |
| 1.4             | QPSK  | 3 | 0 | 16.22  | 16.02  | 16.37  |                           |             |
| 1.4             | QPSK  | 3 | 1 | 16.20  | 16.26  | 16.40  |                           |             |
| 1.4             | QPSK  | 3 | 3 | 16.23  | 16.27  | 16.37  |                           |             |
| 1.4             | QPSK  | 6 | 0 | 16.26  | 16.31  | 16.38  | 18                        | 0           |
| 1.4             | 16QAM | 1 | 0 | 16.11  | 16.11  | 16.41  | 18                        | 0           |
| 1.4             | 16QAM | 1 | 3 | 16.00  | 16.26  | 16.28  |                           |             |
| 1.4             | 16QAM | 1 | 5 | 16.05  | 16.27  | 16.30  |                           |             |
| 1.4             | 16QAM | 3 | 0 | 16.17  | 16.31  | 16.39  |                           |             |
| 1.4             | 16QAM | 3 | 1 | 16.21  | 16.34  | 16.38  |                           |             |
| 1.4             | 16QAM | 3 | 3 | 16.25  | 16.27  | 16.38  |                           |             |
| 1.4             | 16QAM | 6 | 0 | 16.24  | 16.32  | 16.38  | 18                        | 0           |
| 1.4             | 64QAM | 1 | 0 | 16.05  | 16.32  | 16.22  | 18                        | 0           |
| 1.4             | 64QAM | 1 | 3 | 16.05  | 16.28  | 16.11  |                           |             |
| 1.4             | 64QAM | 1 | 5 | 16.06  | 16.07  | 16.12  |                           |             |
| 1.4             | 64QAM | 3 | 0 | 16.18  | 16.27  | 16.37  |                           |             |
| 1.4             | 64QAM | 3 | 1 | 16.22  | 16.34  | 16.35  |                           |             |
| 1.4             | 64QAM | 3 | 3 | 16.14  | 16.28  | 16.38  |                           |             |
| 1.4             | 64QAM | 6 | 0 | 16.23  | 16.28  | 16.43  | 18                        | 0           |

**<LTE Band 5>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|---------------------------|-------------|
| Channel         |            |         |           | 20450                    | 20525                       | 20600                     |                           |             |
| Frequency (MHz) |            |         |           | 829                      | 836.5                       | 844                       |                           |             |
| 10              | QPSK       | 1       | 0         | 20.39                    | 20.24                       | 20.38                     | 21.5                      | 0           |
| 10              | QPSK       | 1       | 25        | 20.33                    | 20.26                       | 20.28                     |                           |             |
| 10              | QPSK       | 1       | 49        | 20.28                    | 20.20                       | 20.24                     |                           |             |
| 10              | QPSK       | 25      | 0         | 20.29                    | 20.28                       | 20.32                     | 21.5                      | 0           |
| 10              | QPSK       | 25      | 12        | 20.29                    | 20.26                       | 20.30                     |                           |             |
| 10              | QPSK       | 25      | 25        | 20.29                    | 20.23                       | 20.22                     |                           |             |
| 10              | QPSK       | 50      | 0         | 20.32                    | 20.22                       | 20.26                     | 21.5                      | 0           |
| 10              | 16QAM      | 1       | 0         | 20.19                    | 20.11                       | 20.03                     |                           |             |
| 10              | 16QAM      | 1       | 25        | 20.03                    | 20.01                       | 19.99                     |                           |             |
| 10              | 16QAM      | 1       | 49        | 19.99                    | 19.85                       | 20.06                     | 21.5                      | 0           |
| 10              | 16QAM      | 25      | 0         | 20.28                    | 20.32                       | 20.37                     |                           |             |
| 10              | 16QAM      | 25      | 12        | 20.30                    | 20.28                       | 20.27                     |                           |             |
| 10              | 16QAM      | 25      | 25        | 20.22                    | 20.25                       | 20.32                     | 21.5                      | 0           |
| 10              | 16QAM      | 50      | 0         | 20.33                    | 20.27                       | 20.27                     |                           |             |
| 10              | 64QAM      | 1       | 0         | 20.12                    | 20.15                       | 20.03                     |                           |             |
| 10              | 64QAM      | 1       | 25        | 20.11                    | 19.97                       | 20.03                     | 21.5                      | 0           |
| 10              | 64QAM      | 1       | 49        | 20.11                    | 20.01                       | 20.08                     |                           |             |
| 10              | 64QAM      | 25      | 0         | 19.82                    | 19.75                       | 19.88                     |                           |             |
| 10              | 64QAM      | 25      | 12        | 19.76                    | 19.78                       | 19.86                     | 21                        | 0.5         |
| 10              | 64QAM      | 25      | 25        | 19.74                    | 19.68                       | 19.76                     |                           |             |
| 10              | 64QAM      | 50      | 0         | 19.85                    | 19.74                       | 19.79                     |                           |             |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 20425 | 20525 | 20625 | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|-------|-------|-------|---------------------|----------|
| Frequency (MHz) |       |    |    | 826.5 | 836.5 | 846.5 |                     |          |
| 5               | QPSK  | 1  | 0  | 20.40 | 20.38 | 20.38 | 21.5                | 0        |
| 5               | QPSK  | 1  | 12 | 20.39 | 20.22 | 20.30 |                     |          |
| 5               | QPSK  | 1  | 24 | 20.25 | 20.19 | 20.25 |                     |          |
| 5               | QPSK  | 12 | 0  | 20.38 | 20.25 | 20.25 | 21.5                | 0        |
| 5               | QPSK  | 12 | 7  | 20.34 | 20.22 | 20.31 |                     |          |
| 5               | QPSK  | 12 | 13 | 20.35 | 20.26 | 20.24 |                     |          |
| 5               | QPSK  | 25 | 0  | 20.33 | 20.20 | 20.29 | 21.5                | 0        |
| 5               | 16QAM | 1  | 0  | 20.37 | 20.35 | 20.27 |                     |          |
| 5               | 16QAM | 1  | 12 | 20.42 | 20.21 | 20.07 |                     |          |
| 5               | 16QAM | 1  | 24 | 20.33 | 20.20 | 20.15 | 21.5                | 0        |
| 5               | 16QAM | 12 | 0  | 20.31 | 20.15 | 20.30 |                     |          |
| 5               | 16QAM | 12 | 7  | 20.27 | 20.20 | 20.23 |                     |          |
| 5               | 16QAM | 12 | 13 | 20.31 | 20.16 | 20.21 | 21.5                | 0        |
| 5               | 16QAM | 25 | 0  | 20.36 | 20.27 | 20.30 |                     |          |
| 5               | 64QAM | 1  | 0  | 20.22 | 20.31 | 20.16 |                     |          |
| 5               | 64QAM | 1  | 12 | 20.15 | 20.23 | 20.27 | 21.5                | 0        |
| 5               | 64QAM | 1  | 24 | 20.18 | 20.06 | 20.14 |                     |          |
| 5               | 64QAM | 12 | 0  | 19.88 | 19.74 | 19.71 |                     |          |
| 5               | 64QAM | 12 | 7  | 19.87 | 19.60 | 19.69 | 21                  | 0.5      |
| 5               | 64QAM | 12 | 13 | 19.83 | 19.68 | 19.74 |                     |          |
| 5               | 64QAM | 25 | 0  | 19.86 | 19.75 | 19.69 |                     |          |
| Channel         |       |    |    | 20415 | 20525 | 20635 | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 825.5 | 836.5 | 847.5 |                     |          |
| 3               | QPSK  | 1  | 0  | 20.37 | 20.25 | 20.28 | 21.5                | 0        |
| 3               | QPSK  | 1  | 8  | 20.33 | 20.25 | 20.29 |                     |          |
| 3               | QPSK  | 1  | 14 | 20.34 | 20.27 | 20.27 |                     |          |
| 3               | QPSK  | 8  | 0  | 20.37 | 20.25 | 20.31 | 21.5                | 0        |
| 3               | QPSK  | 8  | 4  | 20.41 | 20.21 | 20.30 |                     |          |
| 3               | QPSK  | 8  | 7  | 20.31 | 20.22 | 20.28 |                     |          |
| 3               | QPSK  | 15 | 0  | 20.27 | 20.25 | 20.31 | 21.5                | 0        |
| 3               | 16QAM | 1  | 0  | 20.10 | 19.93 | 20.20 |                     |          |
| 3               | 16QAM | 1  | 8  | 20.30 | 19.93 | 20.06 |                     |          |
| 3               | 16QAM | 1  | 14 | 20.23 | 20.25 | 20.20 | 21.5                | 0        |
| 3               | 16QAM | 8  | 0  | 20.36 | 20.23 | 20.30 |                     |          |
| 3               | 16QAM | 8  | 4  | 20.37 | 20.16 | 20.24 |                     |          |
| 3               | 16QAM | 8  | 7  | 20.29 | 20.24 | 20.24 | 21.5                | 0        |
| 3               | 16QAM | 15 | 0  | 20.27 | 19.87 | 20.28 |                     |          |
| 3               | 64QAM | 1  | 0  | 20.11 | 20.17 | 20.02 |                     |          |
| 3               | 64QAM | 1  | 8  | 20.17 | 20.04 | 20.17 | 21.5                | 0        |
| 3               | 64QAM | 1  | 14 | 20.13 | 20.30 | 20.04 |                     |          |
| 3               | 64QAM | 8  | 0  | 19.71 | 19.78 | 19.76 |                     |          |
| 3               | 64QAM | 8  | 4  | 19.75 | 19.71 | 19.81 | 21                  | 0.5      |
| 3               | 64QAM | 8  | 7  | 19.74 | 19.67 | 19.79 |                     |          |
| 3               | 64QAM | 15 | 0  | 19.85 | 19.36 | 19.75 |                     |          |

| Channel         |       |   |   | 20407 | 20525 | 20643 | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|---|---|-------|-------|-------|---------------------------|-------------|
| Frequency (MHz) |       |   |   | 824.7 | 836.5 | 848.3 |                           |             |
| 1.4             | QPSK  | 1 | 0 | 20.28 | 20.14 | 20.27 | 21.5                      | 0           |
| 1.4             | QPSK  | 1 | 3 | 20.32 | 20.23 | 20.28 |                           |             |
| 1.4             | QPSK  | 1 | 5 | 20.32 | 20.17 | 20.32 |                           |             |
| 1.4             | QPSK  | 3 | 0 | 20.37 | 20.31 | 20.29 |                           |             |
| 1.4             | QPSK  | 3 | 1 | 20.35 | 20.33 | 20.28 |                           |             |
| 1.4             | QPSK  | 3 | 3 | 20.30 | 20.26 | 20.22 |                           |             |
| 1.4             | QPSK  | 6 | 0 | 20.31 | 20.21 | 20.25 | 21.5                      | 0           |
| 1.4             | 16QAM | 1 | 0 | 20.21 | 20.29 | 19.93 | 21.5                      | 0           |
| 1.4             | 16QAM | 1 | 3 | 20.06 | 20.11 | 19.84 |                           |             |
| 1.4             | 16QAM | 1 | 5 | 20.22 | 20.14 | 20.01 |                           |             |
| 1.4             | 16QAM | 3 | 0 | 20.20 | 20.17 | 20.24 |                           |             |
| 1.4             | 16QAM | 3 | 1 | 20.23 | 20.21 | 20.10 |                           |             |
| 1.4             | 16QAM | 3 | 3 | 20.23 | 20.18 | 20.10 |                           |             |
| 1.4             | 16QAM | 6 | 0 | 20.39 | 20.17 | 20.27 | 21.5                      | 0           |
| 1.4             | 64QAM | 1 | 0 | 19.88 | 19.97 | 19.97 | 21.5                      | 0           |
| 1.4             | 64QAM | 1 | 3 | 19.89 | 19.96 | 19.73 |                           |             |
| 1.4             | 64QAM | 1 | 5 | 19.89 | 19.82 | 19.91 |                           |             |
| 1.4             | 64QAM | 3 | 0 | 20.17 | 20.15 | 20.18 |                           |             |
| 1.4             | 64QAM | 3 | 1 | 20.18 | 20.18 | 20.19 |                           |             |
| 1.4             | 64QAM | 3 | 3 | 20.29 | 20.15 | 20.16 |                           |             |
| 1.4             | 64QAM | 6 | 0 | 19.63 | 19.78 | 19.77 | 21                        | 0.5         |

**<LTE Band 7>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|---------------------------|-------------|
| Channel         |            |         |           | 20850                    | 21100                       | 21350                     |                           |             |
| Frequency (MHz) |            |         |           | 2510                     | 2535                        | 2560                      |                           |             |
| 20              | QPSK       | 1       | 0         | 13.73                    | 13.67                       | 13.78                     | 15                        | 0           |
| 20              | QPSK       | 1       | 49        | 13.68                    | 13.75                       | 13.68                     |                           |             |
| 20              | QPSK       | 1       | 99        | 13.70                    | 13.64                       | 13.64                     |                           |             |
| 20              | QPSK       | 50      | 0         | 13.70                    | 13.70                       | 13.76                     | 15                        | 0           |
| 20              | QPSK       | 50      | 24        | 13.66                    | 13.72                       | 13.75                     |                           |             |
| 20              | QPSK       | 50      | 50        | 13.71                    | 13.64                       | 13.70                     |                           |             |
| 20              | QPSK       | 100     | 0         | 13.70                    | 13.69                       | 13.72                     | 15                        | 0           |
| 20              | 16QAM      | 1       | 0         | 13.58                    | 13.60                       | 13.54                     |                           |             |
| 20              | 16QAM      | 1       | 49        | 13.61                    | 13.63                       | 13.46                     |                           |             |
| 20              | 16QAM      | 1       | 99        | 13.56                    | 13.47                       | 13.56                     | 15                        | 0           |
| 20              | 16QAM      | 50      | 0         | 13.67                    | 13.66                       | 13.73                     |                           |             |
| 20              | 16QAM      | 50      | 24        | 13.70                    | 13.65                       | 13.74                     |                           |             |
| 20              | 16QAM      | 50      | 50        | 13.63                    | 13.64                       | 13.75                     | 15                        | 0           |
| 20              | 16QAM      | 100     | 0         | 13.67                    | 13.70                       | 13.76                     |                           |             |
| 20              | 64QAM      | 1       | 0         | 13.52                    | 13.50                       | 13.64                     |                           |             |
| 20              | 64QAM      | 1       | 49        | 13.54                    | 13.52                       | 13.70                     | 15                        | 0           |
| 20              | 64QAM      | 1       | 99        | 13.55                    | 13.60                       | 13.62                     |                           |             |
| 20              | 64QAM      | 50      | 0         | 13.62                    | 13.65                       | 13.73                     |                           |             |
| 20              | 64QAM      | 50      | 24        | 13.66                    | 13.66                       | 13.70                     | 15                        | 0           |
| 20              | 64QAM      | 50      | 50        | 13.64                    | 13.64                       | 13.69                     |                           |             |
| 20              | 64QAM      | 100     | 0         | 13.70                    | 13.74                       | 13.75                     |                           |             |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 20825  | 21100 | 21375  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 2507.5 | 2535  | 2562.5 |                     |          |
| 15              | QPSK  | 1  | 0  | 13.57  | 13.71 | 13.74  | 15                  | 0        |
| 15              | QPSK  | 1  | 37 | 13.69  | 13.71 | 13.71  |                     |          |
| 15              | QPSK  | 1  | 74 | 13.67  | 13.65 | 13.71  |                     |          |
| 15              | QPSK  | 36 | 0  | 13.69  | 13.66 | 13.69  | 15                  | 0        |
| 15              | QPSK  | 36 | 20 | 13.68  | 13.66 | 13.73  |                     |          |
| 15              | QPSK  | 36 | 39 | 13.66  | 13.70 | 13.69  |                     |          |
| 15              | QPSK  | 75 | 0  | 13.66  | 13.66 | 13.72  | 15                  | 0        |
| 15              | 16QAM | 1  | 0  | 13.44  | 13.59 | 13.65  |                     |          |
| 15              | 16QAM | 1  | 37 | 13.62  | 13.45 | 13.48  |                     |          |
| 15              | 16QAM | 1  | 74 | 13.56  | 13.52 | 13.52  | 15                  | 0        |
| 15              | 16QAM | 36 | 0  | 13.70  | 13.70 | 13.74  |                     |          |
| 15              | 16QAM | 36 | 20 | 13.69  | 13.66 | 13.70  |                     |          |
| 15              | 16QAM | 36 | 39 | 13.70  | 13.67 | 13.72  | 15                  | 0        |
| 15              | 16QAM | 75 | 0  | 13.67  | 13.68 | 13.71  |                     |          |
| 15              | 64QAM | 1  | 0  | 13.61  | 13.69 | 13.48  |                     |          |
| 15              | 64QAM | 1  | 37 | 13.48  | 13.52 | 13.51  | 15                  | 0        |
| 15              | 64QAM | 1  | 74 | 13.43  | 13.44 | 13.56  |                     |          |
| 15              | 64QAM | 36 | 0  | 13.70  | 13.73 | 13.76  |                     |          |
| 15              | 64QAM | 36 | 20 | 13.71  | 13.70 | 13.68  | 15                  | 0        |
| 15              | 64QAM | 36 | 39 | 13.69  | 13.72 | 13.73  |                     |          |
| 15              | 64QAM | 75 | 0  | 13.72  | 13.69 | 13.75  |                     |          |
| Channel         |       |    |    | 20800  | 21100 | 21400  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 2505   | 2535  | 2565   |                     |          |
| 10              | QPSK  | 1  | 0  | 13.74  | 13.73 | 13.64  | 15                  | 0        |
| 10              | QPSK  | 1  | 25 | 13.75  | 13.71 | 13.77  |                     |          |
| 10              | QPSK  | 1  | 49 | 13.67  | 13.68 | 13.68  |                     |          |
| 10              | QPSK  | 25 | 0  | 13.68  | 13.73 | 13.75  | 15                  | 0        |
| 10              | QPSK  | 25 | 12 | 13.68  | 13.68 | 13.73  |                     |          |
| 10              | QPSK  | 25 | 25 | 13.58  | 13.66 | 13.68  |                     |          |
| 10              | QPSK  | 50 | 0  | 13.69  | 13.73 | 13.72  | 15                  | 0        |
| 10              | 16QAM | 1  | 0  | 13.66  | 13.65 | 13.63  |                     |          |
| 10              | 16QAM | 1  | 25 | 13.60  | 13.53 | 13.50  |                     |          |
| 10              | 16QAM | 1  | 49 | 13.64  | 13.46 | 13.58  | 15                  | 0        |
| 10              | 16QAM | 25 | 0  | 13.66  | 13.66 | 13.72  |                     |          |
| 10              | 16QAM | 25 | 12 | 13.64  | 13.66 | 13.69  |                     |          |
| 10              | 16QAM | 25 | 25 | 13.64  | 13.68 | 13.69  | 15                  | 0        |
| 10              | 16QAM | 50 | 0  | 13.67  | 13.74 | 13.74  |                     |          |
| 10              | 64QAM | 1  | 0  | 13.59  | 13.59 | 13.52  |                     |          |
| 10              | 64QAM | 1  | 25 | 13.52  | 13.61 | 13.59  | 15                  | 0        |
| 10              | 64QAM | 1  | 49 | 13.44  | 13.49 | 13.49  |                     |          |
| 10              | 64QAM | 25 | 0  | 13.71  | 13.71 | 13.76  |                     |          |
| 10              | 64QAM | 25 | 12 | 13.73  | 13.68 | 13.68  | 15                  | 0        |
| 10              | 64QAM | 25 | 25 | 13.66  | 13.68 | 13.71  |                     |          |
| 10              | 64QAM | 50 | 0  | 13.72  | 13.73 | 13.75  |                     |          |

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Form version. : 170509

| Channel         |       |    |    | 20775  | 21100 | 21425  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 2502.5 | 2535  | 2567.5 |                     |          |
| 5               | QPSK  | 1  | 0  | 13.61  | 13.76 | 13.60  | 15                  | 0        |
| 5               | QPSK  | 1  | 12 | 13.60  | 13.71 | 13.74  |                     |          |
| 5               | QPSK  | 1  | 24 | 13.66  | 13.65 | 13.62  |                     |          |
| 5               | QPSK  | 12 | 0  | 13.75  | 13.68 | 13.75  | 15                  | 0        |
| 5               | QPSK  | 12 | 7  | 13.70  | 13.67 | 13.69  |                     |          |
| 5               | QPSK  | 12 | 13 | 13.69  | 13.64 | 13.69  |                     |          |
| 5               | QPSK  | 25 | 0  | 13.71  | 13.66 | 13.69  | 15                  | 0        |
| 5               | 16QAM | 1  | 0  | 13.67  | 13.64 | 13.66  |                     |          |
| 5               | 16QAM | 1  | 12 | 13.51  | 13.72 | 13.56  |                     |          |
| 5               | 16QAM | 1  | 24 | 13.48  | 13.48 | 13.53  | 15                  | 0        |
| 5               | 16QAM | 12 | 0  | 13.76  | 13.71 | 13.72  |                     |          |
| 5               | 16QAM | 12 | 7  | 13.76  | 13.69 | 13.72  |                     |          |
| 5               | 16QAM | 12 | 13 | 13.69  | 13.67 | 13.72  | 15                  | 0        |
| 5               | 16QAM | 25 | 0  | 13.73  | 13.65 | 13.73  |                     |          |
| 5               | 64QAM | 1  | 0  | 13.55  | 13.58 | 13.47  |                     |          |
| 5               | 64QAM | 1  | 12 | 13.59  | 13.39 | 13.50  | 15                  | 0        |
| 5               | 64QAM | 1  | 24 | 13.49  | 13.37 | 13.45  |                     |          |
| 5               | 64QAM | 12 | 0  | 13.60  | 13.72 | 13.68  |                     |          |
| 5               | 64QAM | 12 | 7  | 13.75  | 13.72 | 13.77  | 15                  | 0        |
| 5               | 64QAM | 12 | 13 | 13.71  | 13.74 | 13.76  |                     |          |
| 5               | 64QAM | 25 | 0  | 13.72  | 13.68 | 13.70  |                     |          |

**<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         | 16.63                 | 16.71                    | 16.98                  |                     |          |
| 20              | QPSK       | 1       | 49        | 16.63                 | 16.74                    | 16.93                  | 18                  | 0        |
| 20              | QPSK       | 1       | 99        | 16.58                 | 16.70                    | 16.84                  | 18                  | 0        |
| 20              | QPSK       | 50      | 0         | 16.65                 | 16.70                    | 16.90                  |                     |          |
| 20              | QPSK       | 50      | 24        | 16.49                 | 16.46                    | 16.65                  |                     |          |
| 20              | QPSK       | 50      | 50        | 16.56                 | 16.66                    | 16.95                  |                     |          |
| 20              | QPSK       | 100     | 0         | 16.60                 | 16.68                    | 16.83                  | 18                  | 0        |
| 20              | 16QAM      | 1       | 0         | 16.53                 | 16.71                    | 16.83                  |                     |          |
| 20              | 16QAM      | 1       | 49        | 16.59                 | 16.71                    | 16.92                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 16.65                 | 16.66                    | 16.96                  | 18                  | 0        |
| 20              | 16QAM      | 50      | 0         | 16.47                 | 16.44                    | 16.78                  |                     |          |
| 20              | 16QAM      | 50      | 24        | 16.64                 | 16.52                    | 16.78                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 16.49                 | 16.46                    | 16.65                  |                     |          |
| 20              | 16QAM      | 100     | 0         | 16.56                 | 16.66                    | 16.95                  | 18                  | 0        |
| 20              | 64QAM      | 1       | 0         | 16.60                 | 16.68                    | 16.83                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 16.53                 | 16.71                    | 16.83                  |                     |          |
| 20              | 64QAM      | 1       | 99        | 16.59                 | 16.71                    | 16.92                  | 18                  | 0        |
| 20              | 64QAM      | 50      | 0         | 16.61                 | 16.69                    | 16.81                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 16.60                 | 16.68                    | 16.83                  |                     |          |
| 20              | 64QAM      | 50      | 50        | 16.53                 | 16.71                    | 16.83                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 16.64                 | 16.52                    | 16.78                  |                     |          |

| Channel         |       |    |    | 26115  | 26340 | 26615  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------------|-------------|
| Frequency (MHz) |       |    |    | 1857.5 | 1880  | 1907.5 |                           |             |
| 15              | QPSK  | 1  | 0  | 16.67  | 16.74 | 16.85  | 18                        | 0           |
| 15              | QPSK  | 1  | 37 | 16.61  | 16.71 | 16.92  |                           |             |
| 15              | QPSK  | 1  | 74 | 16.62  | 16.78 | 16.84  |                           |             |
| 15              | QPSK  | 36 | 0  | 16.57  | 16.67 | 16.93  | 18                        | 0           |
| 15              | QPSK  | 36 | 20 | 16.61  | 16.69 | 16.84  |                           |             |
| 15              | QPSK  | 36 | 39 | 16.61  | 16.69 | 16.81  |                           |             |
| 15              | QPSK  | 75 | 0  | 16.59  | 16.71 | 16.90  | 18                        | 0           |
| 15              | 16QAM | 1  | 0  | 16.47  | 16.44 | 16.78  |                           |             |
| 15              | 16QAM | 1  | 37 | 16.64  | 16.52 | 16.78  |                           |             |
| 15              | 16QAM | 1  | 74 | 16.49  | 16.46 | 16.65  | 18                        | 0           |
| 15              | 16QAM | 36 | 0  | 16.56  | 16.66 | 16.95  |                           |             |
| 15              | 16QAM | 36 | 20 | 16.60  | 16.68 | 16.83  |                           |             |
| 15              | 16QAM | 36 | 39 | 16.53  | 16.71 | 16.83  | 18                        | 0           |
| 15              | 16QAM | 75 | 0  | 16.59  | 16.71 | 16.92  |                           |             |
| 15              | 64QAM | 1  | 0  | 16.65  | 16.66 | 16.96  |                           |             |
| 15              | 64QAM | 1  | 37 | 16.53  | 16.54 | 16.84  | 18                        | 0           |
| 15              | 64QAM | 1  | 74 | 16.54  | 16.73 | 16.75  |                           |             |
| 15              | 64QAM | 36 | 0  | 16.63  | 16.71 | 16.84  |                           |             |
| 15              | 64QAM | 36 | 20 | 16.63  | 16.74 | 16.93  | 18                        | 0           |
| 15              | 64QAM | 36 | 39 | 16.58  | 16.70 | 16.84  |                           |             |
| 15              | 64QAM | 75 | 0  | 16.65  | 16.70 | 16.90  |                           |             |
| Channel         |       |    |    | 26090  | 26340 | 26640  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1855   | 1880  | 1910   |                           |             |
| 10              | QPSK  | 1  | 0  | 16.69  | 16.71 | 16.85  | 18                        | 0           |
| 10              | QPSK  | 1  | 25 | 16.64  | 16.67 | 16.91  |                           |             |
| 10              | QPSK  | 1  | 49 | 16.64  | 16.74 | 16.92  |                           |             |
| 10              | QPSK  | 25 | 0  | 16.64  | 16.67 | 16.97  | 18                        | 0           |
| 10              | QPSK  | 25 | 12 | 16.61  | 16.70 | 16.93  |                           |             |
| 10              | QPSK  | 25 | 25 | 16.60  | 16.68 | 16.89  |                           |             |
| 10              | QPSK  | 50 | 0  | 16.55  | 16.66 | 16.96  | 18                        | 0           |
| 10              | 16QAM | 1  | 0  | 16.49  | 16.47 | 16.78  |                           |             |
| 10              | 16QAM | 1  | 25 | 16.42  | 16.64 | 16.89  |                           |             |
| 10              | 16QAM | 1  | 49 | 16.47  | 16.64 | 16.83  | 18                        | 0           |
| 10              | 16QAM | 25 | 0  | 16.60  | 16.70 | 16.96  |                           |             |
| 10              | 16QAM | 25 | 12 | 16.60  | 16.66 | 16.93  |                           |             |
| 10              | 16QAM | 25 | 25 | 16.63  | 16.69 | 16.91  | 18                        | 0           |
| 10              | 16QAM | 50 | 0  | 16.60  | 16.71 | 16.93  |                           |             |
| 10              | 64QAM | 1  | 0  | 16.54  | 16.56 | 16.89  |                           |             |
| 10              | 64QAM | 1  | 25 | 16.43  | 16.56 | 16.88  | 18                        | 0           |
| 10              | 64QAM | 1  | 49 | 16.55  | 16.65 | 16.79  |                           |             |
| 10              | 64QAM | 25 | 0  | 16.64  | 16.69 | 16.92  |                           |             |
| 10              | 64QAM | 25 | 12 | 16.63  | 16.71 | 16.95  | 18                        | 0           |
| 10              | 64QAM | 25 | 25 | 16.61  | 16.65 | 16.90  |                           |             |
| 10              | 64QAM | 50 | 0  | 16.65  | 16.71 | 16.92  |                           |             |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 26065  | 26340 | 26665  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------------|-------------|
| Frequency (MHz) |       |    |    | 1852.5 | 1880  | 1912.5 |                           |             |
| 5               | QPSK  | 1  | 0  | 16.65  | 16.68 | 16.93  | 18                        | 0           |
| 5               | QPSK  | 1  | 12 | 16.69  | 16.70 | 16.94  |                           |             |
| 5               | QPSK  | 1  | 24 | 16.62  | 16.74 | 16.97  |                           |             |
| 5               | QPSK  | 12 | 0  | 16.65  | 16.70 | 16.94  | 18                        | 0           |
| 5               | QPSK  | 12 | 7  | 16.63  | 16.67 | 16.94  |                           |             |
| 5               | QPSK  | 12 | 13 | 16.65  | 16.70 | 16.93  |                           |             |
| 5               | QPSK  | 25 | 0  | 16.65  | 16.67 | 16.91  | 18                        | 0           |
| 5               | 16QAM | 1  | 0  | 16.54  | 16.55 | 16.91  |                           |             |
| 5               | 16QAM | 1  | 12 | 16.59  | 16.53 | 16.82  |                           |             |
| 5               | 16QAM | 1  | 24 | 16.45  | 16.60 | 16.80  | 18                        | 0           |
| 5               | 16QAM | 12 | 0  | 16.55  | 16.66 | 16.88  |                           |             |
| 5               | 16QAM | 12 | 7  | 16.65  | 16.66 | 16.88  |                           |             |
| 5               | 16QAM | 12 | 13 | 16.54  | 16.64 | 16.86  | 18                        | 0           |
| 5               | 16QAM | 25 | 0  | 16.65  | 16.66 | 16.94  |                           |             |
| 5               | 64QAM | 1  | 0  | 16.63  | 16.58 | 16.86  |                           |             |
| 5               | 64QAM | 1  | 12 | 16.52  | 16.66 | 16.88  | 18                        | 0           |
| 5               | 64QAM | 1  | 24 | 16.47  | 16.60 | 16.84  |                           |             |
| 5               | 64QAM | 12 | 0  | 16.65  | 16.66 | 16.95  |                           |             |
| 5               | 64QAM | 12 | 7  | 16.59  | 16.67 | 16.92  | 18                        | 0           |
| 5               | 64QAM | 12 | 13 | 16.54  | 16.69 | 16.89  |                           |             |
| 5               | 64QAM | 25 | 0  | 16.62  | 16.68 | 16.95  |                           |             |
| Channel         |       |    |    | 26055  | 26340 | 26675  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1851.5 | 1880  | 1913.5 |                           |             |
| 3               | QPSK  | 1  | 0  | 16.61  | 16.69 | 16.96  | 18                        | 0           |
| 3               | QPSK  | 1  | 8  | 16.71  | 16.74 | 16.85  |                           |             |
| 3               | QPSK  | 1  | 14 | 16.61  | 16.73 | 16.83  |                           |             |
| 3               | QPSK  | 8  | 0  | 16.63  | 16.67 | 16.86  | 18                        | 0           |
| 3               | QPSK  | 8  | 4  | 16.62  | 16.67 | 16.82  |                           |             |
| 3               | QPSK  | 8  | 7  | 16.61  | 16.69 | 16.83  |                           |             |
| 3               | QPSK  | 15 | 0  | 16.60  | 16.67 | 16.82  | 18                        | 0           |
| 3               | 16QAM | 1  | 0  | 16.50  | 16.39 | 16.84  |                           |             |
| 3               | 16QAM | 1  | 8  | 16.48  | 16.54 | 16.76  |                           |             |
| 3               | 16QAM | 1  | 14 | 16.63  | 16.40 | 16.70  | 18                        | 0           |
| 3               | 16QAM | 8  | 0  | 16.62  | 16.69 | 16.89  |                           |             |
| 3               | 16QAM | 8  | 4  | 16.64  | 16.66 | 16.88  |                           |             |
| 3               | 16QAM | 8  | 7  | 16.63  | 16.72 | 16.84  | 18                        | 0           |
| 3               | 16QAM | 15 | 0  | 16.56  | 16.68 | 16.87  |                           |             |
| 3               | 64QAM | 1  | 0  | 16.33  | 16.43 | 16.60  |                           |             |
| 3               | 64QAM | 1  | 8  | 16.43  | 16.58 | 16.75  | 18                        | 0           |
| 3               | 64QAM | 1  | 14 | 16.46  | 16.49 | 16.60  |                           |             |
| 3               | 64QAM | 8  | 0  | 16.61  | 16.69 | 16.93  |                           |             |
| 3               | 64QAM | 8  | 4  | 16.68  | 16.72 | 16.92  | 18                        | 0           |
| 3               | 64QAM | 8  | 7  | 16.62  | 16.66 | 16.89  |                           |             |
| 3               | 64QAM | 15 | 0  | 16.68  | 16.69 | 16.87  |                           |             |

| Channel         |       |   |   | 26047  | 26340 | 26683  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|---|---|--------|-------|--------|---------------------------|-------------|
| Frequency (MHz) |       |   |   | 1850.7 | 1880  | 1914.3 |                           |             |
| 1.4             | QPSK  | 1 | 0 | 16.65  | 16.70 | 16.91  | 18                        | 0           |
| 1.4             | QPSK  | 1 | 3 | 16.63  | 16.72 | 16.87  |                           |             |
| 1.4             | QPSK  | 1 | 5 | 16.69  | 16.71 | 16.85  |                           |             |
| 1.4             | QPSK  | 3 | 0 | 16.69  | 16.70 | 16.92  |                           |             |
| 1.4             | QPSK  | 3 | 1 | 16.68  | 16.75 | 16.93  |                           |             |
| 1.4             | QPSK  | 3 | 3 | 16.72  | 16.70 | 16.95  |                           |             |
| 1.4             | QPSK  | 6 | 0 | 16.67  | 16.70 | 16.96  | 18                        | 0           |
| 1.4             | 16QAM | 1 | 0 | 16.60  | 16.61 | 16.81  | 18                        | 0           |
| 1.4             | 16QAM | 1 | 3 | 16.52  | 16.55 | 16.86  |                           |             |
| 1.4             | 16QAM | 1 | 5 | 16.60  | 16.57 | 16.70  |                           |             |
| 1.4             | 16QAM | 3 | 0 | 16.60  | 16.64 | 16.76  |                           |             |
| 1.4             | 16QAM | 3 | 1 | 16.67  | 16.54 | 16.81  |                           |             |
| 1.4             | 16QAM | 3 | 3 | 16.61  | 16.62 | 16.89  |                           |             |
| 1.4             | 16QAM | 6 | 0 | 16.60  | 16.71 | 16.92  | 18                        | 0           |
| 1.4             | 64QAM | 1 | 0 | 16.68  | 16.57 | 16.78  | 18                        | 0           |
| 1.4             | 64QAM | 1 | 3 | 16.50  | 16.56 | 16.85  |                           |             |
| 1.4             | 64QAM | 1 | 5 | 16.63  | 16.62 | 16.75  |                           |             |
| 1.4             | 64QAM | 3 | 0 | 16.60  | 16.65 | 16.90  |                           |             |
| 1.4             | 64QAM | 3 | 1 | 16.60  | 16.65 | 16.85  |                           |             |
| 1.4             | 64QAM | 3 | 3 | 16.64  | 16.67 | 16.87  |                           |             |
| 1.4             | 64QAM | 6 | 0 | 16.75  | 16.76 | 16.95  | 18                        | 0           |

**<LTE Band 26>**

| BW [MHz]        | Modulation | RB Size | RB Offset | Power Low<br>Ch. / Freq. | Power Middle<br>Ch. / Freq. | Power High<br>Ch. / Freq. | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|---------------------------|-------------|
| Channel         |            |         |           | 26765                    | 26865                       | 26965                     |                           |             |
| Frequency (MHz) |            |         |           | 821.5                    | 831.5                       | 841.5                     |                           |             |
| 15              | QPSK       | 1       | 0         | 20.08                    | 20.15                       | 19.96                     | 21.5                      | 0           |
| 15              | QPSK       | 1       | 37        | 19.93                    | 19.94                       | 19.90                     |                           |             |
| 15              | QPSK       | 1       | 74        | 19.84                    | 19.82                       | 19.81                     |                           |             |
| 15              | QPSK       | 36      | 0         | 20.00                    | 19.93                       | 19.89                     | 21.5                      | 0           |
| 15              | QPSK       | 36      | 20        | 19.98                    | 19.90                       | 19.96                     |                           |             |
| 15              | QPSK       | 36      | 39        | 19.93                    | 19.83                       | 19.85                     |                           |             |
| 15              | QPSK       | 75      | 0         | 19.99                    | 19.92                       | 19.85                     | 21.5                      | 0           |
| 15              | 16QAM      | 1       | 0         | 20.04                    | 19.82                       | 19.91                     |                           |             |
| 15              | 16QAM      | 1       | 37        | 19.98                    | 19.84                       | 19.71                     |                           |             |
| 15              | 16QAM      | 1       | 74        | 19.78                    | 19.66                       | 19.63                     | 21.5                      | 0           |
| 15              | 16QAM      | 36      | 0         | 19.99                    | 19.87                       | 19.85                     |                           |             |
| 15              | 16QAM      | 36      | 20        | 19.89                    | 19.86                       | 19.82                     |                           |             |
| 15              | 16QAM      | 36      | 39        | 19.86                    | 19.82                       | 19.81                     | 21.5                      | 0           |
| 15              | 16QAM      | 75      | 0         | 19.98                    | 19.93                       | 19.89                     |                           |             |
| 15              | 64QAM      | 1       | 0         | 20.10                    | 20.00                       | 19.95                     |                           |             |
| 15              | 64QAM      | 1       | 37        | 19.95                    | 19.80                       | 19.81                     | 21.5                      | 0           |
| 15              | 64QAM      | 1       | 74        | 19.96                    | 19.87                       | 19.72                     |                           |             |
| 15              | 64QAM      | 36      | 0         | 19.57                    | 19.55                       | 19.53                     | 21                        | 0.5         |
| 15              | 64QAM      | 36      | 20        | 19.52                    | 19.51                       | 19.53                     |                           |             |
| 15              | 64QAM      | 36      | 39        | 19.51                    | 19.60                       | 19.61                     |                           |             |
| 15              | 64QAM      | 75      | 0         | 19.59                    | 19.69                       | 19.63                     |                           |             |

| Channel         |       |    |    | 26740 | 26865 | 26990 | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|-------|-------|-------|---------------------------|-------------|
| Frequency (MHz) |       |    |    | 819   | 831.5 | 844   |                           |             |
| 10              | QPSK  | 1  | 0  | 20.10 | 19.99 | 19.96 | 21.5                      | 0           |
| 10              | QPSK  | 1  | 25 | 20.00 | 19.96 | 19.84 |                           |             |
| 10              | QPSK  | 1  | 49 | 19.97 | 19.87 | 19.83 |                           |             |
| 10              | QPSK  | 25 | 0  | 20.09 | 19.96 | 19.85 | 21.5                      | 0           |
| 10              | QPSK  | 25 | 12 | 20.03 | 19.87 | 19.86 |                           |             |
| 10              | QPSK  | 25 | 25 | 20.01 | 19.93 | 19.83 |                           |             |
| 10              | QPSK  | 50 | 0  | 20.06 | 19.92 | 19.78 | 21.5                      | 0           |
| 10              | 16QAM | 1  | 0  | 19.92 | 19.85 | 19.71 |                           |             |
| 10              | 16QAM | 1  | 25 | 19.82 | 19.85 | 19.62 |                           |             |
| 10              | 16QAM | 1  | 49 | 19.72 | 19.88 | 19.78 | 21.5                      | 0           |
| 10              | 16QAM | 25 | 0  | 20.01 | 19.95 | 19.92 |                           |             |
| 10              | 16QAM | 25 | 12 | 19.99 | 19.98 | 19.83 |                           |             |
| 10              | 16QAM | 25 | 25 | 19.91 | 19.89 | 19.82 | 21.5                      | 0           |
| 10              | 16QAM | 50 | 0  | 19.98 | 19.93 | 19.84 |                           |             |
| 10              | 64QAM | 1  | 0  | 19.76 | 19.77 | 19.77 |                           |             |
| 10              | 64QAM | 1  | 25 | 19.78 | 19.80 | 19.88 | 21.5                      | 0           |
| 10              | 64QAM | 1  | 49 | 19.74 | 19.71 | 19.78 |                           |             |
| 10              | 64QAM | 25 | 0  | 20.04 | 19.97 | 19.83 |                           |             |
| 10              | 64QAM | 25 | 12 | 20.02 | 19.92 | 19.84 | 21                        | 0.5         |
| 10              | 64QAM | 25 | 25 | 19.95 | 19.91 | 19.83 |                           |             |
| 10              | 64QAM | 50 | 0  | 20.07 | 19.99 | 19.89 |                           |             |
| Channel         |       |    |    | 26715 | 26865 | 27015 | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 816.5 | 831.5 | 846.5 |                           |             |
| 5               | QPSK  | 1  | 0  | 19.98 | 19.88 | 19.82 | 21.5                      | 0           |
| 5               | QPSK  | 1  | 12 | 19.91 | 19.88 | 19.89 |                           |             |
| 5               | QPSK  | 1  | 24 | 20.03 | 19.86 | 19.87 |                           |             |
| 5               | QPSK  | 12 | 0  | 19.99 | 19.99 | 19.83 | 21.5                      | 0           |
| 5               | QPSK  | 12 | 7  | 20.00 | 19.91 | 19.81 |                           |             |
| 5               | QPSK  | 12 | 13 | 19.99 | 19.87 | 19.83 |                           |             |
| 5               | QPSK  | 25 | 0  | 20.02 | 19.89 | 19.78 | 21.5                      | 0           |
| 5               | 16QAM | 1  | 0  | 19.80 | 19.72 | 19.76 |                           |             |
| 5               | 16QAM | 1  | 12 | 19.81 | 19.83 | 19.54 |                           |             |
| 5               | 16QAM | 1  | 24 | 19.76 | 19.83 | 19.52 | 21.5                      | 0           |
| 5               | 16QAM | 12 | 0  | 20.02 | 19.89 | 19.84 |                           |             |
| 5               | 16QAM | 12 | 7  | 19.96 | 19.86 | 19.73 |                           |             |
| 5               | 16QAM | 12 | 13 | 20.02 | 19.83 | 19.71 | 21.5                      | 0           |
| 5               | 16QAM | 25 | 0  | 19.99 | 19.83 | 19.86 |                           |             |
| 5               | 64QAM | 1  | 0  | 19.75 | 19.87 | 19.76 |                           |             |
| 5               | 64QAM | 1  | 12 | 19.82 | 19.93 | 19.67 | 21.5                      | 0           |
| 5               | 64QAM | 1  | 24 | 19.95 | 19.95 | 19.63 |                           |             |
| 5               | 64QAM | 12 | 0  | 20.00 | 19.84 | 19.73 |                           |             |
| 5               | 64QAM | 12 | 7  | 20.01 | 19.80 | 19.76 | 21                        | 0.5         |
| 5               | 64QAM | 12 | 13 | 19.87 | 19.75 | 19.71 |                           |             |
| 5               | 64QAM | 25 | 0  | 20.03 | 19.88 | 19.79 |                           |             |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 26705 | 26865 | 27025 | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|-------|-------|-------|---------------------------|-------------|
| Frequency (MHz) |       |    |    | 815.5 | 831.5 | 847.5 |                           |             |
| 3               | QPSK  | 1  | 0  | 20.02 | 19.89 | 19.86 | 21.5                      | 0           |
| 3               | QPSK  | 1  | 8  | 20.04 | 19.93 | 19.77 |                           |             |
| 3               | QPSK  | 1  | 14 | 20.03 | 19.80 | 19.77 |                           |             |
| 3               | QPSK  | 8  | 0  | 20.12 | 19.89 | 19.84 | 21.5                      | 0           |
| 3               | QPSK  | 8  | 4  | 20.05 | 19.86 | 19.86 |                           |             |
| 3               | QPSK  | 8  | 7  | 20.08 | 19.89 | 19.84 |                           |             |
| 3               | QPSK  | 15 | 0  | 20.02 | 19.91 | 19.80 | 21.5                      | 0           |
| 3               | 16QAM | 1  | 0  | 20.01 | 19.92 | 19.71 |                           |             |
| 3               | 16QAM | 1  | 8  | 20.00 | 19.93 | 19.74 |                           |             |
| 3               | 16QAM | 1  | 14 | 20.07 | 20.01 | 19.75 | 21.5                      | 0           |
| 3               | 16QAM | 8  | 0  | 20.04 | 19.92 | 19.84 |                           |             |
| 3               | 16QAM | 8  | 4  | 19.95 | 20.00 | 19.90 |                           |             |
| 3               | 16QAM | 8  | 7  | 20.03 | 19.96 | 19.79 | 21.5                      | 0           |
| 3               | 16QAM | 15 | 0  | 20.03 | 19.86 | 19.75 |                           |             |
| 3               | 64QAM | 1  | 0  | 19.75 | 19.87 | 19.76 |                           |             |
| 3               | 64QAM | 1  | 8  | 19.78 | 19.83 | 19.83 | 21.5                      | 0           |
| 3               | 64QAM | 1  | 14 | 19.97 | 19.86 | 19.75 |                           |             |
| 3               | 64QAM | 8  | 0  | 20.05 | 19.96 | 19.83 |                           |             |
| 3               | 64QAM | 8  | 4  | 20.11 | 19.92 | 19.85 | 21                        | 0.5         |
| 3               | 64QAM | 8  | 7  | 20.05 | 20.01 | 19.87 |                           |             |
| 3               | 64QAM | 15 | 0  | 20.02 | 19.89 | 19.80 |                           |             |
| Channel         |       |    |    | 26697 | 26865 | 27033 | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 814.7 | 831.5 | 848.3 |                           |             |
| 1.4             | QPSK  | 1  | 0  | 20.01 | 19.87 | 19.87 | 21.5                      | 0           |
| 1.4             | QPSK  | 1  | 3  | 20.01 | 19.91 | 19.87 |                           |             |
| 1.4             | QPSK  | 1  | 5  | 20.03 | 19.87 | 19.84 |                           |             |
| 1.4             | QPSK  | 3  | 0  | 20.10 | 19.86 | 19.82 |                           |             |
| 1.4             | QPSK  | 3  | 1  | 20.11 | 19.94 | 19.81 |                           |             |
| 1.4             | QPSK  | 3  | 3  | 20.11 | 19.90 | 19.84 |                           |             |
| 1.4             | QPSK  | 6  | 0  | 20.07 | 19.90 | 19.81 | 21.5                      | 0           |
| 1.4             | 16QAM | 1  | 0  | 19.95 | 19.85 | 19.75 | 21.5                      | 0           |
| 1.4             | 16QAM | 1  | 3  | 20.05 | 19.68 | 19.65 |                           |             |
| 1.4             | 16QAM | 1  | 5  | 19.94 | 19.82 | 19.87 |                           |             |
| 1.4             | 16QAM | 3  | 0  | 20.05 | 19.86 | 19.79 |                           |             |
| 1.4             | 16QAM | 3  | 1  | 19.98 | 19.91 | 19.87 |                           |             |
| 1.4             | 16QAM | 3  | 3  | 20.11 | 19.94 | 19.80 |                           |             |
| 1.4             | 16QAM | 6  | 0  | 20.10 | 19.82 | 19.90 | 21.5                      | 0           |
| 1.4             | 64QAM | 1  | 0  | 19.89 | 19.66 | 19.87 | 21.5                      | 0           |
| 1.4             | 64QAM | 1  | 3  | 19.72 | 19.80 | 19.87 |                           |             |
| 1.4             | 64QAM | 1  | 5  | 19.75 | 19.78 | 19.79 |                           |             |
| 1.4             | 64QAM | 3  | 0  | 20.04 | 19.73 | 19.75 |                           |             |
| 1.4             | 64QAM | 3  | 1  | 19.99 | 19.79 | 19.70 |                           |             |
| 1.4             | 64QAM | 3  | 3  | 19.91 | 19.76 | 19.83 |                           |             |
| 1.4             | 64QAM | 6  | 0  | 20.01 | 20.02 | 19.87 | 21                        | 0.5         |

**<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         | 16.51                 | 16.62                    | 16.62                  | 18                  | 0        |
| 20              | QPSK       | 1       | 49        | 16.55                 | 16.65                    | 16.66                  |                     |          |
| 20              | QPSK       | 1       | 99        | 16.68                 | 16.60                    | 16.64                  |                     |          |
| 20              | QPSK       | 50      | 0         | 16.45                 | 16.58                    | 16.64                  | 18                  | 0        |
| 20              | QPSK       | 50      | 24        | 16.65                 | 16.58                    | 16.62                  |                     |          |
| 20              | QPSK       | 50      | 50        | 16.46                 | 16.59                    | 16.63                  |                     |          |
| 20              | QPSK       | 100     | 0         | 16.66                 | 16.58                    | 16.61                  |                     |          |
| 20              | 16QAM      | 1       | 0         | 16.36                 | 16.48                    | 16.58                  | 18                  | 0        |
| 20              | 16QAM      | 1       | 49        | 16.40                 | 16.49                    | 16.48                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 16.28                 | 16.46                    | 16.35                  |                     |          |
| 20              | 16QAM      | 50      | 0         | 16.46                 | 16.61                    | 16.65                  | 18                  | 0        |
| 20              | 16QAM      | 50      | 24        | 16.42                 | 16.56                    | 16.63                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 16.44                 | 16.57                    | 16.65                  |                     |          |
| 20              | 16QAM      | 100     | 0         | 16.47                 | 16.62                    | 16.66                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 16.33                 | 16.52                    | 16.51                  | 18                  | 0        |
| 20              | 64QAM      | 1       | 49        | 16.33                 | 16.35                    | 16.55                  |                     |          |
| 20              | 64QAM      | 1       | 99        | 16.30                 | 16.52                    | 16.65                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 16.49                 | 16.56                    | 16.64                  | 18                  | 0        |
| 20              | 64QAM      | 50      | 24        | 16.47                 | 16.57                    | 16.63                  |                     |          |
| 20              | 64QAM      | 50      | 50        | 16.45                 | 16.60                    | 16.62                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 16.52                 | 16.59                    | 16.61                  |                     |          |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 132047 | 132322 | 132597 | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|--------|--------|---------------------------|-------------|
| Frequency (MHz) |       |    |    | 1717.5 | 1745   | 1772.5 |                           |             |
| 15              | QPSK  | 1  | 0  | 16.60  | 16.59  | 16.48  | 18                        | 0           |
| 15              | QPSK  | 1  | 37 | 16.58  | 16.58  | 16.35  |                           |             |
| 15              | QPSK  | 1  | 74 | 16.58  | 16.48  | 16.65  |                           |             |
| 15              | QPSK  | 36 | 0  | 16.59  | 16.49  | 16.63  | 18                        | 0           |
| 15              | QPSK  | 36 | 20 | 16.58  | 16.46  | 16.65  |                           |             |
| 15              | QPSK  | 36 | 39 | 16.48  | 16.61  | 16.66  |                           |             |
| 15              | QPSK  | 75 | 0  | 16.49  | 16.56  | 16.51  | 18                        | 0           |
| 15              | 16QAM | 1  | 0  | 16.36  | 16.57  | 16.55  |                           |             |
| 15              | 16QAM | 1  | 37 | 16.40  | 16.62  | 16.65  |                           |             |
| 15              | 16QAM | 1  | 74 | 16.28  | 16.52  | 16.64  | 18                        | 0           |
| 15              | 16QAM | 36 | 0  | 16.46  | 16.35  | 16.62  |                           |             |
| 15              | 16QAM | 36 | 20 | 16.42  | 16.52  | 16.63  |                           |             |
| 15              | 16QAM | 36 | 39 | 16.44  | 16.56  | 16.67  | 18                        | 0           |
| 15              | 16QAM | 75 | 0  | 16.47  | 16.57  | 16.58  |                           |             |
| 15              | 64QAM | 1  | 0  | 16.33  | 16.60  | 16.48  |                           |             |
| 15              | 64QAM | 1  | 37 | 16.33  | 16.58  | 16.35  | 18                        | 0           |
| 15              | 64QAM | 1  | 74 | 16.61  | 16.58  | 16.66  |                           |             |
| 15              | 64QAM | 36 | 0  | 16.56  | 16.59  | 16.51  |                           |             |
| 15              | 64QAM | 36 | 20 | 16.57  | 16.58  | 16.55  | 18                        | 0           |
| 15              | 64QAM | 36 | 39 | 16.62  | 16.57  | 16.65  |                           |             |
| 15              | 64QAM | 75 | 0  | 16.63  | 16.62  | 16.63  |                           |             |
| Channel         |       |    |    | 132022 | 132322 | 132622 | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1715   | 1745   | 1775   |                           |             |
| 10              | QPSK  | 1  | 0  | 16.53  | 16.66  | 16.65  | 18                        | 0           |
| 10              | QPSK  | 1  | 25 | 16.53  | 16.63  | 16.64  |                           |             |
| 10              | QPSK  | 1  | 49 | 16.47  | 16.60  | 16.62  |                           |             |
| 10              | QPSK  | 25 | 0  | 16.47  | 16.59  | 16.60  | 18                        | 0           |
| 10              | QPSK  | 25 | 12 | 16.46  | 16.60  | 16.58  |                           |             |
| 10              | QPSK  | 25 | 25 | 16.47  | 16.60  | 16.59  |                           |             |
| 10              | QPSK  | 50 | 0  | 16.49  | 16.59  | 16.63  | 18                        | 0           |
| 10              | 16QAM | 1  | 0  | 16.36  | 16.40  | 16.39  |                           |             |
| 10              | 16QAM | 1  | 25 | 16.30  | 16.49  | 16.52  |                           |             |
| 10              | 16QAM | 1  | 49 | 16.24  | 16.45  | 16.49  | 18                        | 0           |
| 10              | 16QAM | 25 | 0  | 16.45  | 16.60  | 16.59  |                           |             |
| 10              | 16QAM | 25 | 12 | 16.48  | 16.60  | 16.63  |                           |             |
| 10              | 16QAM | 25 | 25 | 16.48  | 16.64  | 16.63  | 18                        | 0           |
| 10              | 16QAM | 50 | 0  | 16.51  | 16.62  | 16.66  |                           |             |
| 10              | 64QAM | 1  | 0  | 16.24  | 16.42  | 16.41  |                           |             |
| 10              | 64QAM | 1  | 25 | 16.25  | 16.44  | 16.48  | 18                        | 0           |
| 10              | 64QAM | 1  | 49 | 16.30  | 16.44  | 16.38  |                           |             |
| 10              | 64QAM | 25 | 0  | 16.45  | 16.58  | 16.62  |                           |             |
| 10              | 64QAM | 25 | 12 | 16.47  | 16.59  | 16.62  | 18                        | 0           |
| 10              | 64QAM | 25 | 25 | 16.45  | 16.62  | 16.61  |                           |             |
| 10              | 64QAM | 50 | 0  | 16.50  | 16.62  | 16.65  |                           |             |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 131997 | 132322 | 132647 | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|--------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 1712.5 | 1745   | 1777.5 |                     |          |
| 5               | QPSK  | 1  | 0  | 16.50  | 16.62  | 16.64  | 18                  | 0        |
| 5               | QPSK  | 1  | 12 | 16.49  | 16.61  | 16.66  |                     |          |
| 5               | QPSK  | 1  | 24 | 16.50  | 16.60  | 16.64  |                     |          |
| 5               | QPSK  | 12 | 0  | 16.48  | 16.58  | 16.61  | 18                  | 0        |
| 5               | QPSK  | 12 | 7  | 16.51  | 16.56  | 16.60  |                     |          |
| 5               | QPSK  | 12 | 13 | 16.43  | 16.60  | 16.59  |                     |          |
| 5               | QPSK  | 25 | 0  | 16.50  | 16.58  | 16.60  | 18                  | 0        |
| 5               | 16QAM | 1  | 0  | 16.49  | 16.45  | 16.47  |                     |          |
| 5               | 16QAM | 1  | 12 | 16.33  | 16.40  | 16.53  |                     |          |
| 5               | 16QAM | 1  | 24 | 16.32  | 16.35  | 16.45  | 18                  | 0        |
| 5               | 16QAM | 12 | 0  | 16.40  | 16.52  | 16.54  |                     |          |
| 5               | 16QAM | 12 | 7  | 16.45  | 16.52  | 16.56  |                     |          |
| 5               | 16QAM | 12 | 13 | 16.44  | 16.58  | 16.56  | 18                  | 0        |
| 5               | 16QAM | 25 | 0  | 16.45  | 16.57  | 16.60  |                     |          |
| 5               | 64QAM | 1  | 0  | 16.17  | 16.34  | 16.43  |                     |          |
| 5               | 64QAM | 1  | 12 | 16.22  | 16.33  | 16.42  | 18                  | 0        |
| 5               | 64QAM | 1  | 24 | 16.30  | 16.36  | 16.32  |                     |          |
| 5               | 64QAM | 12 | 0  | 16.38  | 16.55  | 16.59  |                     |          |
| 5               | 64QAM | 12 | 7  | 16.37  | 16.54  | 16.54  | 18                  | 0        |
| 5               | 64QAM | 12 | 13 | 16.41  | 16.54  | 16.57  |                     |          |
| 5               | 64QAM | 25 | 0  | 16.43  | 16.59  | 16.58  |                     |          |
| Channel         |       |    |    | 131987 | 132322 | 132657 | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1711.5 | 1745   | 1778.5 |                     |          |
| 3               | QPSK  | 1  | 0  | 16.48  | 16.60  | 16.61  | 18                  | 0        |
| 3               | QPSK  | 1  | 8  | 16.52  | 16.59  | 16.62  |                     |          |
| 3               | QPSK  | 1  | 14 | 16.53  | 16.62  | 16.64  |                     |          |
| 3               | QPSK  | 8  | 0  | 16.43  | 16.58  | 16.58  | 18                  | 0        |
| 3               | QPSK  | 8  | 4  | 16.43  | 16.59  | 16.59  |                     |          |
| 3               | QPSK  | 8  | 7  | 16.48  | 16.56  | 16.60  |                     |          |
| 3               | QPSK  | 15 | 0  | 16.49  | 16.60  | 16.61  | 18                  | 0        |
| 3               | 16QAM | 1  | 0  | 16.48  | 16.36  | 16.50  |                     |          |
| 3               | 16QAM | 1  | 8  | 16.51  | 16.43  | 16.40  |                     |          |
| 3               | 16QAM | 1  | 14 | 16.41  | 16.42  | 16.37  | 18                  | 0        |
| 3               | 16QAM | 8  | 0  | 16.48  | 16.59  | 16.61  |                     |          |
| 3               | 16QAM | 8  | 4  | 16.42  | 16.54  | 16.57  |                     |          |
| 3               | 16QAM | 8  | 7  | 16.47  | 16.60  | 16.60  | 18                  | 0        |
| 3               | 16QAM | 15 | 0  | 16.49  | 16.54  | 16.59  |                     |          |
| 3               | 64QAM | 1  | 0  | 16.28  | 16.32  | 16.47  |                     |          |
| 3               | 64QAM | 1  | 8  | 16.20  | 16.29  | 16.40  | 18                  | 0        |
| 3               | 64QAM | 1  | 14 | 16.26  | 16.36  | 16.32  |                     |          |
| 3               | 64QAM | 8  | 0  | 16.47  | 16.58  | 16.61  |                     |          |
| 3               | 64QAM | 8  | 4  | 16.49  | 16.57  | 16.60  | 18                  | 0        |
| 3               | 64QAM | 8  | 7  | 16.51  | 16.64  | 16.64  |                     |          |
| 3               | 64QAM | 15 | 0  | 16.44  | 16.58  | 16.63  |                     |          |

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FCC ID : IHDT56YD3

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Issued Date : Sep. 05, 2019

Form version. : 170509

| Channel         |       |   |   | 131979 | 132322 | 132665 | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|---|---|--------|--------|--------|---------------------------|-------------|
| Frequency (MHz) |       |   |   | 1710.7 | 1745   | 1779.3 |                           |             |
| 1.4             | QPSK  | 1 | 0 | 16.42  | 16.56  | 16.60  | 18                        | 0           |
| 1.4             | QPSK  | 1 | 3 | 16.47  | 16.60  | 16.62  |                           |             |
| 1.4             | QPSK  | 1 | 5 | 16.49  | 16.57  | 16.59  |                           |             |
| 1.4             | QPSK  | 3 | 0 | 16.51  | 16.55  | 16.60  |                           |             |
| 1.4             | QPSK  | 3 | 1 | 16.49  | 16.60  | 16.61  |                           |             |
| 1.4             | QPSK  | 3 | 3 | 16.53  | 16.53  | 16.63  |                           |             |
| 1.4             | QPSK  | 6 | 0 | 16.43  | 16.55  | 16.55  | 18                        | 0           |
| 1.4             | 16QAM | 1 | 0 | 16.40  | 16.45  | 16.52  | 18                        | 0           |
| 1.4             | 16QAM | 1 | 3 | 16.35  | 16.42  | 16.40  |                           |             |
| 1.4             | 16QAM | 1 | 5 | 16.36  | 16.54  | 16.38  |                           |             |
| 1.4             | 16QAM | 3 | 0 | 16.28  | 16.51  | 16.46  |                           |             |
| 1.4             | 16QAM | 3 | 1 | 16.34  | 16.46  | 16.42  |                           |             |
| 1.4             | 16QAM | 3 | 3 | 16.46  | 16.44  | 16.50  |                           |             |
| 1.4             | 16QAM | 6 | 0 | 16.49  | 16.59  | 16.54  | 18                        | 0           |
| 1.4             | 64QAM | 1 | 0 | 16.22  | 16.33  | 16.43  | 18                        | 0           |
| 1.4             | 64QAM | 1 | 3 | 16.39  | 16.43  | 16.40  |                           |             |
| 1.4             | 64QAM | 1 | 5 | 16.29  | 16.34  | 16.32  |                           |             |
| 1.4             | 64QAM | 3 | 0 | 16.34  | 16.44  | 16.51  |                           |             |
| 1.4             | 64QAM | 3 | 1 | 16.35  | 16.50  | 16.43  |                           |             |
| 1.4             | 64QAM | 3 | 3 | 16.38  | 16.49  | 16.54  |                           |             |
| 1.4             | 64QAM | 6 | 0 | 16.52  | 16.60  | 16.61  | 18                        | 0           |

### <Reduced Power Mode for Handheld On>

#### <LTE Band 2>

| 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         |            |         |           | 18700                 | 18900                    | 19100                  |                     |          |
| Frequency (MHz) |            |         |           | 1860                  | 1880                     | 1900                   |                     |          |
| 20              | QPSK       | 1       | 0         | 19.68                 | 19.68                    | 20.10                  | 21                  | 0        |
| 20              | QPSK       | 1       | 49        | 19.67                 | 19.71                    | 20.02                  |                     |          |
| 20              | QPSK       | 1       | 99        | 19.66                 | 20.13                    | 19.92                  |                     |          |
| 20              | QPSK       | 50      | 0         | 19.61                 | 20.00                    | 19.80                  | 21                  | 0        |
| 20              | QPSK       | 50      | 24        | 19.61                 | 19.58                    | 19.89                  |                     |          |
| 20              | QPSK       | 50      | 50        | 19.59                 | 19.66                    | 19.97                  |                     |          |
| 20              | QPSK       | 100     | 0         | 19.70                 | 19.58                    | 19.89                  | 21                  | 0        |
| 20              | 16QAM      | 1       | 0         | 19.60                 | 19.42                    | 19.80                  |                     |          |
| 20              | 16QAM      | 1       | 49        | 19.48                 | 19.46                    | 19.71                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 19.54                 | 19.31                    | 19.75                  | 21                  | 0        |
| 20              | 16QAM      | 50      | 0         | 19.71                 | 19.66                    | 20.03                  |                     |          |
| 20              | 16QAM      | 50      | 24        | 19.59                 | 19.71                    | 20.03                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 19.69                 | 19.69                    | 19.96                  | 21                  | 0        |
| 20              | 16QAM      | 100     | 0         | 19.62                 | 19.58                    | 20.04                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 19.64                 | 19.65                    | 20.01                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 19.72                 | 19.67                    | 20.10                  | 21                  | 0        |
| 20              | 64QAM      | 1       | 99        | 19.60                 | 19.74                    | 19.98                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 19.66                 | 19.62                    | 19.97                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 19.58                 | 19.71                    | 20.03                  | 21                  | 0        |
| 20              | 64QAM      | 50      | 50        | 19.65                 | 19.71                    | 20.00                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 19.67                 | 19.70                    | 20.01                  |                     |          |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 18675  | 18900 | 19125  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 1857.5 | 1880  | 1902.5 |                     |          |
| 15              | QPSK  | 1  | 0  | 19.72  | 19.74 | 19.97  | 21                  | 0        |
| 15              | QPSK  | 1  | 37 | 19.72  | 19.72 | 19.94  |                     |          |
| 15              | QPSK  | 1  | 74 | 19.69  | 19.73 | 19.92  |                     |          |
| 15              | QPSK  | 36 | 0  | 19.60  | 19.74 | 19.94  | 21                  | 0        |
| 15              | QPSK  | 36 | 20 | 19.67  | 19.62 | 19.97  |                     |          |
| 15              | QPSK  | 36 | 39 | 19.67  | 19.68 | 19.94  |                     |          |
| 15              | QPSK  | 75 | 0  | 19.64  | 19.62 | 19.92  | 21                  | 0        |
| 15              | 16QAM | 1  | 0  | 19.56  | 19.68 | 19.78  |                     |          |
| 15              | 16QAM | 1  | 37 | 19.48  | 19.51 | 19.83  |                     |          |
| 15              | 16QAM | 1  | 74 | 19.68  | 19.45 | 19.73  | 21                  | 0        |
| 15              | 16QAM | 36 | 0  | 19.63  | 19.57 | 19.96  |                     |          |
| 15              | 16QAM | 36 | 20 | 19.58  | 19.62 | 19.96  |                     |          |
| 15              | 16QAM | 36 | 39 | 19.59  | 19.62 | 19.99  | 21                  | 0        |
| 15              | 16QAM | 75 | 0  | 19.68  | 19.66 | 20.03  |                     |          |
| 15              | 64QAM | 1  | 0  | 19.65  | 19.65 | 19.95  |                     |          |
| 15              | 64QAM | 1  | 37 | 19.68  | 19.68 | 19.98  | 21                  | 0        |
| 15              | 64QAM | 1  | 74 | 19.55  | 19.55 | 19.73  |                     |          |
| 15              | 64QAM | 36 | 0  | 19.67  | 19.69 | 19.87  |                     |          |
| 15              | 64QAM | 36 | 20 | 19.65  | 19.72 | 19.84  | 21                  | 0        |
| 15              | 64QAM | 36 | 39 | 19.56  | 19.68 | 19.94  |                     |          |
| 15              | 64QAM | 75 | 0  | 19.66  | 19.73 | 20.03  |                     |          |
| Channel         |       |    |    | 18650  | 18900 | 19150  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1855   | 1880  | 1905   |                     |          |
| 10              | QPSK  | 1  | 0  | 19.65  | 19.68 | 19.87  | 21                  | 0        |
| 10              | QPSK  | 1  | 25 | 19.68  | 19.75 | 19.84  |                     |          |
| 10              | QPSK  | 1  | 49 | 19.55  | 19.68 | 19.94  |                     |          |
| 10              | QPSK  | 25 | 0  | 19.63  | 19.66 | 20.04  | 21                  | 0        |
| 10              | QPSK  | 25 | 12 | 19.65  | 19.68 | 20.04  |                     |          |
| 10              | QPSK  | 25 | 25 | 19.57  | 19.73 | 19.97  |                     |          |
| 10              | QPSK  | 50 | 0  | 19.62  | 19.61 | 20.06  | 21                  | 0        |
| 10              | 16QAM | 1  | 0  | 19.66  | 19.75 | 19.96  |                     |          |
| 10              | 16QAM | 1  | 25 | 19.63  | 19.67 | 19.87  |                     |          |
| 10              | 16QAM | 1  | 49 | 19.63  | 19.57 | 19.84  | 21                  | 0        |
| 10              | 16QAM | 25 | 0  | 19.57  | 19.71 | 20.06  |                     |          |
| 10              | 16QAM | 25 | 12 | 19.63  | 19.66 | 20.01  |                     |          |
| 10              | 16QAM | 25 | 25 | 19.61  | 19.75 | 19.98  | 21                  | 0        |
| 10              | 16QAM | 50 | 0  | 19.59  | 19.67 | 20.05  |                     |          |
| 10              | 64QAM | 1  | 0  | 19.70  | 19.70 | 19.94  |                     |          |
| 10              | 64QAM | 1  | 25 | 19.70  | 19.70 | 19.97  | 21                  | 0        |
| 10              | 64QAM | 1  | 49 | 19.53  | 19.56 | 20.00  |                     |          |
| 10              | 64QAM | 25 | 0  | 19.68  | 19.62 | 19.94  |                     |          |
| 10              | 64QAM | 25 | 12 | 19.66  | 19.68 | 20.00  | 21                  | 0        |
| 10              | 64QAM | 25 | 25 | 19.62  | 19.72 | 20.00  |                     |          |
| 10              | 64QAM | 50 | 0  | 19.62  | 19.76 | 19.70  |                     |          |

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# FCC SAR Test Report

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| Channel         |       |    |    | 18625  | 18900 | 19175  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 1852.5 | 1880  | 1907.5 |                     |          |
| 5               | QPSK  | 1  | 0  | 19.61  | 19.65 | 19.97  | 21                  | 0        |
| 5               | QPSK  | 1  | 12 | 19.63  | 19.64 | 19.94  |                     |          |
| 5               | QPSK  | 1  | 24 | 19.53  | 19.69 | 19.97  |                     |          |
| 5               | QPSK  | 12 | 0  | 19.52  | 19.65 | 20.00  | 21                  | 0        |
| 5               | QPSK  | 12 | 7  | 19.60  | 19.60 | 19.94  |                     |          |
| 5               | QPSK  | 12 | 13 | 19.52  | 19.61 | 20.00  |                     |          |
| 5               | QPSK  | 25 | 0  | 19.60  | 19.63 | 20.00  | 21                  | 0        |
| 5               | 16QAM | 1  | 0  | 19.52  | 19.59 | 19.70  |                     |          |
| 5               | 16QAM | 1  | 12 | 19.44  | 19.49 | 19.78  |                     |          |
| 5               | 16QAM | 1  | 24 | 19.60  | 19.65 | 19.70  | 21                  | 0        |
| 5               | 16QAM | 12 | 0  | 19.55  | 19.57 | 19.97  |                     |          |
| 5               | 16QAM | 12 | 7  | 19.53  | 19.63 | 19.94  |                     |          |
| 5               | 16QAM | 12 | 13 | 19.57  | 19.66 | 20.00  | 21                  | 0        |
| 5               | 16QAM | 25 | 0  | 19.54  | 19.67 | 19.94  |                     |          |
| 5               | 64QAM | 1  | 0  | 19.70  | 19.67 | 20.08  |                     |          |
| 5               | 64QAM | 1  | 12 | 19.64  | 19.71 | 19.94  | 21                  | 0        |
| 5               | 64QAM | 1  | 24 | 19.69  | 19.71 | 20.12  |                     |          |
| 5               | 64QAM | 12 | 0  | 19.57  | 19.50 | 19.97  |                     |          |
| 5               | 64QAM | 12 | 7  | 19.59  | 19.53 | 19.73  | 21                  | 0        |
| 5               | 64QAM | 12 | 13 | 19.57  | 19.58 | 19.74  |                     |          |
| 5               | 64QAM | 25 | 0  | 19.61  | 19.51 | 19.91  |                     |          |
| Channel         |       |    |    | 18615  | 18900 | 19185  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1851.5 | 1880  | 1908.5 |                     |          |
| 3               | QPSK  | 1  | 0  | 19.64  | 19.70 | 20.09  | 21                  | 0        |
| 3               | QPSK  | 1  | 8  | 19.70  | 19.61 | 19.94  |                     |          |
| 3               | QPSK  | 1  | 14 | 19.64  | 19.67 | 19.98  |                     |          |
| 3               | QPSK  | 8  | 0  | 19.61  | 19.71 | 20.04  | 21                  | 0        |
| 3               | QPSK  | 8  | 4  | 19.61  | 19.74 | 20.07  |                     |          |
| 3               | QPSK  | 8  | 7  | 19.60  | 19.69 | 20.01  |                     |          |
| 3               | QPSK  | 15 | 0  | 19.59  | 19.71 | 19.97  | 21                  | 0        |
| 3               | 16QAM | 1  | 0  | 19.51  | 19.53 | 19.73  |                     |          |
| 3               | 16QAM | 1  | 8  | 19.60  | 19.62 | 19.74  |                     |          |
| 3               | 16QAM | 1  | 14 | 19.49  | 19.55 | 19.91  | 21                  | 0        |
| 3               | 16QAM | 8  | 0  | 19.64  | 19.52 | 19.97  |                     |          |
| 3               | 16QAM | 8  | 4  | 19.61  | 19.62 | 20.01  |                     |          |
| 3               | 16QAM | 8  | 7  | 19.61  | 19.65 | 19.97  | 21                  | 0        |
| 3               | 16QAM | 15 | 0  | 19.49  | 19.53 | 19.96  |                     |          |
| 3               | 64QAM | 1  | 0  | 19.61  | 19.61 | 19.91  |                     |          |
| 3               | 64QAM | 1  | 8  | 19.46  | 19.45 | 19.92  | 21                  | 0        |
| 3               | 64QAM | 1  | 14 | 19.63  | 19.57 | 19.95  |                     |          |
| 3               | 64QAM | 8  | 0  | 19.56  | 19.58 | 19.99  |                     |          |
| 3               | 64QAM | 8  | 4  | 19.60  | 19.62 | 19.91  | 21                  | 0        |
| 3               | 64QAM | 8  | 7  | 19.57  | 19.50 | 19.96  |                     |          |
| 3               | 64QAM | 15 | 0  | 19.64  | 19.62 | 20.09  |                     |          |

| Channel         |       |   |   | 18607  | 18900 | 19193  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|---|---|--------|-------|--------|---------------------------|-------------|
| Frequency (MHz) |       |   |   | 1850.7 | 1880  | 1909.3 |                           |             |
| 1.4             | QPSK  | 1 | 0 | 19.68  | 19.65 | 19.97  | 21                        | 0           |
| 1.4             | QPSK  | 1 | 3 | 19.71  | 19.71 | 20.08  |                           |             |
| 1.4             | QPSK  | 1 | 5 | 19.72  | 19.65 | 20.10  |                           |             |
| 1.4             | QPSK  | 3 | 0 | 19.58  | 19.68 | 20.02  |                           |             |
| 1.4             | QPSK  | 3 | 1 | 19.68  | 19.69 | 20.07  |                           |             |
| 1.4             | QPSK  | 3 | 3 | 19.63  | 19.65 | 20.03  |                           |             |
| 1.4             | QPSK  | 6 | 0 | 19.62  | 19.68 | 20.08  | 21                        | 0           |
| 1.4             | 16QAM | 1 | 0 | 19.60  | 19.63 | 19.85  | 21                        | 0           |
| 1.4             | 16QAM | 1 | 3 | 19.63  | 19.51 | 19.92  |                           |             |
| 1.4             | 16QAM | 1 | 5 | 19.62  | 19.48 | 19.92  |                           |             |
| 1.4             | 16QAM | 3 | 0 | 19.60  | 19.50 | 19.99  |                           |             |
| 1.4             | 16QAM | 3 | 1 | 19.60  | 19.63 | 19.97  |                           |             |
| 1.4             | 16QAM | 3 | 3 | 19.63  | 19.59 | 19.90  |                           |             |
| 1.4             | 16QAM | 6 | 0 | 19.48  | 19.65 | 19.92  | 21                        | 0           |
| 1.4             | 64QAM | 1 | 0 | 19.67  | 19.53 | 19.92  | 21                        | 0           |
| 1.4             | 64QAM | 1 | 3 | 19.69  | 19.60 | 19.99  |                           |             |
| 1.4             | 64QAM | 1 | 5 | 19.52  | 19.60 | 19.97  |                           |             |
| 1.4             | 64QAM | 3 | 0 | 19.64  | 19.64 | 19.90  |                           |             |
| 1.4             | 64QAM | 3 | 1 | 19.55  | 19.63 | 19.92  |                           |             |
| 1.4             | 64QAM | 3 | 3 | 19.54  | 19.52 | 20.02  |                           |             |
| 1.4             | 64QAM | 6 | 0 | 19.62  | 19.61 | 20.09  | 21                        | 0           |

**<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         | 19.88                 | 20.15                    | 19.99                  | 21.5                | 0        |
| 20              | QPSK       | 1       | 49        | 19.87                 | 20.10                    | 20.05                  |                     |          |
| 20              | QPSK       | 1       | 99        | 20.03                 | 20.10                    | 20.06                  |                     |          |
| 20              | QPSK       | 50      | 0         | 19.85                 | 20.06                    | 20.03                  | 21.5                | 0        |
| 20              | QPSK       | 50      | 24        | 19.90                 | 19.89                    | 20.00                  |                     |          |
| 20              | QPSK       | 50      | 50        | 19.77                 | 19.85                    | 20.05                  |                     |          |
| 20              | QPSK       | 100     | 0         | 19.85                 | 19.91                    | 20.04                  | 21.5                | 0        |
| 20              | 16QAM      | 1       | 0         | 19.71                 | 19.65                    | 19.70                  |                     |          |
| 20              | 16QAM      | 1       | 49        | 19.56                 | 19.57                    | 19.68                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 19.51                 | 19.53                    | 19.71                  | 21.5                | 0        |
| 20              | 16QAM      | 50      | 0         | 19.90                 | 19.87                    | 20.02                  |                     |          |
| 20              | 16QAM      | 50      | 24        | 19.85                 | 19.87                    | 20.07                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 19.84                 | 19.92                    | 19.94                  | 21.5                | 0        |
| 20              | 16QAM      | 100     | 0         | 19.79                 | 19.91                    | 20.01                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 20.03                 | 20.09                    | 20.10                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 20.01                 | 19.92                    | 20.02                  | 21.5                | 0        |
| 20              | 64QAM      | 1       | 99        | 20.01                 | 19.88                    | 19.94                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 19.44                 | 19.38                    | 19.56                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 19.40                 | 19.39                    | 19.53                  | 21                  | 0.5      |
| 20              | 64QAM      | 50      | 50        | 19.41                 | 19.44                    | 19.45                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 19.48                 | 19.40                    | 19.58                  |                     |          |



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Report No. : FA932901-02

| Channel         |       |    |    | 20025  | 20175  | 20325  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|--------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 1717.5 | 1732.5 | 1747.5 |                     |          |
| 15              | QPSK  | 1  | 0  | 20.01  | 19.91  | 19.91  | 21.5                | 0        |
| 15              | QPSK  | 1  | 37 | 19.90  | 19.90  | 20.07  |                     |          |
| 15              | QPSK  | 1  | 74 | 19.90  | 19.94  | 19.97  |                     |          |
| 15              | QPSK  | 36 | 0  | 19.90  | 19.89  | 20.01  | 21.5                | 0        |
| 15              | QPSK  | 36 | 20 | 19.93  | 19.91  | 19.98  |                     |          |
| 15              | QPSK  | 36 | 39 | 19.86  | 19.85  | 19.96  |                     |          |
| 15              | QPSK  | 75 | 0  | 19.86  | 19.94  | 19.97  | 21.5                | 0        |
| 15              | 16QAM | 1  | 0  | 19.78  | 19.53  | 19.72  |                     |          |
| 15              | 16QAM | 1  | 37 | 19.54  | 19.66  | 19.67  |                     |          |
| 15              | 16QAM | 1  | 74 | 19.54  | 19.71  | 19.76  | 21.5                | 0        |
| 15              | 16QAM | 36 | 0  | 19.88  | 19.90  | 19.98  |                     |          |
| 15              | 16QAM | 36 | 20 | 19.91  | 19.89  | 19.94  |                     |          |
| 15              | 16QAM | 36 | 39 | 19.91  | 19.87  | 20.03  | 21.5                | 0        |
| 15              | 16QAM | 75 | 0  | 19.90  | 19.96  | 20.01  |                     |          |
| 15              | 64QAM | 1  | 0  | 20.05  | 19.82  | 20.04  |                     |          |
| 15              | 64QAM | 1  | 37 | 19.81  | 19.82  | 20.13  | 21.5                | 0        |
| 15              | 64QAM | 1  | 74 | 20.12  | 19.81  | 19.88  |                     |          |
| 15              | 64QAM | 36 | 0  | 19.45  | 19.43  | 19.48  |                     |          |
| 15              | 64QAM | 36 | 20 | 19.38  | 19.32  | 19.48  | 21                  | 0.5      |
| 15              | 64QAM | 36 | 39 | 19.43  | 19.44  | 19.38  |                     |          |
| 15              | 64QAM | 75 | 0  | 19.33  | 19.36  | 19.44  |                     |          |
| Channel         |       |    |    | 20000  | 20175  | 20350  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1715   | 1732.5 | 1750   |                     |          |
| 10              | QPSK  | 1  | 0  | 19.94  | 19.97  | 20.05  | 21.5                | 0        |
| 10              | QPSK  | 1  | 25 | 19.91  | 19.97  | 20.13  |                     |          |
| 10              | QPSK  | 1  | 49 | 19.98  | 19.87  | 19.93  |                     |          |
| 10              | QPSK  | 25 | 0  | 19.86  | 19.88  | 20.03  | 21.5                | 0        |
| 10              | QPSK  | 25 | 12 | 19.88  | 19.89  | 20.06  |                     |          |
| 10              | QPSK  | 25 | 25 | 19.84  | 19.81  | 20.07  |                     |          |
| 10              | QPSK  | 50 | 0  | 19.88  | 19.87  | 20.05  | 21.5                | 0        |
| 10              | 16QAM | 1  | 0  | 19.72  | 19.81  | 19.70  |                     |          |
| 10              | 16QAM | 1  | 25 | 19.73  | 19.72  | 19.76  |                     |          |
| 10              | 16QAM | 1  | 49 | 19.72  | 19.76  | 19.85  | 21.5                | 0        |
| 10              | 16QAM | 25 | 0  | 19.88  | 19.90  | 20.02  |                     |          |
| 10              | 16QAM | 25 | 12 | 19.82  | 19.88  | 20.03  |                     |          |
| 10              | 16QAM | 25 | 25 | 19.90  | 19.87  | 20.11  | 21.5                | 0        |
| 10              | 16QAM | 50 | 0  | 19.89  | 19.85  | 20.01  |                     |          |
| 10              | 64QAM | 1  | 0  | 19.89  | 19.78  | 19.96  |                     |          |
| 10              | 64QAM | 1  | 25 | 19.99  | 19.75  | 20.04  | 21.5                | 0        |
| 10              | 64QAM | 1  | 49 | 19.99  | 19.88  | 20.04  |                     |          |
| 10              | 64QAM | 25 | 0  | 19.33  | 19.37  | 19.52  |                     |          |
| 10              | 64QAM | 25 | 12 | 19.41  | 19.41  | 19.54  | 21                  | 0.5      |
| 10              | 64QAM | 25 | 25 | 19.43  | 19.41  | 19.50  |                     |          |
| 10              | 64QAM | 50 | 0  | 19.44  | 19.38  | 19.56  |                     |          |

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Report No. : FA932901-02

| Channel         |       |    |    | 19975  | 20175  | 20375  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|--------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 1712.5 | 1732.5 | 1752.5 |                     |          |
| 5               | QPSK  | 1  | 0  | 19.94  | 19.94  | 20.08  | 21.5                | 0        |
| 5               | QPSK  | 1  | 12 | 19.92  | 19.94  | 20.02  |                     |          |
| 5               | QPSK  | 1  | 24 | 19.86  | 19.95  | 20.10  |                     |          |
| 5               | QPSK  | 12 | 0  | 19.88  | 19.87  | 20.07  | 21.5                | 0        |
| 5               | QPSK  | 12 | 7  | 19.90  | 19.91  | 20.13  |                     |          |
| 5               | QPSK  | 12 | 13 | 19.88  | 19.95  | 20.09  |                     |          |
| 5               | QPSK  | 25 | 0  | 19.92  | 19.96  | 20.04  | 21.5                | 0        |
| 5               | 16QAM | 1  | 0  | 19.83  | 19.63  | 19.91  |                     |          |
| 5               | 16QAM | 1  | 12 | 19.76  | 19.68  | 19.82  |                     |          |
| 5               | 16QAM | 1  | 24 | 19.81  | 19.72  | 19.63  | 21.5                | 0        |
| 5               | 16QAM | 12 | 0  | 19.84  | 19.69  | 19.99  |                     |          |
| 5               | 16QAM | 12 | 7  | 19.76  | 19.76  | 19.95  |                     |          |
| 5               | 16QAM | 12 | 13 | 19.78  | 19.82  | 20.04  | 21.5                | 0        |
| 5               | 16QAM | 25 | 0  | 19.97  | 19.96  | 20.04  |                     |          |
| 5               | 64QAM | 1  | 0  | 19.88  | 19.88  | 20.13  |                     |          |
| 5               | 64QAM | 1  | 12 | 20.06  | 19.94  | 19.96  | 21.5                | 0        |
| 5               | 64QAM | 1  | 24 | 19.90  | 19.80  | 20.02  |                     |          |
| 5               | 64QAM | 12 | 0  | 19.28  | 19.33  | 19.47  |                     |          |
| 5               | 64QAM | 12 | 7  | 19.26  | 19.31  | 19.58  | 21                  | 0.5      |
| 5               | 64QAM | 12 | 13 | 19.33  | 19.44  | 19.54  |                     |          |
| 5               | 64QAM | 25 | 0  | 19.34  | 19.41  | 19.54  |                     |          |
| Channel         |       |    |    | 19965  | 20175  | 20385  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1711.5 | 1732.5 | 1753.5 |                     |          |
| 3               | QPSK  | 1  | 0  | 19.97  | 19.90  | 20.09  | 21.5                | 0        |
| 3               | QPSK  | 1  | 8  | 19.95  | 19.87  | 20.14  |                     |          |
| 3               | QPSK  | 1  | 14 | 19.95  | 19.91  | 19.91  |                     |          |
| 3               | QPSK  | 8  | 0  | 19.93  | 19.92  | 20.12  | 21.5                | 0        |
| 3               | QPSK  | 8  | 4  | 19.88  | 19.86  | 20.11  |                     |          |
| 3               | QPSK  | 8  | 7  | 19.90  | 19.89  | 20.10  |                     |          |
| 3               | QPSK  | 15 | 0  | 19.93  | 19.88  | 20.11  | 21.5                | 0        |
| 3               | 16QAM | 1  | 0  | 19.73  | 19.63  | 19.98  |                     |          |
| 3               | 16QAM | 1  | 8  | 19.86  | 19.65  | 19.91  |                     |          |
| 3               | 16QAM | 1  | 14 | 19.88  | 19.88  | 20.01  | 21.5                | 0        |
| 3               | 16QAM | 8  | 0  | 19.90  | 20.00  | 19.95  |                     |          |
| 3               | 16QAM | 8  | 4  | 19.79  | 19.96  | 20.12  |                     |          |
| 3               | 16QAM | 8  | 7  | 19.85  | 20.05  | 20.04  | 21.5                | 0        |
| 3               | 16QAM | 15 | 0  | 19.83  | 19.86  | 19.99  |                     |          |
| 3               | 64QAM | 1  | 0  | 19.68  | 19.88  | 20.04  |                     |          |
| 3               | 64QAM | 1  | 8  | 19.94  | 19.97  | 19.71  | 21.5                | 0        |
| 3               | 64QAM | 1  | 14 | 19.85  | 19.95  | 19.92  |                     |          |
| 3               | 64QAM | 8  | 0  | 19.37  | 19.34  | 19.70  |                     |          |
| 3               | 64QAM | 8  | 4  | 19.41  | 19.34  | 19.65  | 21                  | 0.5      |
| 3               | 64QAM | 8  | 7  | 19.42  | 19.31  | 19.58  |                     |          |
| 3               | 64QAM | 15 | 0  | 19.33  | 19.38  | 19.58  |                     |          |

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| Channel         |       |   |   | 19957  | 20175  | 20393  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|---|---|--------|--------|--------|---------------------------|-------------|
| Frequency (MHz) |       |   |   | 1710.7 | 1732.5 | 1754.3 |                           |             |
| 1.4             | QPSK  | 1 | 0 | 19.81  | 19.88  | 20.05  | 21.5                      | 0           |
| 1.4             | QPSK  | 1 | 3 | 19.98  | 19.92  | 19.96  |                           |             |
| 1.4             | QPSK  | 1 | 5 | 19.90  | 19.91  | 20.13  |                           |             |
| 1.4             | QPSK  | 3 | 0 | 19.89  | 19.97  | 20.14  |                           |             |
| 1.4             | QPSK  | 3 | 1 | 19.92  | 19.93  | 20.05  |                           |             |
| 1.4             | QPSK  | 3 | 3 | 19.91  | 20.00  | 20.11  |                           |             |
| 1.4             | QPSK  | 6 | 0 | 19.89  | 19.88  | 20.09  | 21.5                      | 0           |
| 1.4             | 16QAM | 1 | 0 | 19.77  | 19.78  | 19.95  | 21.5                      | 0           |
| 1.4             | 16QAM | 1 | 3 | 19.55  | 19.92  | 19.97  |                           |             |
| 1.4             | 16QAM | 1 | 5 | 19.97  | 19.80  | 19.94  |                           |             |
| 1.4             | 16QAM | 3 | 0 | 19.79  | 19.80  | 20.05  |                           |             |
| 1.4             | 16QAM | 3 | 1 | 19.70  | 19.88  | 19.98  |                           |             |
| 1.4             | 16QAM | 3 | 3 | 19.81  | 19.86  | 20.04  |                           |             |
| 1.4             | 16QAM | 6 | 0 | 19.79  | 19.82  | 20.13  | 21.5                      | 0           |
| 1.4             | 64QAM | 1 | 0 | 19.73  | 19.95  | 20.10  | 21.5                      | 0           |
| 1.4             | 64QAM | 1 | 3 | 19.75  | 19.72  | 20.08  |                           |             |
| 1.4             | 64QAM | 1 | 5 | 19.70  | 19.77  | 20.10  |                           |             |
| 1.4             | 64QAM | 3 | 0 | 19.79  | 19.82  | 19.90  |                           |             |
| 1.4             | 64QAM | 3 | 1 | 19.91  | 19.81  | 20.06  |                           |             |
| 1.4             | 64QAM | 3 | 3 | 19.84  | 19.96  | 19.98  |                           |             |
| 1.4             | 64QAM | 6 | 0 | 19.45  | 19.42  | 19.66  | 21                        | 0.5         |

**<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         | 18.68                 | 18.64                    | 18.79                  | 20                  | 0        |
| 20              | QPSK       | 1       | 49        | 18.61                 | 18.66                    | 18.73                  |                     |          |
| 20              | QPSK       | 1       | 99        | 18.48                 | 18.56                    | 18.60                  |                     |          |
| 20              | QPSK       | 50      | 0         | 18.63                 | 18.64                    | 18.64                  | 20                  | 0        |
| 20              | QPSK       | 50      | 24        | 18.56                 | 18.60                    | 18.63                  |                     |          |
| 20              | QPSK       | 50      | 50        | 18.61                 | 18.52                    | 18.64                  |                     |          |
| 20              | QPSK       | 100     | 0         | 18.56                 | 18.59                    | 18.66                  |                     |          |
| 20              | 16QAM      | 1       | 0         | 18.53                 | 18.46                    | 18.34                  | 20                  | 0        |
| 20              | 16QAM      | 1       | 49        | 18.41                 | 18.38                    | 18.37                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 18.33                 | 18.23                    | 18.32                  |                     |          |
| 20              | 16QAM      | 50      | 0         | 18.65                 | 18.65                    | 18.64                  | 20                  | 0        |
| 20              | 16QAM      | 50      | 24        | 18.57                 | 18.60                    | 18.62                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 18.53                 | 18.58                    | 18.63                  |                     |          |
| 20              | 16QAM      | 100     | 0         | 18.57                 | 18.58                    | 18.60                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 18.62                 | 18.62                    | 18.51                  | 20                  | 0        |
| 20              | 64QAM      | 1       | 49        | 18.42                 | 18.49                    | 18.51                  |                     |          |
| 20              | 64QAM      | 1       | 99        | 18.48                 | 18.47                    | 18.48                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 18.60                 | 18.65                    | 18.65                  | 20                  | 0        |
| 20              | 64QAM      | 50      | 24        | 18.54                 | 18.66                    | 18.64                  |                     |          |
| 20              | 64QAM      | 50      | 50        | 18.66                 | 18.63                    | 18.58                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 18.67                 | 18.66                    | 18.67                  |                     |          |



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| Channel         |       |    |    | 20825  | 21100 | 21375  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 2507.5 | 2535  | 2562.5 |                     |          |
| 15              | QPSK  | 1  | 0  | 18.61  | 18.62 | 18.70  | 20                  | 0        |
| 15              | QPSK  | 1  | 37 | 18.56  | 18.60 | 18.55  |                     |          |
| 15              | QPSK  | 1  | 74 | 18.53  | 18.56 | 18.53  |                     |          |
| 15              | QPSK  | 36 | 0  | 18.59  | 18.57 | 18.58  | 20                  | 0        |
| 15              | QPSK  | 36 | 20 | 18.63  | 18.57 | 18.55  |                     |          |
| 15              | QPSK  | 36 | 39 | 18.56  | 18.55 | 18.52  |                     |          |
| 15              | QPSK  | 75 | 0  | 18.60  | 18.60 | 18.58  | 20                  | 0        |
| 15              | 16QAM | 1  | 0  | 18.71  | 18.56 | 18.39  |                     |          |
| 15              | 16QAM | 1  | 37 | 18.41  | 18.36 | 18.37  |                     |          |
| 15              | 16QAM | 1  | 74 | 18.49  | 18.27 | 18.31  | 20                  | 0        |
| 15              | 16QAM | 36 | 0  | 18.62  | 18.52 | 18.55  |                     |          |
| 15              | 16QAM | 36 | 20 | 18.52  | 18.56 | 18.57  |                     |          |
| 15              | 16QAM | 36 | 39 | 18.53  | 18.53 | 18.49  | 20                  | 0        |
| 15              | 16QAM | 75 | 0  | 18.59  | 18.59 | 18.58  |                     |          |
| 15              | 64QAM | 1  | 0  | 18.32  | 18.44 | 18.54  |                     |          |
| 15              | 64QAM | 1  | 37 | 18.38  | 18.39 | 18.49  | 20                  | 0        |
| 15              | 64QAM | 1  | 74 | 18.29  | 18.24 | 18.43  |                     |          |
| 15              | 64QAM | 36 | 0  | 18.65  | 18.64 | 18.54  |                     |          |
| 15              | 64QAM | 36 | 20 | 18.57  | 18.58 | 18.59  | 20                  | 0        |
| 15              | 64QAM | 36 | 39 | 18.59  | 18.62 | 18.56  |                     |          |
| 15              | 64QAM | 75 | 0  | 18.60  | 18.61 | 18.59  |                     |          |
| Channel         |       |    |    | 20800  | 21100 | 21400  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 2505   | 2535  | 2565   |                     |          |
| 10              | QPSK  | 1  | 0  | 18.63  | 18.59 | 18.60  | 20                  | 0        |
| 10              | QPSK  | 1  | 25 | 18.61  | 18.60 | 18.61  |                     |          |
| 10              | QPSK  | 1  | 49 | 18.54  | 18.60 | 18.62  |                     |          |
| 10              | QPSK  | 25 | 0  | 18.66  | 18.56 | 18.59  | 20                  | 0        |
| 10              | QPSK  | 25 | 12 | 18.59  | 18.61 | 18.61  |                     |          |
| 10              | QPSK  | 25 | 25 | 18.59  | 18.56 | 18.58  |                     |          |
| 10              | QPSK  | 50 | 0  | 18.60  | 18.56 | 18.56  | 20                  | 0        |
| 10              | 16QAM | 1  | 0  | 18.49  | 18.35 | 18.37  |                     |          |
| 10              | 16QAM | 1  | 25 | 18.50  | 18.34 | 18.47  |                     |          |
| 10              | 16QAM | 1  | 49 | 18.46  | 18.41 | 18.34  | 20                  | 0        |
| 10              | 16QAM | 25 | 0  | 18.65  | 18.64 | 18.65  |                     |          |
| 10              | 16QAM | 25 | 12 | 18.64  | 18.60 | 18.65  |                     |          |
| 10              | 16QAM | 25 | 25 | 18.60  | 18.61 | 18.62  | 20                  | 0        |
| 10              | 16QAM | 50 | 0  | 18.62  | 18.63 | 18.56  |                     |          |
| 10              | 64QAM | 1  | 0  | 18.37  | 18.41 | 18.52  |                     |          |
| 10              | 64QAM | 1  | 25 | 18.37  | 18.41 | 18.33  | 20                  | 0        |
| 10              | 64QAM | 1  | 49 | 18.33  | 18.36 | 18.25  |                     |          |
| 10              | 64QAM | 25 | 0  | 18.66  | 18.64 | 18.64  |                     |          |
| 10              | 64QAM | 25 | 12 | 18.60  | 18.60 | 18.57  | 20                  | 0        |
| 10              | 64QAM | 25 | 25 | 18.58  | 18.58 | 18.58  |                     |          |
| 10              | 64QAM | 50 | 0  | 18.64  | 18.66 | 18.64  |                     |          |



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Report No. : FA932901-02

| Channel         |       |    |    | 20775  | 21100 | 21425  | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 2502.5 | 2535  | 2567.5 |                     |          |
| 5               | QPSK  | 1  | 0  | 18.57  | 18.61 | 18.71  | 20                  | 0        |
| 5               | QPSK  | 1  | 12 | 18.57  | 18.63 | 18.58  |                     |          |
| 5               | QPSK  | 1  | 24 | 18.64  | 18.57 | 18.60  |                     |          |
| 5               | QPSK  | 12 | 0  | 18.56  | 18.55 | 18.63  | 20                  | 0        |
| 5               | QPSK  | 12 | 7  | 18.59  | 18.62 | 18.61  |                     |          |
| 5               | QPSK  | 12 | 13 | 18.63  | 18.63 | 18.60  |                     |          |
| 5               | QPSK  | 25 | 0  | 18.62  | 18.59 | 18.61  | 20                  | 0        |
| 5               | 16QAM | 1  | 0  | 18.58  | 18.43 | 18.50  |                     |          |
| 5               | 16QAM | 1  | 12 | 18.54  | 18.40 | 18.52  |                     |          |
| 5               | 16QAM | 1  | 24 | 18.39  | 18.47 | 18.49  | 20                  | 0        |
| 5               | 16QAM | 12 | 0  | 18.66  | 18.48 | 18.59  |                     |          |
| 5               | 16QAM | 12 | 7  | 18.60  | 18.64 | 18.57  |                     |          |
| 5               | 16QAM | 12 | 13 | 18.60  | 18.55 | 18.59  | 20                  | 0        |
| 5               | 16QAM | 25 | 0  | 18.65  | 18.59 | 18.64  |                     |          |
| 5               | 64QAM | 1  | 0  | 18.34  | 18.21 | 18.44  |                     |          |
| 5               | 64QAM | 1  | 12 | 18.30  | 18.44 | 18.29  | 20                  | 0        |
| 5               | 64QAM | 1  | 24 | 18.09  | 18.25 | 18.43  |                     |          |
| 5               | 64QAM | 12 | 0  | 18.58  | 18.50 | 18.56  |                     |          |
| 5               | 64QAM | 12 | 7  | 18.53  | 18.49 | 18.55  | 20                  | 0        |
| 5               | 64QAM | 12 | 13 | 18.55  | 18.52 | 18.53  |                     |          |
| 5               | 64QAM | 25 | 0  | 18.60  | 18.59 | 18.66  |                     |          |

**<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         | 19.73                 | 20.03                    | 20.12                  | 21                  | 0        |
| 20              | QPSK       | 1       | 49        | 19.67                 | 20.02                    | 20.05                  |                     |          |
| 20              | QPSK       | 1       | 99        | 19.71                 | 20.06                    | 19.90                  |                     |          |
| 20              | QPSK       | 50      | 0         | 19.73                 | 19.92                    | 20.10                  | 21                  | 0        |
| 20              | QPSK       | 50      | 24        | 19.62                 | 20.00                    | 20.10                  |                     |          |
| 20              | QPSK       | 50      | 50        | 19.71                 | 19.64                    | 20.11                  |                     |          |
| 20              | QPSK       | 100     | 0         | 19.60                 | 19.69                    | 20.00                  | 21                  | 0        |
| 20              | 16QAM      | 1       | 0         | 19.33                 | 19.36                    | 19.64                  |                     |          |
| 20              | 16QAM      | 1       | 49        | 19.41                 | 19.63                    | 19.67                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 19.59                 | 19.66                    | 19.60                  | 21                  | 0        |
| 20              | 16QAM      | 50      | 0         | 19.64                 | 19.67                    | 20.10                  |                     |          |
| 20              | 16QAM      | 50      | 24        | 19.62                 | 19.64                    | 20.00                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 19.71                 | 19.61                    | 19.91                  | 21                  | 0        |
| 20              | 16QAM      | 100     | 0         | 19.68                 | 19.82                    | 20.00                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 19.83                 | 19.79                    | 20.00                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 19.70                 | 19.72                    | 20.03                  | 21                  | 0        |
| 20              | 64QAM      | 1       | 99        | 19.79                 | 19.76                    | 20.03                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 19.66                 | 19.66                    | 20.11                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 19.68                 | 19.65                    | 20.01                  | 21                  | 0        |
| 20              | 64QAM      | 50      | 50        | 19.65                 | 19.61                    | 19.91                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 19.66                 | 19.64                    | 20.03                  |                     |          |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 19.67 | 26340 | 26615  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|-------|-------|--------|---------------------------|-------------|
| Frequency (MHz) |       |    |    | 19.82 | 1880  | 1907.5 |                           |             |
| 15              | QPSK  | 1  | 0  | 19.78 | 19.74 | 20.02  | 21                        | 0           |
| 15              | QPSK  | 1  | 37 | 19.72 | 19.89 | 20.04  |                           |             |
| 15              | QPSK  | 1  | 74 | 19.76 | 19.79 | 19.89  |                           |             |
| 15              | QPSK  | 36 | 0  | 19.78 | 19.72 | 20.09  | 21                        | 0           |
| 15              | QPSK  | 36 | 20 | 19.67 | 19.76 | 20.09  |                           |             |
| 15              | QPSK  | 36 | 39 | 19.76 | 19.75 | 19.91  |                           |             |
| 15              | QPSK  | 75 | 0  | 19.65 | 19.82 | 19.99  | 21                        | 0           |
| 15              | 16QAM | 1  | 0  | 19.75 | 19.34 | 19.63  |                           |             |
| 15              | 16QAM | 1  | 37 | 19.46 | 19.55 | 19.66  |                           |             |
| 15              | 16QAM | 1  | 74 | 19.64 | 19.43 | 19.59  | 21                        | 0           |
| 15              | 16QAM | 36 | 0  | 19.69 | 19.70 | 20.09  |                           |             |
| 15              | 16QAM | 36 | 20 | 19.67 | 19.73 | 19.99  |                           |             |
| 15              | 16QAM | 36 | 39 | 19.76 | 19.74 | 19.90  | 21                        | 0           |
| 15              | 16QAM | 75 | 0  | 19.73 | 19.71 | 19.99  |                           |             |
| 15              | 64QAM | 1  | 0  | 19.88 | 19.68 | 20.02  |                           |             |
| 15              | 64QAM | 1  | 37 | 19.75 | 19.89 | 20.02  | 21                        | 0           |
| 15              | 64QAM | 1  | 74 | 19.84 | 19.86 | 20.02  |                           |             |
| 15              | 64QAM | 36 | 0  | 19.71 | 19.79 | 20.10  |                           |             |
| 15              | 64QAM | 36 | 20 | 19.73 | 19.83 | 20.00  | 21                        | 0           |
| 15              | 64QAM | 36 | 39 | 19.70 | 19.73 | 19.90  |                           |             |
| 15              | 64QAM | 75 | 0  | 19.71 | 19.72 | 20.02  |                           |             |
| Channel         |       |    |    | 26090 | 26340 | 26640  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1855  | 1880  | 1910   |                           |             |
| 10              | QPSK  | 1  | 0  | 19.90 | 19.79 | 20.01  | 21                        | 0           |
| 10              | QPSK  | 1  | 25 | 19.80 | 19.73 | 20.03  |                           |             |
| 10              | QPSK  | 1  | 49 | 19.73 | 19.77 | 19.88  |                           |             |
| 10              | QPSK  | 25 | 0  | 19.77 | 19.79 | 20.08  | 21                        | 0           |
| 10              | QPSK  | 25 | 12 | 19.76 | 19.68 | 20.08  |                           |             |
| 10              | QPSK  | 25 | 25 | 19.83 | 19.77 | 19.90  |                           |             |
| 10              | QPSK  | 50 | 0  | 19.68 | 19.66 | 19.98  | 21                        | 0           |
| 10              | 16QAM | 1  | 0  | 19.56 | 19.39 | 19.62  |                           |             |
| 10              | 16QAM | 1  | 25 | 19.44 | 19.47 | 19.65  |                           |             |
| 10              | 16QAM | 1  | 49 | 19.71 | 19.65 | 19.58  | 21                        | 0           |
| 10              | 16QAM | 25 | 0  | 19.74 | 19.70 | 20.08  |                           |             |
| 10              | 16QAM | 25 | 12 | 19.75 | 19.68 | 19.98  |                           |             |
| 10              | 16QAM | 25 | 25 | 19.72 | 19.77 | 19.89  | 21                        | 0           |
| 10              | 16QAM | 50 | 0  | 19.69 | 19.74 | 19.98  |                           |             |
| 10              | 64QAM | 1  | 0  | 19.90 | 19.89 | 19.99  |                           |             |
| 10              | 64QAM | 1  | 25 | 19.87 | 19.76 | 20.01  | 21                        | 0           |
| 10              | 64QAM | 1  | 49 | 19.80 | 19.85 | 20.01  |                           |             |
| 10              | 64QAM | 25 | 0  | 19.84 | 19.72 | 20.09  |                           |             |
| 10              | 64QAM | 25 | 12 | 19.74 | 19.74 | 19.99  | 21                        | 0           |
| 10              | 64QAM | 25 | 25 | 19.73 | 19.71 | 19.89  |                           |             |
| 10              | 64QAM | 50 | 0  | 19.62 | 19.72 | 20.01  |                           |             |

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| Channel         |       |    |    | 26065  | 19.75 | 26665  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------------|-------------|
| Frequency (MHz) |       |    |    | 1852.5 | 1880  | 1912.5 |                           |             |
| 5               | QPSK  | 1  | 0  | 19.80  | 19.71 | 20.01  | 21                        | 0           |
| 5               | QPSK  | 1  | 12 | 19.74  | 19.86 | 20.03  |                           |             |
| 5               | QPSK  | 1  | 24 | 19.78  | 19.76 | 19.88  |                           |             |
| 5               | QPSK  | 12 | 0  | 19.80  | 19.69 | 20.08  | 21                        | 0           |
| 5               | QPSK  | 12 | 7  | 19.69  | 19.73 | 20.08  |                           |             |
| 5               | QPSK  | 12 | 13 | 19.78  | 19.72 | 19.90  |                           |             |
| 5               | QPSK  | 25 | 0  | 19.67  | 19.79 | 19.98  | 21                        | 0           |
| 5               | 16QAM | 1  | 0  | 19.40  | 19.31 | 19.62  |                           |             |
| 5               | 16QAM | 1  | 12 | 19.48  | 19.52 | 19.65  |                           |             |
| 5               | 16QAM | 1  | 24 | 19.66  | 19.40 | 19.58  | 21                        | 0           |
| 5               | 16QAM | 12 | 0  | 19.71  | 19.67 | 20.08  |                           |             |
| 5               | 16QAM | 12 | 7  | 19.69  | 19.70 | 19.98  |                           |             |
| 5               | 16QAM | 12 | 13 | 19.78  | 19.71 | 19.89  | 21                        | 0           |
| 5               | 16QAM | 25 | 0  | 19.75  | 19.68 | 19.98  |                           |             |
| 5               | 64QAM | 1  | 0  | 19.90  | 19.65 | 19.99  |                           |             |
| 5               | 64QAM | 1  | 12 | 19.77  | 19.86 | 20.01  | 21                        | 0           |
| 5               | 64QAM | 1  | 24 | 19.86  | 19.83 | 20.01  |                           |             |
| 5               | 64QAM | 12 | 0  | 19.73  | 19.76 | 20.09  |                           |             |
| 5               | 64QAM | 12 | 7  | 19.75  | 19.80 | 19.99  | 21                        | 0           |
| 5               | 64QAM | 12 | 13 | 19.72  | 19.70 | 19.89  |                           |             |
| 5               | 64QAM | 25 | 0  | 19.73  | 19.69 | 20.01  |                           |             |
| Channel         |       |    |    | 26055  | 26340 | 26675  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1851.5 | 1880  | 1913.5 |                           |             |
| 3               | QPSK  | 1  | 0  | 19.73  | 19.81 | 20.00  | 21                        | 0           |
| 3               | QPSK  | 1  | 8  | 19.88  | 19.75 | 20.02  |                           |             |
| 3               | QPSK  | 1  | 14 | 19.78  | 19.79 | 19.87  |                           |             |
| 3               | QPSK  | 8  | 0  | 19.71  | 19.81 | 20.07  | 21                        | 0           |
| 3               | QPSK  | 8  | 4  | 19.75  | 19.70 | 20.07  |                           |             |
| 3               | QPSK  | 8  | 7  | 19.74  | 19.79 | 19.89  |                           |             |
| 3               | QPSK  | 15 | 0  | 19.81  | 19.68 | 19.97  | 21                        | 0           |
| 3               | 16QAM | 1  | 0  | 19.33  | 19.41 | 19.61  |                           |             |
| 3               | 16QAM | 1  | 8  | 19.54  | 19.49 | 19.64  |                           |             |
| 3               | 16QAM | 1  | 14 | 19.42  | 19.67 | 19.57  | 21                        | 0           |
| 3               | 16QAM | 8  | 0  | 19.69  | 19.72 | 20.07  |                           |             |
| 3               | 16QAM | 8  | 4  | 19.72  | 19.70 | 19.97  |                           |             |
| 3               | 16QAM | 8  | 7  | 19.73  | 19.79 | 19.88  | 21                        | 0           |
| 3               | 16QAM | 15 | 0  | 19.70  | 19.76 | 19.97  |                           |             |
| 3               | 64QAM | 1  | 0  | 19.67  | 19.91 | 19.97  |                           |             |
| 3               | 64QAM | 1  | 8  | 19.88  | 19.78 | 20.00  | 21                        | 0           |
| 3               | 64QAM | 1  | 14 | 19.85  | 19.87 | 20.00  |                           |             |
| 3               | 64QAM | 8  | 0  | 19.78  | 19.74 | 20.08  |                           |             |
| 3               | 64QAM | 8  | 4  | 19.82  | 19.76 | 19.98  | 21                        | 0           |
| 3               | 64QAM | 8  | 7  | 19.72  | 19.73 | 19.88  |                           |             |
| 3               | 64QAM | 15 | 0  | 19.71  | 19.74 | 20.00  |                           |             |

| Channel         |       |   |   | 26047  | 26340 | 26683  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|---|---|--------|-------|--------|---------------------------|-------------|
| Frequency (MHz) |       |   |   | 1850.7 | 1880  | 1914.3 |                           |             |
| 1.4             | QPSK  | 1 | 0 | 19.86  | 19.70 | 19.70  | 21                        | 0           |
| 1.4             | QPSK  | 1 | 3 | 19.97  | 19.97 | 20.07  |                           |             |
| 1.4             | QPSK  | 1 | 5 | 19.97  | 19.97 | 19.97  |                           |             |
| 1.4             | QPSK  | 3 | 0 | 19.72  | 19.70 | 19.88  |                           |             |
| 1.4             | QPSK  | 3 | 1 | 19.73  | 19.79 | 19.97  |                           |             |
| 1.4             | QPSK  | 3 | 3 | 19.71  | 19.76 | 19.88  |                           |             |
| 1.4             | QPSK  | 6 | 0 | 19.86  | 19.91 | 20.00  | 21                        | 0           |
| 1.4             | 16QAM | 1 | 0 | 19.76  | 19.78 | 20.00  | 21                        | 0           |
| 1.4             | 16QAM | 1 | 3 | 19.69  | 19.87 | 20.08  |                           |             |
| 1.4             | 16QAM | 1 | 5 | 19.73  | 19.74 | 19.98  |                           |             |
| 1.4             | 16QAM | 3 | 0 | 19.72  | 19.76 | 19.88  |                           |             |
| 1.4             | 16QAM | 3 | 1 | 19.79  | 19.73 | 20.00  |                           |             |
| 1.4             | 16QAM | 3 | 3 | 19.79  | 19.74 | 20.02  |                           |             |
| 1.4             | 16QAM | 6 | 0 | 19.52  | 19.73 | 19.87  | 21                        | 0           |
| 1.4             | 64QAM | 1 | 0 | 19.79  | 19.88 | 20.07  | 21                        | 0           |
| 1.4             | 64QAM | 1 | 3 | 19.67  | 19.78 | 20.07  |                           |             |
| 1.4             | 64QAM | 1 | 5 | 19.70  | 19.71 | 19.89  |                           |             |
| 1.4             | 64QAM | 3 | 0 | 19.71  | 19.75 | 19.97  |                           |             |
| 1.4             | 64QAM | 3 | 1 | 19.68  | 19.74 | 19.61  |                           |             |
| 1.4             | 64QAM | 3 | 3 | 19.65  | 19.54 | 19.64  |                           |             |
| 1.4             | 64QAM | 6 | 0 | 19.86  | 19.42 | 19.61  | 21                        | 0           |

**<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         | 20.19                 | 20.12                    | 20.15                  | 21.5                | 0        |
| 20              | QPSK       | 1       | 49        | 20.19                 | 20.11                    | 20.22                  |                     |          |
| 20              | QPSK       | 1       | 99        | 20.28                 | 20.16                    | 20.17                  |                     |          |
| 20              | QPSK       | 50      | 0         | 20.16                 | 20.15                    | 20.19                  | 21.5                | 0        |
| 20              | QPSK       | 50      | 24        | 20.25                 | 20.12                    | 20.23                  |                     |          |
| 20              | QPSK       | 50      | 50        | 20.19                 | 20.08                    | 20.22                  |                     |          |
| 20              | QPSK       | 100     | 0         | 20.26                 | 20.18                    | 20.25                  | 21.5                | 0        |
| 20              | 16QAM      | 1       | 0         | 19.91                 | 19.98                    | 19.94                  |                     |          |
| 20              | 16QAM      | 1       | 49        | 20.09                 | 19.69                    | 20.12                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 19.88                 | 19.79                    | 19.91                  | 21.5                | 0        |
| 20              | 16QAM      | 50      | 0         | 20.15                 | 20.17                    | 20.18                  |                     |          |
| 20              | 16QAM      | 50      | 24        | 20.14                 | 20.13                    | 20.17                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 20.08                 | 20.18                    | 20.11                  | 21.5                | 0        |
| 20              | 16QAM      | 100     | 0         | 20.21                 | 20.17                    | 20.24                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 20.14                 | 19.99                    | 20.17                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 19.95                 | 19.89                    | 19.98                  | 21.5                | 0        |
| 20              | 64QAM      | 1       | 99        | 20.11                 | 19.99                    | 20.14                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 19.50                 | 19.45                    | 19.69                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 19.56                 | 19.41                    | 19.75                  | 21                  | 0.5      |
| 20              | 64QAM      | 50      | 50        | 19.54                 | 19.48                    | 19.73                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 19.50                 | 19.40                    | 19.69                  |                     |          |



# FCC SAR Test Report

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| Channel         |       |    |    | 132047 | 132322 | 132597 | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|--------|--------|---------------------------|-------------|
| Frequency (MHz) |       |    |    | 1717.5 | 1745   | 1772.5 |                           |             |
| 15              | QPSK  | 1  | 0  | 20.23  | 20.18  | 19.99  | 21.5                      | 0           |
| 15              | QPSK  | 1  | 37 | 20.05  | 20.14  | 20.05  |                           |             |
| 15              | QPSK  | 1  | 74 | 19.95  | 20.24  | 20.10  |                           |             |
| 15              | QPSK  | 36 | 0  | 20.05  | 20.04  | 19.82  | 21.5                      | 0           |
| 15              | QPSK  | 36 | 20 | 20.23  | 19.75  | 19.93  |                           |             |
| 15              | QPSK  | 36 | 39 | 20.19  | 19.85  | 20.12  |                           |             |
| 15              | QPSK  | 75 | 0  | 20.26  | 20.23  | 20.18  | 21.5                      | 0           |
| 15              | 16QAM | 1  | 0  | 20.18  | 20.19  | 20.08  |                           |             |
| 15              | 16QAM | 1  | 37 | 20.15  | 20.24  | 20.15  |                           |             |
| 15              | 16QAM | 1  | 74 | 20.19  | 20.23  | 20.18  | 21.5                      | 0           |
| 15              | 16QAM | 36 | 0  | 20.14  | 20.05  | 20.17  |                           |             |
| 15              | 16QAM | 36 | 20 | 20.16  | 19.95  | 20.22  |                           |             |
| 15              | 16QAM | 36 | 39 | 20.22  | 20.05  | 20.21  | 21.5                      | 0           |
| 15              | 16QAM | 75 | 0  | 20.19  | 20.23  | 20.18  |                           |             |
| 15              | 64QAM | 1  | 0  | 20.22  | 20.19  | 20.14  |                           |             |
| 15              | 64QAM | 1  | 37 | 19.91  | 20.26  | 20.24  | 21.5                      | 0           |
| 15              | 64QAM | 1  | 74 | 20.09  | 20.18  | 20.04  |                           |             |
| 15              | 64QAM | 36 | 0  | 19.53  | 19.40  | 19.50  |                           |             |
| 15              | 64QAM | 36 | 20 | 19.50  | 19.47  | 19.56  | 21                        | 0.5         |
| 15              | 64QAM | 36 | 39 | 19.53  | 19.42  | 19.74  |                           |             |
| 15              | 64QAM | 75 | 0  | 19.48  | 19.44  | 19.70  |                           |             |
| Channel         |       |    |    | 132022 | 132322 | 132622 | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 1715   | 1745   | 1775   |                           |             |
| 10              | QPSK  | 1  | 0  | 19.85  | 20.12  | 20.05  | 21.5                      | 0           |
| 10              | QPSK  | 1  | 25 | 20.23  | 20.18  | 20.23  |                           |             |
| 10              | QPSK  | 1  | 49 | 20.19  | 20.08  | 20.19  |                           |             |
| 10              | QPSK  | 25 | 0  | 20.24  | 20.15  | 20.26  | 21.5                      | 0           |
| 10              | QPSK  | 25 | 12 | 20.23  | 20.18  | 20.18  |                           |             |
| 10              | QPSK  | 25 | 25 | 20.05  | 20.17  | 20.15  |                           |             |
| 10              | QPSK  | 50 | 0  | 19.95  | 20.22  | 20.19  | 21.5                      | 0           |
| 10              | 16QAM | 1  | 0  | 20.05  | 20.21  | 20.14  |                           |             |
| 10              | 16QAM | 1  | 25 | 20.23  | 20.19  | 20.16  |                           |             |
| 10              | 16QAM | 1  | 49 | 20.19  | 20.26  | 20.23  | 21.5                      | 0           |
| 10              | 16QAM | 25 | 0  | 20.26  | 20.18  | 20.19  |                           |             |
| 10              | 16QAM | 25 | 12 | 20.18  | 20.16  | 20.24  |                           |             |
| 10              | 16QAM | 25 | 25 | 20.20  | 20.19  | 20.23  | 21.5                      | 0           |
| 10              | 16QAM | 50 | 0  | 20.16  | 20.15  | 20.05  |                           |             |
| 10              | 64QAM | 1  | 0  | 20.22  | 20.12  | 19.95  |                           |             |
| 10              | 64QAM | 1  | 25 | 20.19  | 20.08  | 20.05  | 21.5                      | 0           |
| 10              | 64QAM | 1  | 49 | 20.22  | 20.18  | 20.23  |                           |             |
| 10              | 64QAM | 25 | 0  | 19.68  | 19.66  | 19.70  |                           |             |
| 10              | 64QAM | 25 | 12 | 19.84  | 19.73  | 19.77  | 21                        | 0.5         |
| 10              | 64QAM | 25 | 25 | 19.73  | 19.77  | 19.69  |                           |             |
| 10              | 64QAM | 50 | 0  | 19.50  | 19.85  | 19.71  |                           |             |

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# FCC SAR Test Report

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| Channel         |       |    |    | 131997 | 132322 | 132647 | Tune-up limit (dBm) | MPR (dB) |
|-----------------|-------|----|----|--------|--------|--------|---------------------|----------|
| Frequency (MHz) |       |    |    | 1712.5 | 1745   | 1777.5 |                     |          |
| 5               | QPSK  | 1  | 0  | 20.19  | 19.93  | 20.18  | 21.5                | 0        |
| 5               | QPSK  | 1  | 12 | 20.16  | 20.12  | 20.08  |                     |          |
| 5               | QPSK  | 1  | 24 | 20.12  | 20.18  | 20.15  |                     |          |
| 5               | QPSK  | 12 | 0  | 20.22  | 20.08  | 20.18  | 21.5                | 0        |
| 5               | QPSK  | 12 | 7  | 20.02  | 20.15  | 20.17  |                     |          |
| 5               | QPSK  | 12 | 13 | 19.73  | 20.18  | 20.22  |                     |          |
| 5               | QPSK  | 25 | 0  | 19.83  | 20.17  | 20.21  | 21.5                | 0        |
| 5               | 16QAM | 1  | 0  | 20.21  | 20.22  | 19.92  |                     |          |
| 5               | 16QAM | 1  | 12 | 20.17  | 20.21  | 20.10  |                     |          |
| 5               | 16QAM | 1  | 24 | 20.22  | 20.23  | 20.19  | 21.5                | 0        |
| 5               | 16QAM | 12 | 0  | 20.21  | 20.20  | 20.16  |                     |          |
| 5               | 16QAM | 12 | 7  | 20.03  | 20.23  | 20.12  |                     |          |
| 5               | 16QAM | 12 | 13 | 19.93  | 19.92  | 20.22  | 21.5                | 0        |
| 5               | 16QAM | 25 | 0  | 20.03  | 20.10  | 20.02  |                     |          |
| 5               | 64QAM | 1  | 0  | 20.21  | 19.89  | 20.17  |                     |          |
| 5               | 64QAM | 1  | 12 | 20.17  | 20.16  | 19.83  | 21.5                | 0        |
| 5               | 64QAM | 1  | 24 | 20.24  | 20.15  | 20.21  |                     |          |
| 5               | 64QAM | 12 | 0  | 19.70  | 19.79  | 19.80  |                     |          |
| 5               | 64QAM | 12 | 7  | 19.64  | 19.75  | 19.79  | 21                  | 0.5      |
| 5               | 64QAM | 12 | 13 | 19.77  | 19.80  | 19.76  |                     |          |
| 5               | 64QAM | 25 | 0  | 19.70  | 19.79  | 19.72  |                     |          |
| Channel         |       |    |    | 131987 | 132322 | 132657 | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 1711.5 | 1745   | 1778.5 |                     |          |
| 3               | QPSK  | 1  | 0  | 20.25  | 20.14  | 19.99  | 21.5                | 0        |
| 3               | QPSK  | 1  | 8  | 20.20  | 20.16  | 20.05  |                     |          |
| 3               | QPSK  | 1  | 14 | 20.15  | 20.15  | 20.10  |                     |          |
| 3               | QPSK  | 8  | 0  | 20.17  | 20.20  | 19.82  | 21.5                | 0        |
| 3               | QPSK  | 8  | 4  | 20.23  | 20.19  | 19.93  |                     |          |
| 3               | QPSK  | 8  | 7  | 20.20  | 20.16  | 20.12  |                     |          |
| 3               | QPSK  | 15 | 0  | 20.23  | 20.12  | 20.18  | 21.5                | 0        |
| 3               | 16QAM | 1  | 0  | 19.92  | 20.22  | 20.08  |                     |          |
| 3               | 16QAM | 1  | 8  | 20.10  | 20.02  | 20.15  |                     |          |
| 3               | 16QAM | 1  | 14 | 19.89  | 19.73  | 20.18  | 21.5                | 0        |
| 3               | 16QAM | 8  | 0  | 20.16  | 19.83  | 20.17  |                     |          |
| 3               | 16QAM | 8  | 4  | 20.15  | 20.21  | 20.22  |                     |          |
| 3               | 16QAM | 8  | 7  | 20.09  | 20.17  | 20.21  | 21.5                | 0        |
| 3               | 16QAM | 15 | 0  | 20.22  | 20.22  | 20.18  |                     |          |
| 3               | 64QAM | 1  | 0  | 20.15  | 20.21  | 20.14  |                     |          |
| 3               | 64QAM | 1  | 8  | 19.96  | 20.03  | 20.24  | 21.5                | 0        |
| 3               | 64QAM | 1  | 14 | 20.12  | 19.93  | 20.04  |                     |          |
| 3               | 64QAM | 8  | 0  | 19.71  | 19.61  | 19.73  |                     |          |
| 3               | 64QAM | 8  | 4  | 19.76  | 19.79  | 19.67  | 21                  | 0.5      |
| 3               | 64QAM | 8  | 7  | 19.58  | 19.75  | 19.80  |                     |          |
| 3               | 64QAM | 15 | 0  | 19.62  | 19.82  | 19.76  |                     |          |

| Channel         |       |   |   | 131979 | 132322 | 132665 | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|---|---|--------|--------|--------|---------------------------|-------------|
| Frequency (MHz) |       |   |   | 1710.7 | 1745   | 1779.3 |                           |             |
| 1.4             | QPSK  | 1 | 0 | 20.23  | 20.23  | 20.12  | 21.5                      | 0           |
| 1.4             | QPSK  | 1 | 3 | 19.92  | 20.05  | 20.22  |                           |             |
| 1.4             | QPSK  | 1 | 5 | 20.10  | 19.95  | 20.02  |                           |             |
| 1.4             | QPSK  | 3 | 0 | 19.89  | 20.05  | 19.73  |                           |             |
| 1.4             | QPSK  | 3 | 1 | 20.16  | 20.23  | 19.83  |                           |             |
| 1.4             | QPSK  | 3 | 3 | 20.15  | 20.19  | 20.22  |                           |             |
| 1.4             | QPSK  | 6 | 0 | 20.18  | 20.26  | 20.21  | 21.5                      | 0           |
| 1.4             | 16QAM | 1 | 0 | 20.17  | 20.18  | 20.03  | 21.5                      | 0           |
| 1.4             | 16QAM | 1 | 3 | 20.12  | 20.13  | 19.93  |                           |             |
| 1.4             | 16QAM | 1 | 5 | 20.18  | 20.19  | 20.03  |                           |             |
| 1.4             | 16QAM | 3 | 0 | 20.08  | 20.14  | 20.19  |                           |             |
| 1.4             | 16QAM | 3 | 1 | 20.15  | 20.16  | 20.16  |                           |             |
| 1.4             | 16QAM | 3 | 3 | 20.18  | 20.22  | 20.12  |                           |             |
| 1.4             | 16QAM | 6 | 0 | 20.17  | 20.19  | 20.22  | 21.5                      | 0           |
| 1.4             | 64QAM | 1 | 0 | 19.89  | 20.05  | 20.02  | 21.5                      | 0           |
| 1.4             | 64QAM | 1 | 3 | 20.14  | 19.91  | 19.73  |                           |             |
| 1.4             | 64QAM | 1 | 5 | 20.18  | 20.09  | 20.14  |                           |             |
| 1.4             | 64QAM | 3 | 0 | 20.14  | 20.19  | 20.04  |                           |             |
| 1.4             | 64QAM | 3 | 1 | 20.18  | 20.18  | 20.15  |                           |             |
| 1.4             | 64QAM | 3 | 3 | 20.17  | 20.14  | 20.09  |                           |             |
| 1.4             | 64QAM | 6 | 0 | 19.80  | 19.76  | 19.69  | 21                        | 0.5         |

### <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.

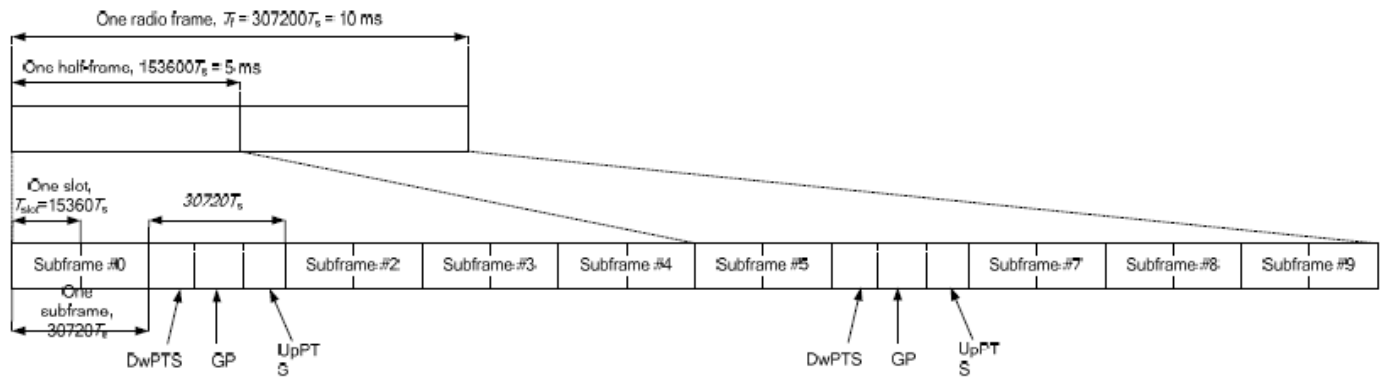


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

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%                            |

The highest duty factor is resulted from:

- i. Uplink-downlink configuration: 0. In a half-frame consisted of 5 subframes, uplink operation is in 3 uplink subframes and 1 special subframe.
- ii. special subframe configuration: 5-9 for normal cyclic prefix in downlink, 4-7 for extended cyclic prefix in downlink
- iii. for special subframe with extended cyclic prefix in uplink, the total uplink duty factor in one half-frame is:  $(3+0.167)/5 = 63.3\%$
- iv. for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is:  $(3+0.143)/5 = 62.9\%$
- v. 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 scaled TDD LTE SAR = measured SAR (W/kg)\* Tune-up Scaling Factor\* scaling factor for extended cyclic prefix.

**<Full 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<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|---------------------------|-------------|
| Channel         |            |         |           | 37850                    | 38000                       | 38150                     |                           |             |
| Frequency (MHz) |            |         |           | 2580                     | 2595                        | 2610                      |                           |             |
| 20              | QPSK       | 1       | 0         | 22.76                    | 22.61                       | 22.61                     | 24                        | 0           |
| 20              | QPSK       | 1       | 49        | 22.66                    | 22.54                       | 22.57                     |                           |             |
| 20              | QPSK       | 1       | 99        | 22.61                    | 22.51                       | 22.48                     |                           |             |
| 20              | QPSK       | 50      | 0         | 21.69                    | 21.51                       | 21.53                     | 23                        | 1           |
| 20              | QPSK       | 50      | 24        | 21.65                    | 21.47                       | 21.50                     |                           |             |
| 20              | QPSK       | 50      | 50        | 21.61                    | 21.47                       | 21.45                     |                           |             |
| 20              | QPSK       | 100     | 0         | 21.65                    | 21.48                       | 21.49                     | 23                        | 1           |
| 20              | 16QAM      | 1       | 0         | 21.67                    | 21.51                       | 21.54                     |                           |             |
| 20              | 16QAM      | 1       | 49        | 21.56                    | 21.45                       | 21.46                     |                           |             |
| 20              | 16QAM      | 1       | 99        | 21.50                    | 21.41                       | 21.37                     | 22                        | 2           |
| 20              | 16QAM      | 50      | 0         | 20.69                    | 20.55                       | 20.55                     |                           |             |
| 20              | 16QAM      | 50      | 24        | 20.68                    | 20.51                       | 20.52                     |                           |             |
| 20              | 16QAM      | 50      | 50        | 20.63                    | 20.47                       | 20.46                     | 22                        | 2           |
| 20              | 16QAM      | 100     | 0         | 20.71                    | 20.54                       | 20.56                     |                           |             |
| 20              | 64QAM      | 1       | 0         | 20.53                    | 20.43                       | 20.32                     | 22                        | 2           |
| 20              | 64QAM      | 1       | 49        | 20.41                    | 20.34                       | 20.27                     |                           |             |
| 20              | 64QAM      | 1       | 99        | 20.43                    | 20.26                       | 20.16                     |                           |             |
| 20              | 64QAM      | 50      | 0         | 20.00                    | 19.79                       | 19.85                     | 21                        | 3           |
| 20              | 64QAM      | 50      | 24        | 19.96                    | 19.77                       | 19.81                     |                           |             |
| 20              | 64QAM      | 50      | 50        | 19.93                    | 19.74                       | 19.78                     |                           |             |
| 20              | 64QAM      | 100     | 0         | 19.96                    | 19.77                       | 19.79                     |                           |             |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 37825  | 38000 | 38175  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------------|-------------|
| Frequency (MHz) |       |    |    | 2577.5 | 2595  | 2612.5 |                           |             |
| 15              | QPSK  | 1  | 0  | 22.71  | 22.60 | 22.61  | 24                        | 0           |
| 15              | QPSK  | 1  | 37 | 22.62  | 22.53 | 22.57  |                           |             |
| 15              | QPSK  | 1  | 74 | 22.62  | 22.50 | 22.50  |                           |             |
| 15              | QPSK  | 36 | 0  | 21.65  | 21.50 | 21.51  | 23                        | 1           |
| 15              | QPSK  | 36 | 20 | 21.59  | 21.49 | 21.49  |                           |             |
| 15              | QPSK  | 36 | 39 | 21.58  | 21.47 | 21.45  |                           |             |
| 15              | QPSK  | 75 | 0  | 21.62  | 21.49 | 21.48  |                           |             |
| 15              | 16QAM | 1  | 0  | 21.46  | 21.56 | 21.55  | 23                        | 1           |
| 15              | 16QAM | 1  | 37 | 21.40  | 21.49 | 21.49  |                           |             |
| 15              | 16QAM | 1  | 74 | 21.38  | 21.48 | 21.45  |                           |             |
| 15              | 16QAM | 36 | 0  | 20.63  | 20.49 | 20.51  | 22                        | 2           |
| 15              | 16QAM | 36 | 20 | 20.58  | 20.46 | 20.48  |                           |             |
| 15              | 16QAM | 36 | 39 | 20.56  | 20.44 | 20.44  |                           |             |
| 15              | 16QAM | 75 | 0  | 20.66  | 20.52 | 20.53  |                           |             |
| 15              | 64QAM | 1  | 0  | 20.56  | 20.40 | 20.39  | 22                        | 2           |
| 15              | 64QAM | 1  | 37 | 20.52  | 20.40 | 20.31  |                           |             |
| 15              | 64QAM | 1  | 74 | 20.47  | 20.32 | 20.26  |                           |             |
| 15              | 64QAM | 36 | 0  | 19.91  | 19.80 | 19.78  | 21                        | 3           |
| 15              | 64QAM | 36 | 20 | 19.86  | 19.77 | 19.76  |                           |             |
| 15              | 64QAM | 36 | 39 | 19.83  | 19.75 | 19.72  |                           |             |
| 15              | 64QAM | 75 | 0  | 19.87  | 19.78 | 19.75  |                           |             |
| Channel         |       |    |    | 37800  | 38000 | 38200  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 2575   | 2595  | 2615   |                           |             |
| 10              | QPSK  | 1  | 0  | 22.68  | 22.57 | 22.61  | 24                        | 0           |
| 10              | QPSK  | 1  | 25 | 22.63  | 22.53 | 22.59  |                           |             |
| 10              | QPSK  | 1  | 49 | 22.60  | 22.53 | 22.54  |                           |             |
| 10              | QPSK  | 25 | 0  | 21.61  | 21.51 | 21.53  | 23                        | 1           |
| 10              | QPSK  | 25 | 12 | 21.60  | 21.50 | 21.50  |                           |             |
| 10              | QPSK  | 25 | 25 | 21.56  | 21.47 | 21.47  |                           |             |
| 10              | QPSK  | 50 | 0  | 21.58  | 21.49 | 21.48  |                           |             |
| 10              | 16QAM | 1  | 0  | 21.68  | 21.58 | 21.53  | 23                        | 1           |
| 10              | 16QAM | 1  | 25 | 21.61  | 21.53 | 21.47  |                           |             |
| 10              | 16QAM | 1  | 49 | 21.52  | 21.52 | 21.42  |                           |             |
| 10              | 16QAM | 25 | 0  | 20.70  | 20.56 | 20.63  | 22                        | 2           |
| 10              | 16QAM | 25 | 12 | 20.66  | 20.53 | 20.61  |                           |             |
| 10              | 16QAM | 25 | 25 | 20.63  | 20.53 | 20.58  |                           |             |
| 10              | 16QAM | 50 | 0  | 20.61  | 20.50 | 20.52  |                           |             |
| 10              | 64QAM | 1  | 0  | 20.60  | 20.35 | 20.32  | 22                        | 2           |
| 10              | 64QAM | 1  | 25 | 20.47  | 20.36 | 20.30  |                           |             |
| 10              | 64QAM | 1  | 49 | 20.44  | 20.33 | 20.19  |                           |             |
| 10              | 64QAM | 25 | 0  | 19.86  | 19.72 | 19.75  | 21                        | 3           |
| 10              | 64QAM | 25 | 12 | 19.82  | 19.72 | 19.73  |                           |             |
| 10              | 64QAM | 25 | 25 | 19.81  | 19.70 | 19.71  |                           |             |
| 10              | 64QAM | 50 | 0  | 19.91  | 19.79 | 19.80  |                           |             |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 37775  | 38000 | 38225  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------------|-------------|
| Frequency (MHz) |       |    |    | 2572.5 | 2595  | 2617.5 |                           |             |
| 5               | QPSK  | 1  | 0  | 22.69  | 22.58 | 22.65  | 24                        | 0           |
| 5               | QPSK  | 1  | 12 | 22.66  | 22.58 | 22.61  |                           |             |
| 5               | QPSK  | 1  | 24 | 22.62  | 22.55 | 22.57  |                           |             |
| 5               | QPSK  | 12 | 0  | 21.62  | 21.49 | 21.53  | 23                        | 1           |
| 5               | QPSK  | 12 | 7  | 21.61  | 21.50 | 21.52  |                           |             |
| 5               | QPSK  | 12 | 13 | 21.59  | 21.48 | 21.50  |                           |             |
| 5               | QPSK  | 25 | 0  | 21.62  | 21.50 | 21.52  |                           |             |
| 5               | 16QAM | 1  | 0  | 21.54  | 21.54 | 21.61  | 23                        | 1           |
| 5               | 16QAM | 1  | 12 | 21.53  | 21.53 | 21.62  |                           |             |
| 5               | 16QAM | 1  | 24 | 21.49  | 21.55 | 21.47  |                           |             |
| 5               | 16QAM | 12 | 0  | 20.63  | 20.46 | 20.57  | 22                        | 2           |
| 5               | 16QAM | 12 | 7  | 20.59  | 20.45 | 20.55  |                           |             |
| 5               | 16QAM | 12 | 13 | 20.57  | 20.48 | 20.54  |                           |             |
| 5               | 16QAM | 25 | 0  | 20.69  | 20.56 | 20.61  |                           |             |
| 5               | 64QAM | 1  | 0  | 20.56  | 20.33 | 20.52  | 22                        | 2           |
| 5               | 64QAM | 1  | 12 | 20.59  | 20.38 | 20.37  |                           |             |
| 5               | 64QAM | 1  | 24 | 20.44  | 20.33 | 20.43  |                           |             |
| 5               | 64QAM | 12 | 0  | 19.80  | 19.65 | 19.70  | 21                        | 3           |
| 5               | 64QAM | 12 | 7  | 19.76  | 19.66 | 19.71  |                           |             |
| 5               | 64QAM | 12 | 13 | 19.76  | 19.67 | 19.70  |                           |             |
| 5               | 64QAM | 25 | 0  | 19.83  | 19.74 | 19.75  |                           |             |

**<LTE Band 41>**

| 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         | 22.37                 | 22.71                        | 22.76                    | 22.69                         | 22.69                  | 24                  | 0        |
| 20              | QPSK       | 1       | 49        | 22.34                 | 22.59                        | 22.72                    | 22.62                         | 22.66                  |                     |          |
| 20              | QPSK       | 1       | 99        | 22.34                 | 22.54                        | 22.68                    | 22.55                         | 22.60                  |                     |          |
| 20              | QPSK       | 50      | 0         | 21.34                 | 21.58                        | 21.69                    | 21.61                         | 21.59                  | 23                  | 1        |
| 20              | QPSK       | 50      | 24        | 21.33                 | 21.55                        | 21.66                    | 21.58                         | 21.57                  |                     |          |
| 20              | QPSK       | 50      | 50        | 21.33                 | 21.50                        | 21.62                    | 21.53                         | 21.54                  |                     |          |
| 20              | QPSK       | 100     | 0         | 21.33                 | 21.56                        | 21.67                    | 21.59                         | 21.56                  |                     |          |
| 20              | 16QAM      | 1       | 0         | 21.30                 | 21.64                        | 21.77                    | 21.72                         | 21.56                  | 23                  | 1        |
| 20              | 16QAM      | 1       | 49        | 21.28                 | 21.55                        | 21.67                    | 21.63                         | 21.51                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 21.29                 | 21.47                        | 21.65                    | 21.55                         | 21.44                  |                     |          |
| 20              | 16QAM      | 50      | 0         | 20.34                 | 20.63                        | 20.73                    | 20.65                         | 20.62                  | 22                  | 2        |
| 20              | 16QAM      | 50      | 24        | 20.35                 | 20.57                        | 20.69                    | 20.62                         | 20.58                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 20.34                 | 20.52                        | 20.66                    | 20.57                         | 20.55                  |                     |          |
| 20              | 16QAM      | 100     | 0         | 20.38                 | 20.62                        | 20.73                    | 20.64                         | 20.61                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 20.59                 | 20.70                        | 20.92                    | 20.79                         | 20.77                  | 22                  | 2        |
| 20              | 64QAM      | 1       | 49        | 20.54                 | 20.59                        | 20.87                    | 20.74                         | 20.72                  |                     |          |
| 20              | 64QAM      | 1       | 99        | 20.50                 | 20.46                        | 20.90                    | 20.70                         | 20.64                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 19.86                 | 20.13                        | 20.22                    | 20.15                         | 20.12                  | 21                  | 3        |
| 20              | 64QAM      | 50      | 24        | 19.83                 | 20.05                        | 20.16                    | 20.10                         | 20.08                  |                     |          |
| 20              | 64QAM      | 50      | 50        | 19.84                 | 20.03                        | 20.15                    | 20.07                         | 20.08                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 19.85                 | 20.07                        | 20.19                    | 20.10                         | 20.10                  |                     |          |



# FCC SAR Test Report

Report No. : FA932901-02

| 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  | 22.35  | 22.65  | 22.74 | 22.67  | 22.65  | 24                  | 0        |
| 15              | QPSK  | 1  | 37 | 22.32  | 22.56  | 22.69 | 22.63  | 22.62  |                     |          |
| 15              | QPSK  | 1  | 74 | 22.31  | 22.49  | 22.64 | 22.59  | 22.57  |                     |          |
| 15              | QPSK  | 36 | 0  | 21.32  | 21.60  | 21.69 | 21.64  | 21.59  | 23                  | 1        |
| 15              | QPSK  | 36 | 20 | 21.31  | 21.55  | 21.66 | 21.62  | 21.56  |                     |          |
| 15              | QPSK  | 36 | 39 | 21.29  | 21.50  | 21.63 | 21.58  | 21.56  |                     |          |
| 15              | QPSK  | 75 | 0  | 21.31  | 21.54  | 21.66 | 21.60  | 21.55  |                     |          |
| 15              | 16QAM | 1  | 0  | 21.23  | 21.57  | 21.71 | 21.69  | 21.64  | 23                  | 1        |
| 15              | 16QAM | 1  | 37 | 21.22  | 21.47  | 21.67 | 21.60  | 21.57  |                     |          |
| 15              | 16QAM | 1  | 74 | 21.25  | 21.41  | 21.63 | 21.54  | 21.58  |                     |          |
| 15              | 16QAM | 36 | 0  | 20.31  | 20.60  | 20.69 | 20.61  | 20.58  | 22                  | 2        |
| 15              | 16QAM | 36 | 20 | 20.28  | 20.55  | 20.66 | 20.57  | 20.57  |                     |          |
| 15              | 16QAM | 36 | 39 | 20.29  | 20.52  | 20.64 | 20.55  | 20.54  |                     |          |
| 15              | 16QAM | 75 | 0  | 20.35  | 20.60  | 20.71 | 20.66  | 20.61  |                     |          |
| 15              | 64QAM | 1  | 0  | 20.45  | 20.80  | 20.87 | 20.81  | 20.72  | 22                  | 2        |
| 15              | 64QAM | 1  | 37 | 20.44  | 20.64  | 20.82 | 20.77  | 20.70  |                     |          |
| 15              | 64QAM | 1  | 74 | 20.43  | 20.58  | 20.83 | 20.67  | 20.62  |                     |          |
| 15              | 64QAM | 36 | 0  | 19.81  | 20.10  | 20.20 | 20.14  | 20.07  | 21                  | 3        |
| 15              | 64QAM | 36 | 20 | 19.80  | 20.05  | 20.17 | 20.10  | 20.06  |                     |          |
| 15              | 64QAM | 36 | 39 | 19.79  | 20.04  | 20.15 | 20.06  | 20.04  |                     |          |
| 15              | 64QAM | 75 | 0  | 19.80  | 20.05  | 20.18 | 20.10  | 20.07  |                     |          |
| Channel         |       |    |    | 39700  | 40160  | 40620 | 41080  | 41540  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 2501   | 2547   | 2593  | 2639   | 2685   |                     |          |
| 10              | QPSK  | 1  | 0  | 22.38  | 22.65  | 22.73 | 22.70  | 22.68  | 24                  | 0        |
| 10              | QPSK  | 1  | 25 | 22.38  | 22.59  | 22.73 | 22.67  | 22.67  |                     |          |
| 10              | QPSK  | 1  | 49 | 22.35  | 22.56  | 22.73 | 22.64  | 22.66  |                     |          |
| 10              | QPSK  | 25 | 0  | 21.32  | 21.56  | 21.66 | 21.62  | 21.59  | 23                  | 1        |
| 10              | QPSK  | 25 | 12 | 21.32  | 21.54  | 21.66 | 21.59  | 21.56  |                     |          |
| 10              | QPSK  | 25 | 25 | 21.29  | 21.50  | 21.64 | 21.56  | 21.53  |                     |          |
| 10              | QPSK  | 50 | 0  | 21.33  | 21.55  | 21.67 | 21.61  | 21.57  |                     |          |
| 10              | 16QAM | 1  | 0  | 21.39  | 21.64  | 21.72 | 21.63  | 21.57  | 23                  | 1        |
| 10              | 16QAM | 1  | 25 | 21.40  | 21.55  | 21.69 | 21.57  | 21.54  |                     |          |
| 10              | 16QAM | 1  | 49 | 21.33  | 21.50  | 21.60 | 21.51  | 21.52  |                     |          |
| 10              | 16QAM | 25 | 0  | 20.41  | 20.64  | 20.76 | 20.71  | 20.66  | 22                  | 2        |
| 10              | 16QAM | 25 | 12 | 20.40  | 20.63  | 20.74 | 20.68  | 20.64  |                     |          |
| 10              | 16QAM | 25 | 25 | 20.40  | 20.60  | 20.72 | 20.65  | 20.62  |                     |          |
| 10              | 16QAM | 50 | 0  | 20.36  | 20.58  | 20.70 | 20.62  | 20.59  |                     |          |
| 10              | 64QAM | 1  | 0  | 20.54  | 20.66  | 20.80 | 20.82  | 20.81  | 22                  | 2        |
| 10              | 64QAM | 1  | 25 | 20.56  | 20.66  | 20.78 | 20.81  | 20.75  |                     |          |
| 10              | 64QAM | 1  | 49 | 20.50  | 20.64  | 20.74 | 20.66  | 20.71  |                     |          |
| 10              | 64QAM | 25 | 0  | 19.78  | 20.03  | 20.13 | 20.08  | 20.03  | 21                  | 3        |
| 10              | 64QAM | 25 | 12 | 19.78  | 19.98  | 20.10 | 20.05  | 20.01  |                     |          |
| 10              | 64QAM | 25 | 25 | 19.77  | 19.96  | 20.12 | 20.02  | 20.02  |                     |          |
| 10              | 64QAM | 50 | 0  | 19.85  | 20.06  | 20.20 | 20.13  | 20.11  |                     |          |

| 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  | 22.33  | 22.59  | 22.68 | 22.68   | 22.66  | 24                        | 0           |
| 5               | QPSK  | 1  | 12 | 22.31  | 22.55  | 22.66 | 22.68   | 22.64  |                           |             |
| 5               | QPSK  | 1  | 24 | 22.28  | 22.48  | 22.63 | 22.58   | 22.61  |                           |             |
| 5               | QPSK  | 12 | 0  | 21.31  | 21.51  | 21.66 | 21.62   | 21.57  | 23                        | 1           |
| 5               | QPSK  | 12 | 7  | 21.32  | 21.50  | 21.66 | 21.60   | 21.56  |                           |             |
| 5               | QPSK  | 12 | 13 | 21.30  | 21.49  | 21.64 | 21.58   | 21.54  |                           |             |
| 5               | QPSK  | 25 | 0  | 21.29  | 21.49  | 21.65 | 21.59   | 21.56  |                           |             |
| 5               | 16QAM | 1  | 0  | 21.29  | 21.47  | 21.64 | 21.63   | 21.62  | 23                        | 1           |
| 5               | 16QAM | 1  | 12 | 21.31  | 21.45  | 21.63 | 21.57   | 21.61  |                           |             |
| 5               | 16QAM | 1  | 24 | 21.27  | 21.40  | 21.59 | 21.58   | 21.58  |                           |             |
| 5               | 16QAM | 12 | 0  | 20.34  | 20.53  | 20.66 | 20.60   | 20.62  | 22                        | 2           |
| 5               | 16QAM | 12 | 7  | 20.34  | 20.51  | 20.66 | 20.58   | 20.62  |                           |             |
| 5               | 16QAM | 12 | 13 | 20.35  | 20.51  | 20.64 | 20.58   | 20.60  |                           |             |
| 5               | 16QAM | 25 | 0  | 20.39  | 20.57  | 20.77 | 20.67   | 20.65  |                           |             |
| 5               | 64QAM | 1  | 0  | 20.60  | 20.72  | 20.73 | 20.76   | 20.71  | 22                        | 2           |
| 5               | 64QAM | 1  | 12 | 20.46  | 20.63  | 20.71 | 20.73   | 20.69  |                           |             |
| 5               | 64QAM | 1  | 24 | 20.50  | 20.61  | 20.68 | 20.64   | 20.68  |                           |             |
| 5               | 64QAM | 12 | 0  | 19.72  | 19.93  | 20.06 | 20.02   | 19.99  | 21                        | 3           |
| 5               | 64QAM | 12 | 7  | 19.70  | 19.91  | 20.05 | 20.02   | 19.99  |                           |             |
| 5               | 64QAM | 12 | 13 | 19.70  | 19.87  | 20.03 | 20.00   | 19.99  |                           |             |
| 5               | 64QAM | 25 | 0  | 19.77  | 19.95  | 20.14 | 20.05   | 20.02  |                           |             |

### <Reduced Power Mode for P-Sensor On>

#### <LTE Band 38>

| 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         |            |         |           | 37850                 | 38000                    | 38150                  |                     |          |
| Frequency (MHz) |            |         |           | 2580                  | 2595                     | 2610                   |                     |          |
| 20              | QPSK       | 1       | 0         | 21.14                 | 20.97                    | 20.92                  | 22                  | 0        |
| 20              | QPSK       | 1       | 49        | 20.93                 | 20.93                    | 20.91                  |                     |          |
| 20              | QPSK       | 1       | 99        | 21.05                 | 20.89                    | 20.85                  |                     |          |
| 20              | QPSK       | 50      | 0         | 21.03                 | 20.93                    | 20.88                  | 22                  | 0        |
| 20              | QPSK       | 50      | 24        | 21.03                 | 20.90                    | 20.85                  |                     |          |
| 20              | QPSK       | 50      | 50        | 21.02                 | 20.90                    | 20.84                  |                     |          |
| 20              | QPSK       | 100     | 0         | 21.04                 | 20.90                    | 20.87                  | 22                  | 0        |
| 20              | 16QAM      | 1       | 0         | 20.95                 | 20.97                    | 20.93                  |                     |          |
| 20              | 16QAM      | 1       | 49        | 21.04                 | 20.97                    | 20.85                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 20.96                 | 20.95                    | 20.88                  | 22                  | 0        |
| 20              | 16QAM      | 50      | 0         | 21.09                 | 20.96                    | 20.90                  |                     |          |
| 20              | 16QAM      | 50      | 24        | 21.09                 | 20.94                    | 20.87                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 21.07                 | 20.93                    | 20.88                  | 22                  | 0        |
| 20              | 16QAM      | 100     | 0         | 21.07                 | 21.03                    | 20.96                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 20.80                 | 20.74                    | 20.77                  |                     |          |
| 20              | 64QAM      | 1       | 49        | 20.92                 | 20.61                    | 20.68                  | 22                  | 0        |
| 20              | 64QAM      | 1       | 99        | 20.87                 | 20.63                    | 20.65                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 19.79                 | 19.87                    | 19.84                  |                     |          |
| 20              | 64QAM      | 50      | 24        | 19.89                 | 19.85                    | 19.83                  | 21                  | 1        |
| 20              | 64QAM      | 50      | 50        | 19.77                 | 19.85                    | 19.81                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 19.85                 | 19.95                    | 19.91                  |                     |          |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 37825  | 38000 | 38175  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------------|-------------|
| Frequency (MHz) |       |    |    | 2577.5 | 2595  | 2612.5 |                           |             |
| 15              | QPSK  | 1  | 0  | 21.04  | 20.97 | 20.94  | 22                        | 0           |
| 15              | QPSK  | 1  | 37 | 21.09  | 20.96 | 20.90  |                           |             |
| 15              | QPSK  | 1  | 74 | 21.01  | 20.93 | 20.85  |                           |             |
| 15              | QPSK  | 36 | 0  | 21.05  | 20.95 | 20.89  | 22                        | 0           |
| 15              | QPSK  | 36 | 20 | 21.04  | 20.91 | 20.85  |                           |             |
| 15              | QPSK  | 36 | 39 | 21.02  | 20.89 | 20.81  |                           |             |
| 15              | QPSK  | 75 | 0  | 21.03  | 20.91 | 20.85  |                           |             |
| 15              | 16QAM | 1  | 0  | 21.01  | 20.89 | 21.04  | 22                        | 0           |
| 15              | 16QAM | 1  | 37 | 20.96  | 20.86 | 20.95  |                           |             |
| 15              | 16QAM | 1  | 74 | 20.89  | 20.80 | 20.88  |                           |             |
| 15              | 16QAM | 36 | 0  | 21.02  | 21.04 | 21.01  | 22                        | 0           |
| 15              | 16QAM | 36 | 20 | 21.03  | 21.02 | 20.96  |                           |             |
| 15              | 16QAM | 36 | 39 | 21.05  | 21.00 | 20.93  |                           |             |
| 15              | 16QAM | 75 | 0  | 21.09  | 20.96 | 20.91  |                           |             |
| 15              | 64QAM | 1  | 0  | 20.94  | 20.78 | 20.60  | 22                        | 0           |
| 15              | 64QAM | 1  | 37 | 20.86  | 20.68 | 20.57  |                           |             |
| 15              | 64QAM | 1  | 74 | 20.82  | 20.64 | 20.54  |                           |             |
| 15              | 64QAM | 36 | 0  | 20.11  | 19.98 | 19.95  | 21                        | 1           |
| 15              | 64QAM | 36 | 20 | 20.10  | 19.96 | 19.89  |                           |             |
| 15              | 64QAM | 36 | 39 | 20.05  | 19.94 | 19.87  |                           |             |
| 15              | 64QAM | 75 | 0  | 20.13  | 20.01 | 19.94  |                           |             |
| Channel         |       |    |    | 37800  | 38000 | 38200  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 2575   | 2595  | 2615   |                           |             |
| 10              | QPSK  | 1  | 0  | 21.13  | 21.03 | 20.94  | 22                        | 0           |
| 10              | QPSK  | 1  | 25 | 21.10  | 21.01 | 20.87  |                           |             |
| 10              | QPSK  | 1  | 49 | 21.05  | 20.95 | 20.79  |                           |             |
| 10              | QPSK  | 25 | 0  | 21.09  | 20.97 | 20.90  | 22                        | 0           |
| 10              | QPSK  | 25 | 12 | 21.08  | 20.95 | 20.88  |                           |             |
| 10              | QPSK  | 25 | 25 | 21.05  | 20.94 | 20.85  |                           |             |
| 10              | QPSK  | 50 | 0  | 21.08  | 20.95 | 20.86  |                           |             |
| 10              | 16QAM | 1  | 0  | 21.03  | 21.05 | 20.98  | 22                        | 0           |
| 10              | 16QAM | 1  | 25 | 21.06  | 21.01 | 20.95  |                           |             |
| 10              | 16QAM | 1  | 49 | 21.01  | 20.95 | 20.87  |                           |             |
| 10              | 16QAM | 25 | 0  | 21.02  | 21.07 | 21.01  | 22                        | 0           |
| 10              | 16QAM | 25 | 12 | 21.07  | 21.07 | 20.99  |                           |             |
| 10              | 16QAM | 25 | 25 | 21.05  | 21.04 | 20.96  |                           |             |
| 10              | 16QAM | 50 | 0  | 21.12  | 21.00 | 20.92  |                           |             |
| 10              | 64QAM | 1  | 0  | 20.84  | 20.77 | 20.55  | 22                        | 0           |
| 10              | 64QAM | 1  | 25 | 20.88  | 20.74 | 20.58  |                           |             |
| 10              | 64QAM | 1  | 49 | 20.80  | 20.68 | 20.53  |                           |             |
| 10              | 64QAM | 25 | 0  | 20.06  | 20.01 | 19.97  | 21                        | 1           |
| 10              | 64QAM | 25 | 12 | 20.06  | 19.98 | 19.94  |                           |             |
| 10              | 64QAM | 25 | 25 | 20.12  | 19.95 | 19.89  |                           |             |
| 10              | 64QAM | 50 | 0  | 20.01  | 20.03 | 19.94  |                           |             |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 37775  | 38000 | 38225  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------------|-------------|
| Frequency (MHz) |       |    |    | 2572.5 | 2595  | 2617.5 |                           |             |
| 5               | QPSK  | 1  | 0  | 21.01  | 21.06 | 21.00  | 22                        | 0           |
| 5               | QPSK  | 1  | 12 | 21.12  | 20.97 | 20.92  |                           |             |
| 5               | QPSK  | 1  | 24 | 21.08  | 20.94 | 20.79  |                           |             |
| 5               | QPSK  | 12 | 0  | 21.05  | 20.99 | 20.96  | 22                        | 0           |
| 5               | QPSK  | 12 | 7  | 21.11  | 20.94 | 20.89  |                           |             |
| 5               | QPSK  | 12 | 13 | 21.10  | 20.91 | 20.83  |                           |             |
| 5               | QPSK  | 25 | 0  | 21.11  | 20.94 | 20.87  |                           |             |
| 5               | 16QAM | 1  | 0  | 21.02  | 20.84 | 20.88  | 22                        | 0           |
| 5               | 16QAM | 1  | 12 | 21.11  | 20.75 | 20.80  |                           |             |
| 5               | 16QAM | 1  | 24 | 21.05  | 20.68 | 20.66  |                           |             |
| 5               | 16QAM | 12 | 0  | 21.01  | 21.02 | 20.98  | 22                        | 0           |
| 5               | 16QAM | 12 | 7  | 21.03  | 20.99 | 20.92  |                           |             |
| 5               | 16QAM | 12 | 13 | 21.04  | 20.96 | 20.88  |                           |             |
| 5               | 16QAM | 25 | 0  | 21.01  | 21.02 | 20.94  |                           |             |
| 5               | 64QAM | 1  | 0  | 20.85  | 20.73 | 20.66  | 22                        | 0           |
| 5               | 64QAM | 1  | 12 | 20.77  | 20.64 | 20.60  |                           |             |
| 5               | 64QAM | 1  | 24 | 20.73  | 20.51 | 20.51  |                           |             |
| 5               | 64QAM | 12 | 0  | 20.03  | 20.05 | 20.01  | 21                        | 1           |
| 5               | 64QAM | 12 | 7  | 20.02  | 20.02 | 19.98  |                           |             |
| 5               | 64QAM | 12 | 13 | 20.02  | 19.98 | 19.91  |                           |             |
| 5               | 64QAM | 25 | 0  | 20.03  | 20.03 | 19.97  |                           |             |

**<LTE Band 41>**

| 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         | 20.71                 | 20.82                        | 21.06                    | 20.79                         | 20.81                  | 22                  | 0        |
| 20              | QPSK       | 1       | 49        | 20.63                 | 20.76                        | 21.00                    | 20.75                         | 20.85                  |                     |          |
| 20              | QPSK       | 1       | 99        | 20.57                 | 20.71                        | 20.91                    | 20.68                         | 20.78                  |                     |          |
| 20              | QPSK       | 50      | 0         | 20.62                 | 20.77                        | 20.95                    | 20.76                         | 20.84                  | 22                  | 0        |
| 20              | QPSK       | 50      | 24        | 20.57                 | 20.72                        | 20.91                    | 20.73                         | 20.82                  |                     |          |
| 20              | QPSK       | 50      | 50        | 20.55                 | 20.68                        | 20.88                    | 20.69                         | 20.79                  |                     |          |
| 20              | QPSK       | 100     | 0         | 20.59                 | 20.72                        | 20.93                    | 20.71                         | 20.81                  |                     |          |
| 20              | 16QAM      | 1       | 0         | 20.68                 | 20.72                        | 20.77                    | 20.69                         | 20.81                  | 22                  | 0        |
| 20              | 16QAM      | 1       | 49        | 20.68                 | 20.68                        | 20.99                    | 20.68                         | 20.91                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 20.68                 | 20.68                        | 20.89                    | 20.68                         | 20.79                  |                     |          |
| 20              | 16QAM      | 50      | 0         | 20.63                 | 20.79                        | 21.00                    | 20.83                         | 20.90                  | 22                  | 0        |
| 20              | 16QAM      | 50      | 24        | 20.60                 | 20.75                        | 20.94                    | 20.78                         | 20.86                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 20.57                 | 20.73                        | 20.90                    | 20.76                         | 20.86                  |                     |          |
| 20              | 16QAM      | 100     | 0         | 20.63                 | 20.79                        | 20.98                    | 20.79                         | 20.91                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 20.48                 | 20.57                        | 20.75                    | 20.53                         | 20.58                  | 22                  | 0        |
| 20              | 64QAM      | 1       | 49        | 20.40                 | 20.43                        | 20.69                    | 20.44                         | 20.56                  |                     |          |
| 20              | 64QAM      | 1       | 99        | 20.31                 | 20.39                        | 20.55                    | 20.42                         | 20.54                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 19.69                 | 19.82                        | 20.05                    | 19.88                         | 19.95                  | 21                  | 1        |
| 20              | 64QAM      | 50      | 24        | 19.65                 | 19.79                        | 20.01                    | 19.82                         | 19.94                  |                     |          |
| 20              | 64QAM      | 50      | 50        | 19.60                 | 19.78                        | 19.98                    | 19.80                         | 19.90                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 19.65                 | 19.80                        | 20.01                    | 19.81                         | 19.90                  |                     |          |



# FCC SAR Test Report

Report No. : FA932901-02

| 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  | 20.66  | 20.78  | 20.96 | 20.82  | 20.85  | 22                  | 0        |
| 15              | QPSK  | 1  | 37 | 20.62  | 20.73  | 20.93 | 20.76  | 20.81  |                     |          |
| 15              | QPSK  | 1  | 74 | 20.54  | 20.68  | 20.83 | 20.71  | 20.77  |                     |          |
| 15              | QPSK  | 36 | 0  | 20.62  | 20.75  | 20.96 | 20.78  | 20.84  | 22                  | 0        |
| 15              | QPSK  | 36 | 20 | 20.57  | 20.72  | 20.91 | 20.75  | 20.80  |                     |          |
| 15              | QPSK  | 36 | 39 | 20.54  | 20.69  | 20.88 | 20.73  | 20.79  |                     |          |
| 15              | QPSK  | 75 | 0  | 20.57  | 20.73  | 20.93 | 20.76  | 20.81  |                     |          |
| 15              | 16QAM | 1  | 0  | 20.58  | 20.76  | 21.02 | 20.84  | 20.82  | 22                  | 0        |
| 15              | 16QAM | 1  | 37 | 20.66  | 20.69  | 20.96 | 20.81  | 20.77  |                     |          |
| 15              | 16QAM | 1  | 74 | 20.66  | 20.66  | 20.92 | 20.72  | 20.71  |                     |          |
| 15              | 16QAM | 36 | 0  | 20.59  | 20.75  | 20.98 | 20.82  | 20.86  | 22                  | 0        |
| 15              | 16QAM | 36 | 20 | 20.55  | 20.71  | 20.94 | 20.78  | 20.84  |                     |          |
| 15              | 16QAM | 36 | 39 | 20.53  | 20.69  | 20.91 | 20.73  | 20.83  |                     |          |
| 15              | 16QAM | 75 | 0  | 20.61  | 20.78  | 20.97 | 20.83  | 20.90  |                     |          |
| 15              | 64QAM | 1  | 0  | 20.48  | 20.65  | 20.78 | 20.58  | 20.56  | 22                  | 0        |
| 15              | 64QAM | 1  | 37 | 20.48  | 20.48  | 20.64 | 20.52  | 20.54  |                     |          |
| 15              | 64QAM | 1  | 74 | 20.48  | 20.52  | 20.61 | 20.47  | 20.50  |                     |          |
| 15              | 64QAM | 36 | 0  | 19.67  | 19.80  | 20.00 | 19.86  | 19.92  | 21                  | 1        |
| 15              | 64QAM | 36 | 20 | 19.62  | 19.77  | 19.97 | 19.84  | 19.88  |                     |          |
| 15              | 64QAM | 36 | 39 | 19.60  | 19.73  | 19.96 | 19.81  | 19.89  |                     |          |
| 15              | 64QAM | 75 | 0  | 19.62  | 19.78  | 19.98 | 19.81  | 19.84  |                     |          |
| Channel         |       |    |    | 39700  | 40160  | 40620 | 41080  | 41540  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 2501   | 2547   | 2593  | 2639   | 2685   |                     |          |
| 10              | QPSK  | 1  | 0  | 20.70  | 20.80  | 20.92 | 20.82  | 20.85  | 22                  | 0        |
| 10              | QPSK  | 1  | 25 | 20.64  | 20.76  | 20.92 | 20.79  | 20.83  |                     |          |
| 10              | QPSK  | 1  | 49 | 20.62  | 20.73  | 20.87 | 20.74  | 20.80  |                     |          |
| 10              | QPSK  | 25 | 0  | 20.62  | 20.72  | 20.93 | 20.76  | 20.83  | 22                  | 0        |
| 10              | QPSK  | 25 | 12 | 20.59  | 20.71  | 20.91 | 20.74  | 20.81  |                     |          |
| 10              | QPSK  | 25 | 25 | 20.63  | 20.67  | 20.88 | 20.71  | 20.80  |                     |          |
| 10              | QPSK  | 50 | 0  | 20.76  | 20.72  | 20.91 | 20.76  | 20.82  |                     |          |
| 10              | 16QAM | 1  | 0  | 20.70  | 20.91  | 20.87 | 20.74  | 20.77  | 22                  | 0        |
| 10              | 16QAM | 1  | 25 | 20.67  | 20.86  | 20.84 | 20.78  | 20.71  |                     |          |
| 10              | 16QAM | 1  | 49 | 20.74  | 20.80  | 20.79 | 20.74  | 20.65  |                     |          |
| 10              | 16QAM | 25 | 0  | 20.71  | 20.83  | 20.76 | 20.89  | 20.96  | 22                  | 0        |
| 10              | 16QAM | 25 | 12 | 20.69  | 20.82  | 21.03 | 20.86  | 20.95  |                     |          |
| 10              | 16QAM | 25 | 25 | 20.65  | 20.79  | 21.03 | 20.86  | 20.93  |                     |          |
| 10              | 16QAM | 50 | 0  | 20.65  | 20.75  | 20.96 | 20.82  | 20.89  |                     |          |
| 10              | 64QAM | 1  | 0  | 20.41  | 20.39  | 20.61 | 20.62  | 20.47  | 22                  | 0        |
| 10              | 64QAM | 1  | 25 | 20.25  | 20.36  | 20.57 | 20.63  | 20.56  |                     |          |
| 10              | 64QAM | 1  | 49 | 20.65  | 20.26  | 20.54 | 20.45  | 20.50  |                     |          |
| 10              | 64QAM | 25 | 0  | 19.64  | 19.77  | 19.99 | 19.82  | 19.89  | 21                  | 1        |
| 10              | 64QAM | 25 | 12 | 19.62  | 19.75  | 19.97 | 19.79  | 19.88  |                     |          |
| 10              | 64QAM | 25 | 25 | 19.68  | 19.72  | 19.95 | 19.80  | 19.87  |                     |          |
| 10              | 64QAM | 50 | 0  | 19.62  | 19.78  | 20.01 | 19.84  | 19.94  |                     |          |

| 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  | 20.72  | 20.78  | 20.95 | 20.81   | 20.88  | 22                        | 0           |
| 5               | QPSK  | 1  | 12 | 20.70  | 20.76  | 20.94 | 20.81   | 20.86  |                           |             |
| 5               | QPSK  | 1  | 24 | 20.65  | 20.73  | 20.89 | 20.78   | 20.82  |                           |             |
| 5               | QPSK  | 12 | 0  | 20.63  | 20.71  | 20.91 | 20.80   | 20.83  | 22                        | 0           |
| 5               | QPSK  | 12 | 7  | 20.63  | 20.70  | 20.90 | 20.78   | 20.82  |                           |             |
| 5               | QPSK  | 12 | 13 | 20.63  | 20.69  | 20.90 | 20.77   | 20.80  |                           |             |
| 5               | QPSK  | 25 | 0  | 20.62  | 20.69  | 20.91 | 20.79   | 20.83  |                           |             |
| 5               | 16QAM | 1  | 0  | 20.49  | 20.65  | 20.91 | 20.86   | 20.95  | 22                        | 0           |
| 5               | 16QAM | 1  | 12 | 20.52  | 20.67  | 20.91 | 20.89   | 20.97  |                           |             |
| 5               | 16QAM | 1  | 24 | 20.48  | 20.63  | 20.87 | 20.87   | 20.93  |                           |             |
| 5               | 16QAM | 12 | 0  | 20.67  | 20.77  | 20.96 | 20.85   | 20.89  | 22                        | 0           |
| 5               | 16QAM | 12 | 7  | 20.64  | 20.76  | 20.95 | 20.82   | 20.82  |                           |             |
| 5               | 16QAM | 12 | 13 | 20.64  | 20.75  | 20.91 | 20.82   | 20.82  |                           |             |
| 5               | 16QAM | 25 | 0  | 20.71  | 20.80  | 21.04 | 20.93   | 20.97  |                           |             |
| 5               | 64QAM | 1  | 0  | 20.43  | 20.60  | 20.87 | 20.70   | 20.68  | 22                        | 0           |
| 5               | 64QAM | 1  | 12 | 20.46  | 20.52  | 20.86 | 20.53   | 20.64  |                           |             |
| 5               | 64QAM | 1  | 24 | 20.46  | 20.49  | 20.84 | 20.68   | 20.58  |                           |             |
| 5               | 64QAM | 12 | 0  | 19.59  | 19.69  | 19.91 | 19.77   | 19.85  | 21                        | 1           |
| 5               | 64QAM | 12 | 7  | 19.59  | 19.65  | 19.91 | 19.78   | 19.83  |                           |             |
| 5               | 64QAM | 12 | 13 | 19.57  | 19.67  | 19.91 | 19.74   | 19.78  |                           |             |
| 5               | 64QAM | 25 | 0  | 19.69  | 19.65  | 19.96 | 19.84   | 19.86  |                           |             |

### <Reduced Power Mode for Hotspot On>

#### <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<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|---------------------------|-------------|
| Channel         |            |         |           | 37850                    | 38000                       | 38150                     |                           |             |
| Frequency (MHz) |            |         |           | 2580                     | 2595                        | 2610                      |                           |             |
| 20              | QPSK       | 1       | 0         | 17.13                    | 16.91                       | 16.85                     | 18                        | 0           |
| 20              | QPSK       | 1       | 49        | 16.98                    | 16.79                       | 16.74                     |                           |             |
| 20              | QPSK       | 1       | 99        | 16.76                    | 16.72                       | 16.63                     |                           |             |
| 20              | QPSK       | 50      | 0         | 16.94                    | 16.76                       | 16.75                     | 18                        | 0           |
| 20              | QPSK       | 50      | 24        | 16.90                    | 16.72                       | 16.70                     |                           |             |
| 20              | QPSK       | 50      | 50        | 16.88                    | 16.68                       | 16.64                     |                           |             |
| 20              | QPSK       | 100     | 0         | 16.91                    | 16.73                       | 16.70                     | 18                        | 0           |
| 20              | 16QAM      | 1       | 0         | 17.12                    | 17.01                       | 16.98                     |                           |             |
| 20              | 16QAM      | 1       | 49        | 17.11                    | 16.90                       | 16.85                     |                           |             |
| 20              | 16QAM      | 1       | 99        | 17.00                    | 16.81                       | 16.71                     | 18                        | 0           |
| 20              | 16QAM      | 50      | 0         | 17.05                    | 16.87                       | 16.86                     |                           |             |
| 20              | 16QAM      | 50      | 24        | 17.01                    | 16.83                       | 16.80                     |                           |             |
| 20              | 16QAM      | 50      | 50        | 16.99                    | 16.79                       | 16.76                     | 18                        | 0           |
| 20              | 16QAM      | 100     | 0         | 17.03                    | 16.84                       | 16.80                     |                           |             |
| 20              | 64QAM      | 1       | 0         | 16.84                    | 16.77                       | 16.75                     |                           |             |
| 20              | 64QAM      | 1       | 49        | 16.98                    | 16.67                       | 16.65                     | 18                        | 0           |
| 20              | 64QAM      | 1       | 99        | 16.95                    | 16.59                       | 16.52                     |                           |             |
| 20              | 64QAM      | 50      | 0         | 17.09                    | 16.90                       | 16.88                     |                           |             |
| 20              | 64QAM      | 50      | 24        | 17.06                    | 16.87                       | 16.82                     | 18                        | 0           |
| 20              | 64QAM      | 50      | 50        | 17.01                    | 16.83                       | 16.78                     |                           |             |
| 20              | 64QAM      | 100     | 0         | 17.06                    | 16.86                       | 16.83                     |                           |             |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 37825  | 38000 | 38175  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------------|-------------|
| Frequency (MHz) |       |    |    | 2577.5 | 2595  | 2612.5 |                           |             |
| 15              | QPSK  | 1  | 0  | 16.99  | 16.84 | 16.80  | 18                        | 0           |
| 15              | QPSK  | 1  | 37 | 16.90  | 16.77 | 16.74  |                           |             |
| 15              | QPSK  | 1  | 74 | 16.87  | 16.71 | 16.61  |                           |             |
| 15              | QPSK  | 36 | 0  | 16.89  | 16.74 | 16.68  | 18                        | 0           |
| 15              | QPSK  | 36 | 20 | 16.84  | 16.72 | 16.65  |                           |             |
| 15              | QPSK  | 36 | 39 | 16.81  | 16.67 | 16.60  |                           |             |
| 15              | QPSK  | 75 | 0  | 16.85  | 16.72 | 16.65  |                           |             |
| 15              | 16QAM | 1  | 0  | 16.98  | 17.12 | 16.89  | 18                        | 0           |
| 15              | 16QAM | 1  | 37 | 16.90  | 17.05 | 16.84  |                           |             |
| 15              | 16QAM | 1  | 74 | 16.86  | 17.00 | 16.72  |                           |             |
| 15              | 16QAM | 36 | 0  | 16.94  | 16.79 | 16.74  | 18                        | 0           |
| 15              | 16QAM | 36 | 20 | 16.90  | 16.76 | 16.70  |                           |             |
| 15              | 16QAM | 36 | 39 | 16.87  | 16.73 | 16.64  |                           |             |
| 15              | 16QAM | 75 | 0  | 16.97  | 16.83 | 16.75  |                           |             |
| 15              | 64QAM | 1  | 0  | 16.83  | 16.76 | 16.55  | 18                        | 0           |
| 15              | 64QAM | 1  | 37 | 16.78  | 16.60 | 16.46  |                           |             |
| 15              | 64QAM | 1  | 74 | 16.68  | 16.56 | 16.39  |                           |             |
| 15              | 64QAM | 36 | 0  | 16.98  | 16.85 | 16.77  | 18                        | 0           |
| 15              | 64QAM | 36 | 20 | 16.94  | 16.82 | 16.74  |                           |             |
| 15              | 64QAM | 36 | 39 | 16.93  | 16.79 | 16.68  |                           |             |
| 15              | 64QAM | 75 | 0  | 16.97  | 16.82 | 16.77  |                           |             |
| Channel         |       |    |    | 37800  | 38000 | 38200  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 2575   | 2595  | 2615   |                           |             |
| 10              | QPSK  | 1  | 0  | 16.93  | 16.83 | 16.81  | 18                        | 0           |
| 10              | QPSK  | 1  | 25 | 16.92  | 16.79 | 16.73  |                           |             |
| 10              | QPSK  | 1  | 49 | 16.84  | 16.78 | 16.67  |                           |             |
| 10              | QPSK  | 25 | 0  | 16.86  | 16.73 | 16.67  | 18                        | 0           |
| 10              | QPSK  | 25 | 12 | 16.84  | 16.71 | 16.64  |                           |             |
| 10              | QPSK  | 25 | 25 | 16.82  | 16.68 | 16.63  |                           |             |
| 10              | QPSK  | 50 | 0  | 16.85  | 16.71 | 16.66  |                           |             |
| 10              | 16QAM | 1  | 0  | 16.94  | 16.81 | 17.00  | 18                        | 0           |
| 10              | 16QAM | 1  | 25 | 16.91  | 16.77 | 16.96  |                           |             |
| 10              | 16QAM | 1  | 49 | 16.83  | 16.73 | 16.86  |                           |             |
| 10              | 16QAM | 25 | 0  | 16.97  | 16.88 | 16.85  | 18                        | 0           |
| 10              | 16QAM | 25 | 12 | 16.96  | 16.84 | 16.81  |                           |             |
| 10              | 16QAM | 25 | 25 | 16.94  | 16.84 | 16.79  |                           |             |
| 10              | 16QAM | 50 | 0  | 16.96  | 16.80 | 16.77  |                           |             |
| 10              | 64QAM | 1  | 0  | 16.85  | 16.66 | 16.64  | 18                        | 0           |
| 10              | 64QAM | 1  | 25 | 16.84  | 16.62 | 16.53  |                           |             |
| 10              | 64QAM | 1  | 49 | 16.65  | 16.59 | 16.42  |                           |             |
| 10              | 64QAM | 25 | 0  | 16.97  | 16.82 | 16.77  | 18                        | 0           |
| 10              | 64QAM | 25 | 12 | 16.93  | 16.80 | 16.73  |                           |             |
| 10              | 64QAM | 25 | 25 | 16.89  | 16.78 | 16.70  |                           |             |
| 10              | 64QAM | 50 | 0  | 16.99  | 16.86 | 16.79  |                           |             |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 37775  | 38000 | 38225  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------------|-------------|
| Frequency (MHz) |       |    |    | 2572.5 | 2595  | 2617.5 |                           |             |
| 5               | QPSK  | 1  | 0  | 16.97  | 16.80 | 16.77  | 18                        | 0           |
| 5               | QPSK  | 1  | 12 | 16.94  | 16.76 | 16.72  |                           |             |
| 5               | QPSK  | 1  | 24 | 16.91  | 16.73 | 16.68  |                           |             |
| 5               | QPSK  | 12 | 0  | 16.88  | 16.73 | 16.70  | 18                        | 0           |
| 5               | QPSK  | 12 | 7  | 16.86  | 16.73 | 16.68  |                           |             |
| 5               | QPSK  | 12 | 13 | 16.86  | 16.71 | 16.65  |                           |             |
| 5               | QPSK  | 25 | 0  | 16.85  | 16.70 | 16.68  |                           |             |
| 5               | 16QAM | 1  | 0  | 16.90  | 16.78 | 16.87  | 18                        | 0           |
| 5               | 16QAM | 1  | 12 | 16.89  | 16.79 | 16.83  |                           |             |
| 5               | 16QAM | 1  | 24 | 16.86  | 16.76 | 16.80  |                           |             |
| 5               | 16QAM | 12 | 0  | 16.90  | 16.80 | 16.77  | 18                        | 0           |
| 5               | 16QAM | 12 | 7  | 16.89  | 16.80 | 16.73  |                           |             |
| 5               | 16QAM | 12 | 13 | 16.87  | 16.79 | 16.73  |                           |             |
| 5               | 16QAM | 25 | 0  | 16.98  | 16.83 | 16.78  |                           |             |
| 5               | 64QAM | 1  | 0  | 16.77  | 16.59 | 16.46  | 18                        | 0           |
| 5               | 64QAM | 1  | 12 | 16.73  | 16.67 | 16.48  |                           |             |
| 5               | 64QAM | 1  | 24 | 16.73  | 16.66 | 16.49  |                           |             |
| 5               | 64QAM | 12 | 0  | 16.86  | 16.75 | 16.73  | 18                        | 0           |
| 5               | 64QAM | 12 | 7  | 16.83  | 16.71 | 16.70  |                           |             |
| 5               | 64QAM | 12 | 13 | 16.82  | 16.73 | 16.68  |                           |             |
| 5               | 64QAM | 25 | 0  | 16.93  | 16.80 | 16.74  |                           |             |

**<LTE Band 41>**

| 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         | 17.12                 | 17.09                        | 17.34                    | 17.22                         | 17.27                  | 18                  | 0        |
| 20              | QPSK       | 1       | 49        | 17.11                 | 17.11                        | 17.29                    | 17.21                         | 17.26                  |                     |          |
| 20              | QPSK       | 1       | 99        | 17.09                 | 17.05                        | 17.26                    | 17.22                         | 17.23                  |                     |          |
| 20              | QPSK       | 50      | 0         | 16.94                 | 17.04                        | 17.28                    | 17.18                         | 17.26                  | 18                  | 0        |
| 20              | QPSK       | 50      | 24        | 16.91                 | 17.04                        | 17.27                    | 17.17                         | 17.25                  |                     |          |
| 20              | QPSK       | 50      | 50        | 16.86                 | 16.94                        | 17.20                    | 17.09                         | 17.15                  |                     |          |
| 20              | QPSK       | 100     | 0         | 16.86                 | 16.94                        | 17.20                    | 17.08                         | 17.16                  |                     |          |
| 20              | 16QAM      | 1       | 0         | 16.69                 | 16.78                        | 17.02                    | 16.95                         | 16.94                  | 18                  | 0        |
| 20              | 16QAM      | 1       | 49        | 16.71                 | 16.77                        | 16.95                    | 16.85                         | 16.99                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 16.72                 | 16.82                        | 17.02                    | 16.85                         | 16.93                  |                     |          |
| 20              | 16QAM      | 50      | 0         | 16.86                 | 16.93                        | 17.20                    | 17.10                         | 17.16                  | 18                  | 0        |
| 20              | 16QAM      | 50      | 24        | 16.86                 | 16.94                        | 17.20                    | 17.09                         | 17.15                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 16.86                 | 16.94                        | 17.20                    | 17.08                         | 17.16                  |                     |          |
| 20              | 16QAM      | 100     | 0         | 17.02                 | 17.09                        | 17.24                    | 17.26                         | 17.23                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 16.89                 | 17.02                        | 17.25                    | 17.16                         | 17.23                  | 18                  | 0        |
| 20              | 64QAM      | 1       | 49        | 16.91                 | 17.01                        | 17.23                    | 17.15                         | 17.21                  |                     |          |
| 20              | 64QAM      | 1       | 99        | 16.86                 | 16.97                        | 17.22                    | 17.12                         | 17.22                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 16.89                 | 17.02                        | 17.25                    | 17.16                         | 17.23                  | 18                  | 0        |
| 20              | 64QAM      | 50      | 24        | 16.91                 | 17.01                        | 17.23                    | 17.15                         | 17.21                  |                     |          |
| 20              | 64QAM      | 50      | 50        | 16.86                 | 16.97                        | 17.22                    | 17.12                         | 17.22                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 16.95                 | 17.06                        | 17.30                    | 17.20                         | 17.31                  |                     |          |



# FCC SAR Test Report

Report No. : FA932901-02

| 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  | 17.04  | 17.09  | 17.22 | 17.22  | 17.27  | 18                  | 0        |
| 15              | QPSK  | 1  | 37 | 17.11  | 16.93  | 17.26 | 17.21  | 17.26  |                     |          |
| 15              | QPSK  | 1  | 74 | 17.09  | 17.05  | 17.26 | 17.22  | 17.23  |                     |          |
| 15              | QPSK  | 36 | 0  | 16.94  | 17.04  | 17.18 | 17.15  | 17.26  | 18                  | 0        |
| 15              | QPSK  | 36 | 20 | 16.91  | 17.04  | 17.08 | 17.17  | 17.09  |                     |          |
| 15              | QPSK  | 36 | 39 | 16.89  | 16.94  | 17.20 | 17.09  | 17.15  |                     |          |
| 15              | QPSK  | 75 | 0  | 16.86  | 16.89  | 17.08 | 17.08  | 17.16  |                     |          |
| 15              | 16QAM | 1  | 0  | 16.69  | 16.78  | 16.89 | 16.95  | 16.94  | 18                  | 0        |
| 15              | 16QAM | 1  | 37 | 16.71  | 16.77  | 17.09 | 16.85  | 16.99  |                     |          |
| 15              | 16QAM | 1  | 74 | 16.72  | 16.82  | 17.02 | 16.85  | 16.93  |                     |          |
| 15              | 16QAM | 36 | 0  | 16.86  | 16.93  | 17.20 | 17.10  | 17.16  | 18                  | 0        |
| 15              | 16QAM | 36 | 20 | 16.89  | 16.94  | 16.91 | 17.09  | 17.15  |                     |          |
| 15              | 16QAM | 36 | 39 | 16.82  | 16.94  | 17.20 | 17.08  | 17.16  |                     |          |
| 15              | 16QAM | 75 | 0  | 17.02  | 17.09  | 17.02 | 17.26  | 17.31  |                     |          |
| 15              | 64QAM | 1  | 0  | 16.89  | 17.02  | 17.25 | 17.16  | 17.23  | 18                  | 0        |
| 15              | 64QAM | 1  | 37 | 16.91  | 17.01  | 17.15 | 17.15  | 17.26  |                     |          |
| 15              | 64QAM | 1  | 74 | 16.86  | 16.97  | 17.22 | 17.12  | 17.22  |                     |          |
| 15              | 64QAM | 36 | 0  | 16.89  | 17.02  | 17.25 | 17.16  | 17.23  | 18                  | 0        |
| 15              | 64QAM | 36 | 20 | 16.91  | 17.01  | 17.15 | 17.15  | 17.21  |                     |          |
| 15              | 64QAM | 36 | 39 | 16.86  | 16.97  | 17.22 | 17.12  | 17.22  |                     |          |
| 15              | 64QAM | 75 | 0  | 16.95  | 17.06  | 17.32 | 17.20  | 17.31  |                     |          |
| Channel         |       |    |    | 39700  | 40160  | 40620 | 41080  | 41540  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 2501   | 2547   | 2593  | 2639   | 2685   |                     |          |
| 10              | QPSK  | 1  | 0  | 16.91  | 17.04  | 17.27 | 17.17  | 17.25  | 18                  | 0        |
| 10              | QPSK  | 1  | 25 | 16.92  | 17.02  | 17.26 | 17.15  | 17.24  |                     |          |
| 10              | QPSK  | 1  | 49 | 17.02  | 17.09  | 17.30 | 17.26  | 17.26  |                     |          |
| 10              | QPSK  | 25 | 0  | 16.92  | 17.02  | 17.20 | 17.15  | 17.24  | 18                  | 0        |
| 10              | QPSK  | 25 | 12 | 16.72  | 16.82  | 17.02 | 16.85  | 16.93  |                     |          |
| 10              | QPSK  | 25 | 25 | 16.89  | 17.02  | 17.25 | 17.16  | 17.23  |                     |          |
| 10              | QPSK  | 50 | 0  | 17.11  | 17.11  | 17.29 | 17.21  | 17.26  |                     |          |
| 10              | 16QAM | 1  | 0  | 17.09  | 17.05  | 17.26 | 17.22  | 17.23  | 18                  | 0        |
| 10              | 16QAM | 1  | 25 | 16.94  | 17.04  | 17.28 | 17.18  | 17.26  |                     |          |
| 10              | 16QAM | 1  | 49 | 16.87  | 16.96  | 17.22 | 17.11  | 17.18  |                     |          |
| 10              | 16QAM | 25 | 0  | 16.86  | 16.93  | 17.20 | 17.10  | 17.16  | 18                  | 0        |
| 10              | 16QAM | 25 | 12 | 16.86  | 16.93  | 17.20 | 17.10  | 17.16  |                     |          |
| 10              | 16QAM | 25 | 25 | 16.86  | 16.94  | 17.20 | 17.09  | 17.15  |                     |          |
| 10              | 16QAM | 50 | 0  | 16.91  | 17.04  | 17.27 | 17.17  | 17.25  |                     |          |
| 10              | 64QAM | 1  | 0  | 16.92  | 17.02  | 17.26 | 17.15  | 17.24  | 18                  | 0        |
| 10              | 64QAM | 1  | 25 | 16.87  | 16.94  | 17.14 | 17.11  | 17.15  |                     |          |
| 10              | 64QAM | 1  | 49 | 16.87  | 16.96  | 17.22 | 17.11  | 17.18  |                     |          |
| 10              | 64QAM | 25 | 0  | 16.71  | 16.77  | 16.95 | 16.85  | 16.99  | 18                  | 0        |
| 10              | 64QAM | 25 | 12 | 16.69  | 16.78  | 17.02 | 16.95  | 16.94  |                     |          |
| 10              | 64QAM | 25 | 25 | 16.71  | 16.77  | 16.95 | 16.85  | 16.99  |                     |          |
| 10              | 64QAM | 50 | 0  | 16.72  | 16.82  | 17.02 | 16.85  | 16.93  |                     |          |

| 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  | 16.90  | 17.02  | 17.23 | 17.15   | 17.20  | 18                        | 0           |
| 5               | QPSK  | 1  | 12 | 16.90  | 16.99  | 17.22 | 17.15   | 17.19  |                           |             |
| 5               | QPSK  | 1  | 24 | 16.87  | 16.94  | 17.14 | 17.11   | 17.15  |                           |             |
| 5               | QPSK  | 12 | 0  | 16.87  | 16.96  | 17.22 | 17.11   | 17.18  | 18                        | 0           |
| 5               | QPSK  | 12 | 7  | 16.86  | 16.93  | 17.20 | 17.10   | 17.16  |                           |             |
| 5               | QPSK  | 12 | 13 | 16.86  | 16.94  | 17.20 | 17.09   | 17.15  |                           |             |
| 5               | QPSK  | 25 | 0  | 16.86  | 16.94  | 17.20 | 17.08   | 17.16  |                           |             |
| 5               | 16QAM | 1  | 0  | 17.12  | 17.09  | 17.33 | 17.22   | 17.27  | 18                        | 0           |
| 5               | 16QAM | 1  | 12 | 17.11  | 17.11  | 17.29 | 17.21   | 17.26  |                           |             |
| 5               | 16QAM | 1  | 24 | 17.09  | 17.05  | 17.26 | 17.22   | 17.23  |                           |             |
| 5               | 16QAM | 12 | 0  | 16.94  | 17.04  | 17.28 | 17.18   | 17.26  | 18                        | 0           |
| 5               | 16QAM | 12 | 7  | 16.91  | 17.04  | 17.27 | 17.17   | 17.25  |                           |             |
| 5               | 16QAM | 12 | 13 | 16.92  | 17.02  | 17.26 | 17.15   | 17.24  |                           |             |
| 5               | 16QAM | 25 | 0  | 17.02  | 17.09  | 17.04 | 17.26   | 17.03  |                           |             |
| 5               | 64QAM | 1  | 0  | 16.69  | 16.78  | 17.02 | 16.95   | 16.94  | 18                        | 0           |
| 5               | 64QAM | 1  | 12 | 16.71  | 16.77  | 16.95 | 16.85   | 16.99  |                           |             |
| 5               | 64QAM | 1  | 24 | 16.72  | 16.82  | 17.02 | 16.85   | 16.93  |                           |             |
| 5               | 64QAM | 12 | 0  | 16.89  | 17.02  | 17.25 | 17.16   | 17.23  | 18                        | 0           |
| 5               | 64QAM | 12 | 7  | 16.91  | 17.01  | 17.23 | 17.15   | 17.21  |                           |             |
| 5               | 64QAM | 12 | 13 | 16.86  | 16.97  | 17.22 | 17.12   | 17.22  |                           |             |
| 5               | 64QAM | 25 | 0  | 16.95  | 17.06  | 17.02 | 17.20   | 17.31  |                           |             |

### <Reduced Power Mode for Handheld On>

#### <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<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|------------|---------|-----------|--------------------------|-----------------------------|---------------------------|---------------------------|-------------|
| Channel         |            |         |           | 37850                    | 38000                       | 38150                     |                           |             |
| Frequency (MHz) |            |         |           | 2580                     | 2595                        | 2610                      |                           |             |
| 20              | QPSK       | 1       | 0         | 21.44                    | 21.23                       | 21.25                     | 22.5                      | 0           |
| 20              | QPSK       | 1       | 49        | 21.34                    | 21.14                       | 21.09                     |                           |             |
| 20              | QPSK       | 1       | 99        | 21.26                    | 21.09                       | 20.96                     |                           |             |
| 20              | QPSK       | 50      | 0         | 21.41                    | 21.18                       | 21.17                     | 22.5                      | 0           |
| 20              | QPSK       | 50      | 24        | 21.36                    | 21.16                       | 21.08                     |                           |             |
| 20              | QPSK       | 50      | 50        | 21.34                    | 21.14                       | 21.04                     |                           |             |
| 20              | QPSK       | 100     | 0         | 21.37                    | 21.19                       | 21.10                     | 22.5                      | 0           |
| 20              | 16QAM      | 1       | 0         | 21.43                    | 21.20                       | 20.95                     |                           |             |
| 20              | 16QAM      | 1       | 49        | 21.31                    | 21.20                       | 21.15                     |                           |             |
| 20              | 16QAM      | 1       | 99        | 21.07                    | 21.03                       | 21.03                     | 22                        | 0.5         |
| 20              | 16QAM      | 50      | 0         | 20.91                    | 20.70                       | 20.66                     |                           |             |
| 20              | 16QAM      | 50      | 24        | 20.83                    | 20.66                       | 20.61                     |                           |             |
| 20              | 16QAM      | 50      | 50        | 20.81                    | 20.59                       | 20.54                     | 22                        | 0.5         |
| 20              | 16QAM      | 100     | 0         | 20.88                    | 20.66                       | 20.62                     |                           |             |
| 20              | 64QAM      | 1       | 0         | 21.07                    | 21.03                       | 20.82                     |                           |             |
| 20              | 64QAM      | 1       | 49        | 21.18                    | 20.93                       | 20.83                     | 22                        | 0.5         |
| 20              | 64QAM      | 1       | 99        | 21.11                    | 20.85                       | 20.70                     |                           |             |
| 20              | 64QAM      | 50      | 0         | 20.15                    | 19.99                       | 20.04                     |                           |             |
| 20              | 64QAM      | 50      | 24        | 20.09                    | 19.93                       | 20.00                     | 21                        | 1.5         |
| 20              | 64QAM      | 50      | 50        | 20.08                    | 19.90                       | 19.95                     |                           |             |
| 20              | 64QAM      | 100     | 0         | 20.04                    | 19.92                       | 19.92                     |                           |             |



# FCC SAR Test Report

Report No. : FA932901-02

| Channel         |       |    |    | 37825  | 38000 | 38175  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------------|-------------|
| Frequency (MHz) |       |    |    | 2577.5 | 2595  | 2612.5 |                           |             |
| 15              | QPSK  | 1  | 0  | 21.41  | 21.23 | 21.21  | 22.5                      | 0           |
| 15              | QPSK  | 1  | 37 | 21.35  | 21.07 | 21.12  |                           |             |
| 15              | QPSK  | 1  | 74 | 21.27  | 20.94 | 21.07  |                           |             |
| 15              | QPSK  | 36 | 0  | 21.42  | 21.15 | 21.16  | 22.5                      | 0           |
| 15              | QPSK  | 36 | 20 | 21.37  | 21.06 | 21.14  |                           |             |
| 15              | QPSK  | 36 | 39 | 21.35  | 21.02 | 21.12  |                           |             |
| 15              | QPSK  | 75 | 0  | 21.38  | 21.08 | 21.17  |                           |             |
| 15              | 16QAM | 1  | 0  | 21.34  | 21.01 | 21.18  | 22.5                      | 0           |
| 15              | 16QAM | 1  | 37 | 21.32  | 21.13 | 21.18  |                           |             |
| 15              | 16QAM | 1  | 74 | 21.08  | 21.01 | 21.01  |                           |             |
| 15              | 16QAM | 36 | 0  | 20.92  | 20.64 | 20.68  | 22                        | 0.5         |
| 15              | 16QAM | 36 | 20 | 20.84  | 20.59 | 20.64  |                           |             |
| 15              | 16QAM | 36 | 39 | 20.82  | 20.52 | 20.57  |                           |             |
| 15              | 16QAM | 75 | 0  | 20.89  | 20.60 | 20.64  |                           |             |
| 15              | 64QAM | 1  | 0  | 21.08  | 20.80 | 21.01  | 22                        | 0.5         |
| 15              | 64QAM | 1  | 37 | 21.19  | 20.81 | 20.91  |                           |             |
| 15              | 64QAM | 1  | 74 | 21.12  | 20.91 | 20.83  |                           |             |
| 15              | 64QAM | 36 | 0  | 20.16  | 20.22 | 20.07  | 21                        | 1.5         |
| 15              | 64QAM | 36 | 20 | 20.10  | 20.12 | 20.01  |                           |             |
| 15              | 64QAM | 36 | 39 | 20.09  | 20.04 | 19.98  |                           |             |
| 15              | 64QAM | 75 | 0  | 20.05  | 19.80 | 20.00  |                           |             |
| Channel         |       |    |    | 37800  | 38000 | 38200  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
| Frequency (MHz) |       |    |    | 2575   | 2595  | 2615   |                           |             |
| 10              | QPSK  | 1  | 0  | 21.36  | 21.21 | 21.09  | 22.5                      | 0           |
| 10              | QPSK  | 1  | 25 | 21.28  | 21.12 | 21.18  |                           |             |
| 10              | QPSK  | 1  | 49 | 21.43  | 21.07 | 21.16  |                           |             |
| 10              | QPSK  | 25 | 0  | 21.38  | 21.16 | 21.14  | 22.5                      | 0           |
| 10              | QPSK  | 25 | 12 | 21.36  | 21.14 | 21.19  |                           |             |
| 10              | QPSK  | 25 | 25 | 21.39  | 21.12 | 21.20  |                           |             |
| 10              | QPSK  | 50 | 0  | 21.35  | 21.17 | 21.20  |                           |             |
| 10              | 16QAM | 1  | 0  | 21.33  | 21.18 | 21.14  | 22.5                      | 0           |
| 10              | 16QAM | 1  | 25 | 21.09  | 21.18 | 21.12  |                           |             |
| 10              | 16QAM | 1  | 49 | 20.93  | 21.01 | 21.17  |                           |             |
| 10              | 16QAM | 25 | 0  | 20.85  | 20.68 | 20.59  | 22                        | 0.5         |
| 10              | 16QAM | 25 | 12 | 20.83  | 20.64 | 20.66  |                           |             |
| 10              | 16QAM | 25 | 25 | 20.90  | 20.57 | 21.03  |                           |             |
| 10              | 16QAM | 50 | 0  | 21.35  | 21.01 | 20.93  |                           |             |
| 10              | 64QAM | 1  | 0  | 21.20  | 21.01 | 20.85  | 22                        | 0.5         |
| 10              | 64QAM | 1  | 25 | 21.13  | 20.91 | 20.78  |                           |             |
| 10              | 64QAM | 1  | 49 | 21.00  | 20.83 | 20.72  |                           |             |
| 10              | 64QAM | 25 | 0  | 20.11  | 19.97 | 20.32  | 21                        | 1.5         |
| 10              | 64QAM | 25 | 12 | 20.10  | 19.91 | 20.22  |                           |             |
| 10              | 64QAM | 25 | 25 | 20.06  | 19.88 | 20.14  |                           |             |
| 10              | 64QAM | 50 | 0  | 20.40  | 20.14 | 20.37  |                           |             |

| Channel         |       |    |    | 37775  | 38000 | 38225  | Tune-up<br>limit<br>(dBm) | MPR<br>(dB) |
|-----------------|-------|----|----|--------|-------|--------|---------------------------|-------------|
| Frequency (MHz) |       |    |    | 2572.5 | 2595  | 2617.5 |                           |             |
| 5               | QPSK  | 1  | 0  | 21.42  | 21.23 | 21.19  | 22.5                      | 0           |
| 5               | QPSK  | 1  | 12 | 21.37  | 21.14 | 21.20  |                           |             |
| 5               | QPSK  | 1  | 24 | 21.35  | 21.09 | 21.20  |                           |             |
| 5               | QPSK  | 12 | 0  | 21.38  | 21.18 | 21.14  | 22.5                      | 0           |
| 5               | QPSK  | 12 | 7  | 21.24  | 21.16 | 21.19  |                           |             |
| 5               | QPSK  | 12 | 13 | 21.32  | 21.14 | 21.20  |                           |             |
| 5               | QPSK  | 25 | 0  | 21.08  | 21.19 | 20.69  |                           |             |
| 5               | 16QAM | 1  | 0  | 20.92  | 21.20 | 21.23  | 22.5                      | 0           |
| 5               | 16QAM | 1  | 12 | 20.84  | 21.20 | 21.07  |                           |             |
| 5               | 16QAM | 1  | 24 | 20.82  | 21.03 | 20.94  |                           |             |
| 5               | 16QAM | 12 | 0  | 20.89  | 21.19 | 21.15  | 22                        | 0.5         |
| 5               | 16QAM | 12 | 7  | 21.34  | 21.20 | 21.06  |                           |             |
| 5               | 16QAM | 12 | 13 | 21.19  | 21.20 | 21.02  |                           |             |
| 5               | 16QAM | 25 | 0  | 21.12  | 20.66 | 21.08  |                           |             |
| 5               | 64QAM | 1  | 0  | 20.99  | 21.03 | 20.93  | 22                        | 0.5         |
| 5               | 64QAM | 1  | 12 | 20.93  | 20.93 | 21.13  |                           |             |
| 5               | 64QAM | 1  | 24 | 20.92  | 20.85 | 21.01  |                           |             |
| 5               | 64QAM | 12 | 0  | 20.05  | 20.13 | 20.50  | 21                        | 1.5         |
| 5               | 64QAM | 12 | 7  | 20.38  | 20.05 | 20.51  |                           |             |
| 5               | 64QAM | 12 | 13 | 20.29  | 20.03 | 20.51  |                           |             |
| 5               | 64QAM | 25 | 0  | 20.24  | 20.01 | 20.44  |                           |             |

**<LTE Band 41>**

| 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         | 21.21                 | 21.39                        | 21.51                    | 21.30                         | 21.29                  | 22.5                | 0        |
| 20              | QPSK       | 1       | 49        | 21.10                 | 21.32                        | 21.43                    | 21.26                         | 21.25                  |                     |          |
| 20              | QPSK       | 1       | 99        | 21.07                 | 21.29                        | 21.36                    | 21.18                         | 21.20                  |                     |          |
| 20              | QPSK       | 50      | 0         | 21.15                 | 21.30                        | 21.50                    | 21.27                         | 21.33                  | 22.5                | 0        |
| 20              | QPSK       | 50      | 24        | 21.09                 | 21.30                        | 21.44                    | 21.25                         | 21.32                  |                     |          |
| 20              | QPSK       | 50      | 50        | 21.05                 | 21.27                        | 21.42                    | 21.21                         | 21.29                  |                     |          |
| 20              | QPSK       | 100     | 0         | 21.10                 | 21.28                        | 21.46                    | 21.24                         | 21.33                  |                     |          |
| 20              | 16QAM      | 1       | 0         | 21.14                 | 21.32                        | 21.42                    | 21.42                         | 21.17                  | 22.5                | 0        |
| 20              | 16QAM      | 1       | 49        | 21.08                 | 21.42                        | 21.46                    | 21.44                         | 21.19                  |                     |          |
| 20              | 16QAM      | 1       | 99        | 21.17                 | 21.46                        | 21.42                    | 21.42                         | 21.18                  |                     |          |
| 20              | 16QAM      | 50      | 0         | 20.65                 | 20.86                        | 21.02                    | 20.79                         | 20.86                  | 22                  | 0.5      |
| 20              | 16QAM      | 50      | 24        | 20.60                 | 20.79                        | 20.96                    | 20.72                         | 20.83                  |                     |          |
| 20              | 16QAM      | 50      | 50        | 20.55                 | 20.77                        | 20.96                    | 20.78                         | 20.78                  |                     |          |
| 20              | 16QAM      | 100     | 0         | 20.65                 | 20.83                        | 21.00                    | 20.82                         | 20.87                  |                     |          |
| 20              | 64QAM      | 1       | 0         | 20.95                 | 21.20                        | 21.17                    | 20.97                         | 21.16                  | 22                  | 0.5      |
| 20              | 64QAM      | 1       | 49        | 20.89                 | 21.11                        | 21.18                    | 20.94                         | 21.04                  |                     |          |
| 20              | 64QAM      | 1       | 99        | 20.93                 | 20.93                        | 21.07                    | 20.97                         | 20.91                  |                     |          |
| 20              | 64QAM      | 50      | 0         | 19.81                 | 20.13                        | 20.20                    | 19.95                         | 20.11                  | 21                  | 1.5      |
| 20              | 64QAM      | 50      | 24        | 19.81                 | 20.09                        | 20.25                    | 19.92                         | 20.08                  |                     |          |
| 20              | 64QAM      | 50      | 50        | 19.76                 | 20.08                        | 20.24                    | 19.90                         | 20.07                  |                     |          |
| 20              | 64QAM      | 100     | 0         | 19.76                 | 20.06                        | 20.22                    | 19.89                         | 20.04                  |                     |          |



# FCC SAR Test Report

Report No. : FA932901-02

| 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  | 21.15  | 21.30  | 21.50 | 21.27  | 21.33  | 22.5                | 0        |
| 15              | QPSK  | 1  | 37 | 21.09  | 21.30  | 21.44 | 21.25  | 21.32  |                     |          |
| 15              | QPSK  | 1  | 74 | 21.05  | 21.27  | 21.42 | 21.21  | 21.29  |                     |          |
| 15              | QPSK  | 36 | 0  | 21.10  | 21.28  | 21.46 | 21.24  | 21.33  | 22.5                | 0        |
| 15              | QPSK  | 36 | 20 | 21.14  | 21.32  | 21.42 | 21.42  | 21.17  |                     |          |
| 15              | QPSK  | 36 | 39 | 21.08  | 21.42  | 21.46 | 21.44  | 21.19  |                     |          |
| 15              | QPSK  | 75 | 0  | 21.06  | 21.29  | 21.41 | 21.35  | 21.30  |                     |          |
| 15              | 16QAM | 1  | 0  | 20.98  | 21.32  | 21.46 | 21.44  | 21.39  | 22.5                | 0        |
| 15              | 16QAM | 1  | 37 | 20.97  | 21.22  | 21.42 | 21.35  | 21.32  |                     |          |
| 15              | 16QAM | 1  | 74 | 21.00  | 21.16  | 21.38 | 21.29  | 21.33  |                     |          |
| 15              | 16QAM | 36 | 0  | 20.76  | 20.86  | 21.02 | 20.79  | 20.86  | 22                  | 0.5      |
| 15              | 16QAM | 36 | 20 | 20.75  | 20.95  | 21.13 | 21.08  | 21.01  |                     |          |
| 15              | 16QAM | 36 | 39 | 20.74  | 20.77  | 20.96 | 20.78  | 20.78  |                     |          |
| 15              | 16QAM | 75 | 0  | 20.65  | 20.83  | 21.00 | 20.82  | 20.87  |                     |          |
| 15              | 64QAM | 1  | 0  | 20.76  | 21.11  | 21.18 | 21.12  | 21.03  | 22                  | 0.5      |
| 15              | 64QAM | 1  | 37 | 20.75  | 20.95  | 21.13 | 21.08  | 21.01  |                     |          |
| 15              | 64QAM | 1  | 74 | 20.74  | 20.89  | 21.14 | 20.98  | 20.93  |                     |          |
| 15              | 64QAM | 36 | 0  | 20.04  | 20.17  | 20.29 | 20.08  | 20.07  | 21                  | 1.5      |
| 15              | 64QAM | 36 | 20 | 19.81  | 20.13  | 20.30 | 19.95  | 20.11  |                     |          |
| 15              | 64QAM | 36 | 39 | 19.81  | 20.09  | 20.25 | 19.92  | 20.08  |                     |          |
| 15              | 64QAM | 75 | 0  | 19.76  | 20.08  | 20.24 | 19.90  | 20.07  |                     |          |
| Channel         |       |    |    | 39700  | 40160  | 40620 | 41080  | 41540  | Tune-up limit (dBm) | MPR (dB) |
| Frequency (MHz) |       |    |    | 2501   | 2547   | 2593  | 2639   | 2685   |                     |          |
| 10              | QPSK  | 1  | 0  | 21.04  | 21.25  | 21.39 | 21.31  | 21.28  | 22.5                | 0        |
| 10              | QPSK  | 1  | 25 | 21.08  | 21.30  | 21.42 | 21.36  | 21.32  |                     |          |
| 10              | QPSK  | 1  | 49 | 21.14  | 21.39  | 21.47 | 21.38  | 21.32  |                     |          |
| 10              | QPSK  | 25 | 0  | 21.15  | 21.30  | 21.44 | 21.32  | 21.29  | 22.5                | 0        |
| 10              | QPSK  | 25 | 12 | 21.07  | 21.29  | 21.41 | 21.34  | 21.31  |                     |          |
| 10              | QPSK  | 25 | 25 | 21.04  | 21.25  | 21.39 | 21.31  | 21.28  |                     |          |
| 10              | QPSK  | 50 | 0  | 21.08  | 21.30  | 21.42 | 21.36  | 21.32  |                     |          |
| 10              | 16QAM | 1  | 0  | 21.14  | 21.39  | 21.47 | 21.38  | 21.32  | 22.5                | 0        |
| 10              | 16QAM | 1  | 25 | 21.15  | 21.30  | 21.44 | 21.32  | 21.29  |                     |          |
| 10              | 16QAM | 1  | 49 | 21.08  | 21.25  | 21.35 | 21.26  | 21.27  |                     |          |
| 10              | 16QAM | 25 | 0  | 20.87  | 20.86  | 21.02 | 20.79  | 20.86  | 22                  | 0.5      |
| 10              | 16QAM | 25 | 12 | 20.81  | 20.97  | 21.09 | 21.12  | 21.06  |                     |          |
| 10              | 16QAM | 25 | 25 | 20.65  | 20.77  | 20.96 | 20.78  | 20.78  |                     |          |
| 10              | 16QAM | 50 | 0  | 20.65  | 20.83  | 21.00 | 20.82  | 20.87  |                     |          |
| 10              | 64QAM | 1  | 0  | 20.85  | 20.97  | 21.11 | 21.13  | 21.12  | 22                  | 0.5      |
| 10              | 64QAM | 1  | 25 | 20.87  | 20.97  | 21.09 | 21.12  | 21.06  |                     |          |
| 10              | 64QAM | 1  | 49 | 20.81  | 20.95  | 21.05 | 20.97  | 21.02  |                     |          |
| 10              | 64QAM | 25 | 0  | 19.76  | 20.10  | 20.14 | 19.90  | 20.02  | 21                  | 1.5      |
| 10              | 64QAM | 25 | 12 | 19.71  | 20.03  | 20.18 | 19.83  | 19.99  |                     |          |
| 10              | 64QAM | 25 | 25 | 19.86  | 20.01  | 20.18 | 19.89  | 19.94  |                     |          |
| 10              | 64QAM | 50 | 0  | 19.76  | 20.07  | 20.22 | 19.93  | 20.03  |                     |          |

| 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  | 21.15  | 21.30  | 21.44 | 21.32   | 21.29  | 22.5                      | 0           |
| 5               | QPSK  | 1  | 12 | 21.07  | 21.29  | 21.41 | 21.34   | 21.31  |                           |             |
| 5               | QPSK  | 1  | 24 | 21.04  | 21.25  | 21.39 | 21.31   | 21.28  |                           |             |
| 5               | QPSK  | 12 | 0  | 21.08  | 21.30  | 21.42 | 21.36   | 21.32  | 22.5                      | 0           |
| 5               | QPSK  | 12 | 7  | 21.07  | 21.25  | 21.41 | 21.35   | 21.31  |                           |             |
| 5               | QPSK  | 12 | 13 | 21.05  | 21.24  | 21.39 | 21.33   | 21.29  |                           |             |
| 5               | QPSK  | 25 | 0  | 21.04  | 21.24  | 21.40 | 21.34   | 21.31  |                           |             |
| 5               | 16QAM | 1  | 0  | 21.04  | 21.22  | 21.39 | 21.38   | 21.37  | 22.5                      | 0           |
| 5               | 16QAM | 1  | 12 | 21.06  | 21.20  | 21.38 | 21.32   | 21.36  |                           |             |
| 5               | 16QAM | 1  | 24 | 21.02  | 21.15  | 21.34 | 21.33   | 21.33  |                           |             |
| 5               | 16QAM | 12 | 0  | 20.65  | 20.86  | 21.02 | 20.79   | 20.86  | 22                        | 0.5         |
| 5               | 16QAM | 12 | 7  | 20.60  | 20.79  | 20.96 | 20.72   | 20.83  |                           |             |
| 5               | 16QAM | 12 | 13 | 20.55  | 20.77  | 20.96 | 20.78   | 20.78  |                           |             |
| 5               | 16QAM | 25 | 0  | 20.65  | 20.83  | 21.00 | 20.82   | 20.87  |                           |             |
| 5               | 64QAM | 1  | 0  | 20.91  | 21.03  | 21.04 | 21.07   | 21.02  | 22                        | 0.5         |
| 5               | 64QAM | 1  | 12 | 20.77  | 20.94  | 21.02 | 21.04   | 21.00  |                           |             |
| 5               | 64QAM | 1  | 24 | 20.81  | 20.92  | 20.99 | 20.95   | 20.99  |                           |             |
| 5               | 64QAM | 12 | 0  | 19.14  | 19.48  | 19.59 | 19.44   | 19.46  | 21                        | 1.5         |
| 5               | 64QAM | 12 | 7  | 19.12  | 19.46  | 19.58 | 19.44   | 19.46  |                           |             |
| 5               | 64QAM | 12 | 13 | 19.12  | 19.42  | 19.56 | 19.42   | 19.46  |                           |             |
| 5               | 64QAM | 25 | 0  | 19.19  | 19.50  | 19.67 | 19.47   | 19.49  |                           |             |

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

1. This device supports Carrier Aggregation on downlink for inter and intra band. For the device supports bands and bandwidths and configurations are provided as follow table was according to 3GPP.
2. In applying the existing power measurement procedures of KDB 941225 D05A for DL CA SAR test exclusion, only the subset with the largest number of combinations of frequency bands and CCs in each row need combination, and for this device that all the configurations were choose to power measurement.

| Index   | 2CC        |
|---------|------------|
| 2CC #1  | CA_2C      |
| 2CC #2  | CA_2A-2A   |
| 2CC #4  | CA_2A-4A   |
| 2CC #4  | CA_2A-5A   |
| 2CC #5  | CA_2A-12A  |
| 2CC #6  | CA_2A-13A  |
| 2CC #7  | CA_2A-66A  |
| 2CC #8  | CA_4A-4A   |
| 2CC #9  | CA_4A-5A   |
| 2CC #10 | CA_4A-7A   |
| 2CC #11 | CA_4A-12A  |
| 2CC #12 | CA_4A-13A  |
| 2CC #13 | CA_5B      |
| 2CC #14 | CA_5A-66A  |
| 2CC #15 | CA_7A-7A   |
| 2CC #16 | CA_12A-66A |
| 2CC #17 | CA_13A-66A |
| 2CC #18 | CA_25-25A  |
| 2CC #19 | CA_25-26A  |
| 2CC #20 | CA_41C     |
| 2CC #21 | CA_41A-41A |
| 2CC #22 | CA_66B     |
| 2CC #23 | CA_66C     |
| 2CC #24 | CA_66A-66A |

**LTE Carrier Aggregation Conducted Power (Downlink)**

- 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 inter-band CA, the SCC selected highest bandwidth and near the middle of its transmission band. For SCC DL RB size and offset will base on the PCC corresponding RB allocation.
- vi. 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.
- vii. 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.

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



**<Full Power Mode>**

| Configure  |                | CA List    | PCC     |        |        |         |      |     |         | SCC     |        |        |         | Power     |            |
|------------|----------------|------------|---------|--------|--------|---------|------|-----|---------|---------|--------|--------|---------|-----------|------------|
|            |                |            | LTE     | BW     | UL     |         | Mod. | UL# | UL      | LTE     | BW     | DL     | DL      | With CA   | Without CA |
|            |                |            | Band    | (MHz)  | Freq.  | Channel |      | RB  | RB      | Band    | (MHz)  | Freq.  | Channel | Tx. Power | Tx. Power  |
|            |                |            |         |        | (MHz)  |         |      |     | Offset  |         |        | (MHz)  |         | (dBm)     | (dBm)      |
| Inter-Band | CA_2A-4A       | Band 2     | 20M     | 1880   | 18900  | QPSK    | 1    | 99  | Band 4  | 20M     | 2132.5 | 2175   | 22.27   | 22.67     |            |
|            |                | Band 4     | 20M     | 1732.5 | 20175  | QPSK    | 1    | 0   | Band 2  | 20M     | 1960   | 900    | 22.23   | 22.52     |            |
|            | CA_2A-5A       | Band 2     | 20M     | 1880   | 18900  | QPSK    | 1    | 99  | Band 5  | 10M     | 881.5  | 2525   | 22.13   | 22.67     |            |
|            |                | Band 5     | 10M     | 836.5  | 20525  | QPSK    | 1    | 0   | Band 2  | 20M     | 1960   | 900    | 22.58   | 22.85     |            |
|            | CA_2A-12A      | Band 2     | 20M     | 1880   | 18900  | QPSK    | 1    | 99  | Band 12 | 10M     | 737.5  | 5095   | 22.15   | 22.67     |            |
|            |                | Band 12    | 10M     | 707.5  | 23095  | QPSK    | 1    | 0   | Band 2  | 20M     | 1960   | 900    | 22.34   | 22.61     |            |
|            | CA_2A-13A      | Band 2     | 20M     | 1880   | 18900  | QPSK    | 1    | 99  | Band 13 | 10M     | 751    | 5230   | 22.14   | 22.67     |            |
|            |                | Band 13    | 10M     | 782    | 23230  | QPSK    | 1    | 0   | Band 2  | 20M     | 1960   | 900    | 22.05   | 22.42     |            |
|            | CA_2A-66A      | Band 2     | 20M     | 1880   | 18900  | QPSK    | 1    | 99  | Band 66 | 20M     | 2155   | 66886  | 22.14   | 22.67     |            |
|            |                | Band 66    | 20M     | 1745   | 132322 | QPSK    | 1    | 0   | Band 2  | 20M     | 1960   | 900    | 22.00   | 22.59     |            |
|            | CA_4A-5A       | Band 4     | 20M     | 1732.5 | 20175  | QPSK    | 1    | 0   | Band 5  | 10M     | 881.5  | 2525   | 22.24   | 22.52     |            |
|            |                | Band 5     | 10M     | 836.5  | 20525  | QPSK    | 1    | 0   | Band 4  | 20M     | 2132.5 | 2175   | 22.63   | 22.85     |            |
|            | CA_4A-7A       | Band 4     | 20M     | 1732.5 | 20175  | QPSK    | 1    | 0   | Band 7  | 20M     | 2655   | 3100   | 22.39   | 22.52     |            |
|            |                | Band 7     | 20M     | 2560   | 21350  | QPSK    | 1    | 0   | Band 4  | 20M     | 2132.5 | 2175   | 22.21   | 22.33     |            |
|            | CA_4A-12A      | Band 4     | 20M     | 1732.5 | 20175  | QPSK    | 1    | 0   | Band 12 | 10M     | 737.5  | 5095   | 22.23   | 22.52     |            |
|            |                | Band 12    | 10M     | 707.5  | 23095  | QPSK    | 1    | 0   | Band 4  | 20M     | 2132.5 | 2175   | 22.40   | 22.61     |            |
|            | CA_4A-13A      | Band 4     | 20M     | 1732.5 | 20175  | QPSK    | 1    | 0   | Band 13 | 10M     | 751    | 5230   | 22.19   | 22.52     |            |
|            |                | Band 13    | 10M     | 782    | 23230  | QPSK    | 1    | 0   | Band 4  | 20M     | 2132.5 | 2175   | 22.06   | 22.42     |            |
|            | CA_5A-66A      | Band 5     | 10M     | 836.5  | 20525  | QPSK    | 1    | 0   | Band 66 | 20M     | 2155   | 66886  | 22.76   | 22.85     |            |
|            |                | Band 66    | 20M     | 1745   | 132322 | QPSK    | 1    | 0   | Band 5  | 10M     | 881.5  | 2525   | 22.26   | 22.59     |            |
|            | CA_12A-66A     | Band 12    | 10M     | 707.5  | 23095  | QPSK    | 1    | 0   | Band 66 | 20M     | 2155   | 66886  | 22.53   | 22.61     |            |
|            |                | Band 66    | 20M     | 1745   | 132322 | QPSK    | 1    | 0   | Band 12 | 10M     | 737.5  | 5095   | 22.20   | 22.59     |            |
|            | CA_13A-66A     | Band 13    | 10M     | 782    | 23230  | QPSK    | 1    | 0   | Band 66 | 20M     | 2155   | 66886  | 22.22   | 22.42     |            |
|            |                | Band 66    | 20M     | 1745   | 132322 | QPSK    | 1    | 0   | Band 13 | 10M     | 751    | 5230   | 22.23   | 22.59     |            |
|            | CA_25A-26A     | Band 25    | 20M     | 1880   | 26340  | QPSK    | 1    | 0   | Band 26 | 15M     | 876.5  | 8865   | 22.47   | 22.75     |            |
|            |                | Band 26    | 15M     | 831.5  | 26865  | QPSK    | 1    | 0   | Band 25 | 20M     | 1960   | 8340   | 22.71   | 22.86     |            |
| Intra-Band | Contiguous     | CA_2C      | Band 2  | 20M    | 1880   | 18900   | QPSK | 1   | 99      | Band 2  | 20M    | 1979.8 | 1098    | 22.19     | 22.67      |
|            |                | CA_5B      | Band 5  | 10M    | 836.5  | 20525   | QPSK | 1   | 0       | Band 5  | 10M    | 891.4  | 2624    | 22.57     | 22.85      |
|            |                | CA_41C     | Band 41 | 20M    | 2593   | 40620   | QPSK | 1   | 0       | Band 41 | 20M    | 2612.8 | 40818   | 22.23     | 22.76      |
|            |                | CA_66B     | Band 66 | 15M    | 1745   | 132322  | QPSK | 1   | 37      | Band 66 | 5M     | 2164.3 | 66979   | 22.09     | 22.48      |
|            |                | CA_66C     | Band 66 | 20M    | 1745   | 132322  | QPSK | 1   | 0       | Band 66 | 20M    | 2174.8 | 67084   | 22.19     | 22.59      |
|            | Non-Contiguous | CA_2A-2A   | Band 2  | 20M    | 1880   | 18900   | QPSK | 1   | 99      | Band 2  | 5M     | 1987.5 | 1175    | 22.23     | 22.67      |
|            |                | CA_4A-4A   | Band 4  | 20M    | 1732.5 | 20175   | QPSK | 1   | 0       | Band 4  | 5M     | 2152.5 | 2375    | 22.23     | 22.52      |
|            |                | CA_7A-7A   | Band 7  | 20M    | 2560   | 21350   | QPSK | 1   | 0       | Band 7  | 20M    | 2630   | 2850    | 22.21     | 22.33      |
|            |                | CA_25A-25A | Band 25 | 20M    | 1880   | 26340   | QPSK | 1   | 0       | Band 25 | 5M     | 1932.5 | 8065    | 22.38     | 22.75      |
|            |                | CA_41A-41A | Band 41 | 20M    | 2593   | 40620   | QPSK | 1   | 0       | Band 41 | 5M     | 2687.5 | 41565   | 22.32     | 22.76      |
|            |                | CA_66A-66A | Band 66 | 20M    | 1745   | 132322  | QPSK | 1   | 0       | Band 66 | 5M     | 2197.5 | 67311   | 22.22     | 22.59      |

**<Reduced Power Mode for P-Sensor On>**

| Configure  |                | CA List    | PCC     |       |        |         |      |     |        | SCC     |       |        |         | Power     |            |
|------------|----------------|------------|---------|-------|--------|---------|------|-----|--------|---------|-------|--------|---------|-----------|------------|
|            |                |            | LTE     | BW    | UL     | UL      | Mod. | UL# | UL     | LTE     | BW    | DL     | DL      | With CA   | Without CA |
|            |                |            | Band    | (MHz) | Freq.  | Channel |      | RB  | Offset | Band    | (MHz) | Freq.  | Channel | Tx. Power | Tx. Power  |
|            |                |            |         |       | (MHz)  |         |      |     |        |         |       | (MHz)  |         | (dBm)     | (dBm)      |
| Inter-Band |                | CA_2A-4A   | Band 2  | 20M   | 1880   | 18900   | QPSK | 1   | 99     | Band 4  | 20M   | 2132.5 | 2175    | 18.12     | 18.54      |
|            |                |            | Band 4  | 20M   | 1732.5 | 20175   | QPSK | 1   | 0      | Band 2  | 20M   | 1960   | 900     | 17.82     | 17.98      |
|            |                | CA_2A-5A   | Band 2  | 20M   | 1880   | 18900   | QPSK | 1   | 99     | Band 5  | 10M   | 881.5  | 2525    | 18.07     | 18.54      |
|            |                |            | Band 5  | 10M   | 829    | 20450   | QPSK | 1   | 0      | Band 2  | 20M   | 1960   | 900     | 20.20     | 20.39      |
|            |                | CA_2A-12A  | Band 2  | 20M   | 1880   | 18900   | QPSK | 1   | 99     | Band 12 | 10M   | 737.5  | 5095    | 18.15     | 18.54      |
|            |                |            | Band 12 | 10M   | 707.5  | 23095   | QPSK | 1   | 0      | Band 2  | 20M   | 1960   | 900     | 22.32     | 22.61      |
|            |                | CA_2A-13A  | Band 2  | 20M   | 1880   | 18900   | QPSK | 1   | 99     | Band 13 | 10M   | 751    | 5230    | 18.17     | 18.54      |
|            |                |            | Band 13 | 10M   | 782    | 23230   | QPSK | 1   | 0      | Band 2  | 20M   | 1960   | 900     | 22.35     | 22.42      |
|            |                | CA_2A-66A  | Band 2  | 20M   | 1880   | 18900   | QPSK | 1   | 99     | Band 66 | 20M   | 2155   | 66886   | 18.14     | 18.54      |
|            |                |            | Band 66 | 20M   | 1720   | 132072  | QPSK | 1   | 99     | Band 2  | 20M   | 1960   | 900     | 18.10     | 18.27      |
|            |                | CA_4A-5A   | Band 4  | 20M   | 1732.5 | 20175   | QPSK | 1   | 0      | Band 5  | 10M   | 881.5  | 2525    | 17.88     | 17.98      |
|            |                |            | Band 5  | 10M   | 829    | 20450   | QPSK | 1   | 0      | Band 4  | 20M   | 2132.5 | 2175    | 20.18     | 20.39      |
|            |                | CA_4A-7A   | Band 4  | 20M   | 1732.5 | 20175   | QPSK | 1   | 0      | Band 7  | 20M   | 2655   | 3100    | 17.89     | 17.98      |
|            |                |            | Band 7  | 20M   | 2560   | 21350   | QPSK | 1   | 0      | Band 4  | 20M   | 2132.5 | 2175    | 18.76     | 18.91      |
|            |                | CA_4A-12A  | Band 4  | 20M   | 1732.5 | 20175   | QPSK | 1   | 0      | Band 12 | 10M   | 737.5  | 5095    | 17.87     | 17.98      |
|            |                |            | Band 12 | 10M   | 707.5  | 23095   | QPSK | 1   | 0      | Band 4  | 20M   | 2132.5 | 2175    | 22.32     | 22.61      |
|            |                | CA_4A-13A  | Band 4  | 20M   | 1732.5 | 20175   | QPSK | 1   | 0      | Band 13 | 10M   | 751    | 5230    | 17.89     | 17.98      |
|            |                |            | Band 13 | 10M   | 782    | 23230   | QPSK | 1   | 0      | Band 4  | 20M   | 2132.5 | 2175    | 22.21     | 22.42      |
|            |                | CA_5A-66A  | Band 5  | 10M   | 829    | 20450   | QPSK | 1   | 0      | Band 66 | 20M   | 2155   | 66886   | 20.17     | 20.39      |
|            |                |            | Band 66 | 20M   | 1720   | 132072  | QPSK | 1   | 99     | Band 5  | 10M   | 881.5  | 2525    | 18.09     | 18.27      |
|            |                | CA_12A-66A | Band 12 | 10M   | 707.5  | 23095   | QPSK | 1   | 0      | Band 66 | 20M   | 2155   | 66886   | 22.43     | 22.61      |
|            |                |            | Band 66 | 20M   | 1720   | 132072  | QPSK | 1   | 99     | Band 12 | 10M   | 737.5  | 5095    | 18.22     | 18.27      |
|            |                | CA_13A-66A | Band 13 | 10M   | 782    | 23230   | QPSK | 1   | 0      | Band 66 | 20M   | 2155   | 66886   | 22.12     | 22.42      |
|            |                |            | Band 66 | 20M   | 1720   | 132072  | QPSK | 1   | 99     | Band 13 | 10M   | 751    | 5230    | 18.10     | 18.27      |
|            |                | CA_25A-26A | Band 25 | 20M   | 1905   | 26590   | QPSK | 1   | 0      | Band 26 | 15M   | 876.5  | 8865    | 18.16     | 18.51      |
|            |                |            | Band 26 | 15M   | 831.5  | 26865   | QPSK | 1   | 0      | Band 25 | 20M   | 1960   | 8340    | 19.99     | 20.15      |
| Intra-Band | Contiguous     | CA_2C      | Band 2  | 20M   | 1880   | 18900   | QPSK | 1   | 99     | Band 2  | 20M   | 1979.8 | 1098    | 18.21     | 18.54      |
|            |                | CA_5B      | Band 5  | 10M   | 829    | 20450   | QPSK | 1   | 0      | Band 5  | 10M   | 883.9  | 2549    | 20.03     | 20.39      |
|            |                | CA_41C     | Band 41 | 20M   | 2593   | 40620   | QPSK | 1   | 0      | Band 41 | 20M   | 2612.8 | 40818   | 20.98     | 21.06      |
|            |                | CA_66B     | Band 66 | 15M   | 1772.5 | 132597  | QPSK | 1   | 0      | Band 66 | 5M    | 2181.8 | 67154   | 18.11     | 18.21      |
|            |                | CA_66C     | Band 66 | 20M   | 1720   | 132072  | QPSK | 1   | 99     | Band 66 | 20M   | 2139.8 | 66734   | 18.03     | 18.27      |
|            | Non-Contiguous | CA_2A-2A   | Band 2  | 20M   | 1880   | 18900   | QPSK | 1   | 99     | Band 2  | 5M    | 1987.5 | 1175    | 18.34     | 18.54      |
|            |                | CA_4A-4A   | Band 4  | 20M   | 1732.5 | 20175   | QPSK | 1   | 0      | Band 4  | 5M    | 2152.5 | 2375    | 17.88     | 17.98      |
|            |                | CA_7A-7A   | Band 7  | 20M   | 2560   | 21350   | QPSK | 1   | 0      | Band 7  | 20M   | 2630   | 2850    | 18.78     | 18.91      |
|            |                | CA_25A-25A | Band 25 | 20M   | 1905   | 26590   | QPSK | 1   | 0      | Band 25 | 5M    | 1932.5 | 8065    | 18.23     | 18.51      |
|            |                | CA_41A-41A | Band 41 | 20M   | 2593   | 40620   | QPSK | 1   | 0      | Band 41 | 5M    | 2687.5 | 41565   | 20.98     | 21.06      |
|            |                | CA_66A-66A | Band 66 | 20M   | 1720   | 132072  | QPSK | 1   | 99     | Band 66 | 5M    | 2197.5 | 67311   | 18.13     | 18.27      |

**<Reduced Power Mode for Hotspot On>**

| Configure  |                | CA List    | PCC     |        |        |         |      |     |        | SCC     |       |        |         | Power     |            |
|------------|----------------|------------|---------|--------|--------|---------|------|-----|--------|---------|-------|--------|---------|-----------|------------|
|            |                |            | LTE     | BW     | UL     | UL      |      | UL# | UL     | LTE     | BW    | DL     | DL      | With CA   | Without CA |
|            |                |            | Band    | (MHz)  | Freq.  | Channel | Mod. | RB  | RB     | Band    | (MHz) | Freq.  | Channel | Tx. Power | Tx. Power  |
|            |                |            |         |        | (MHz)  |         |      |     | Offset |         |       | (MHz)  |         | (dBm)     | (dBm)      |
| Inter-Band | CA_2A-4A       | Band 2     | 20M     | 1880   | 18900  | QPSK    | 1    | 99  |        | Band 4  | 20M   | 2132.5 | 2175    | 16.76     | 17.06      |
|            |                | Band 4     | 20M     | 1732.5 | 20175  | QPSK    | 1    | 0   |        | Band 2  | 20M   | 1960   | 900     | 16.37     | 16.49      |
|            | CA_2A-5A       | Band 2     | 20M     | 1880   | 18900  | QPSK    | 1    | 99  |        | Band 5  | 10M   | 881.5  | 2525    | 16.81     | 17.06      |
|            |                | Band 5     | 10M     | 836.5  | 20525  | QPSK    | 25   | 0   |        | Band 2  | 20M   | 1960   | 900     | 20.01     | 20.28      |
|            | CA_2A-12A      | Band 2     | 20M     | 1880   | 18900  | QPSK    | 1    | 99  |        | Band 12 | 10M   | 737.5  | 5095    | 16.75     | 17.06      |
|            |                | Band 12    | 10M     | 707.5  | 23095  | QPSK    | 1    | 0   |        | Band 2  | 20M   | 1960   | 900     | 22.45     | 22.61      |
|            | CA_2A-13A      | Band 2     | 20M     | 1880   | 18900  | QPSK    | 1    | 99  |        | Band 13 | 10M   | 751    | 5230    | 16.78     | 17.06      |
|            |                | Band 13    | 10M     | 782    | 23230  | QPSK    | 1    | 0   |        | Band 2  | 20M   | 1960   | 900     | 22.31     | 22.42      |
|            | CA_2A-66A      | Band 2     | 20M     | 1880   | 18900  | QPSK    | 1    | 99  |        | Band 66 | 20M   | 2155   | 66886   | 16.87     | 17.06      |
|            |                | Band 66    | 20M     | 1720   | 132072 | QPSK    | 1    | 99  |        | Band 2  | 20M   | 1960   | 900     | 16.45     | 16.68      |
|            | CA_4A-5A       | Band 4     | 20M     | 1732.5 | 20175  | QPSK    | 1    | 0   |        | Band 5  | 10M   | 881.5  | 2525    | 16.32     | 16.49      |
|            |                | Band 5     | 10M     | 836.5  | 20525  | QPSK    | 25   | 0   |        | Band 4  | 20M   | 2132.5 | 2175    | 19.99     | 20.28      |
|            | CA_4A-7A       | Band 4     | 20M     | 1732.5 | 20175  | QPSK    | 1    | 0   |        | Band 7  | 20M   | 2655   | 3100    | 16.34     | 16.49      |
|            |                | Band 7     | 20M     | 2560   | 21350  | QPSK    | 1    | 0   |        | Band 4  | 20M   | 2132.5 | 2175    | 13.70     | 13.78      |
|            | CA_4A-12A      | Band 4     | 20M     | 1732.5 | 20175  | QPSK    | 1    | 0   |        | Band 12 | 10M   | 737.5  | 5095    | 16.34     | 16.49      |
|            |                | Band 12    | 10M     | 707.5  | 23095  | QPSK    | 1    | 0   |        | Band 4  | 20M   | 2132.5 | 2175    | 22.12     | 22.61      |
|            | CA_4A-13A      | Band 4     | 20M     | 1732.5 | 20175  | QPSK    | 1    | 0   |        | Band 13 | 10M   | 751    | 5230    | 16.32     | 16.49      |
|            |                | Band 13    | 10M     | 782    | 23230  | QPSK    | 1    | 0   |        | Band 4  | 20M   | 2132.5 | 2175    | 22.12     | 22.42      |
|            | CA_5A-66A      | Band 5     | 10M     | 836.5  | 20525  | QPSK    | 25   | 0   |        | Band 66 | 20M   | 2155   | 66886   | 20.01     | 20.28      |
|            |                | Band 66    | 20M     | 1720   | 132072 | QPSK    | 1    | 99  |        | Band 5  | 10M   | 881.5  | 2525    | 16.32     | 16.68      |
|            | CA_12A-66A     | Band 12    | 10M     | 707.5  | 23095  | QPSK    | 1    | 0   |        | Band 66 | 20M   | 2155   | 66886   | 22.32     | 22.61      |
|            |                | Band 66    | 20M     | 1720   | 132072 | QPSK    | 1    | 99  |        | Band 12 | 10M   | 737.5  | 5095    | 16.59     | 16.68      |
|            | CA_13A-66A     | Band 13    | 10M     | 782    | 23230  | QPSK    | 1    | 0   |        | Band 66 | 20M   | 2155   | 66886   | 22.30     | 22.42      |
|            |                | Band 66    | 20M     | 1720   | 132072 | QPSK    | 1    | 99  |        | Band 13 | 10M   | 751    | 5230    | 16.32     | 16.68      |
|            | CA_25A-26A     | Band 25    | 20M     | 1905   | 26590  | QPSK    | 1    | 0   |        | Band 26 | 15M   | 876.5  | 8865    | 16.45     | 16.98      |
|            |                | Band 26    | 15M     | 831.5  | 26865  | QPSK    | 1    | 0   |        | Band 25 | 20M   | 1960   | 8340    | 19.98     | 20.15      |
| Intra-Band | Contiguous     | CA_2C      | Band 2  | 20M    | 1880   | 18900   | QPSK | 1   | 99     | Band 2  | 20M   | 1979.8 | 1098    | 17.05     | 17.06      |
|            |                | CA_5B      | Band 5  | 10M    | 836.5  | 20525   | QPSK | 25  | 0      | Band 5  | 10M   | 891.4  | 2624    | 19.98     | 20.28      |
|            |                | CA_41C     | Band 41 | 20M    | 2593   | 40620   | QPSK | 1   | 0      | Band 41 | 20M   | 2612.8 | 40818   | 17.21     | 17.34      |
|            |                | CA_66B     | Band 66 | 15M    | 1745   | 132322  | QPSK | 1   | 37     | Band 66 | 5M    | 2164.3 | 66979   | 16.43     | 16.48      |
|            |                | CA_66C     | Band 66 | 20M    | 1720   | 132072  | QPSK | 1   | 99     | Band 66 | 20M   | 2139.8 | 66734   | 16.45     | 16.68      |
|            | Non-Contiguous | CA_2A-2A   | Band 2  | 20M    | 1880   | 18900   | QPSK | 1   | 99     | Band 2  | 5M    | 1987.5 | 1175    | 16.89     | 17.06      |
|            |                | CA_4A-4A   | Band 4  | 20M    | 1732.5 | 20175   | QPSK | 1   | 0      | Band 4  | 5M    | 2152.5 | 2375    | 16.34     | 16.49      |
|            |                | CA_7A-7A   | Band 7  | 20M    | 2560   | 21350   | QPSK | 1   | 0      | Band 7  | 20M   | 2630   | 2850    | 13.76     | 13.78      |
|            |                | CA_25A-25A | Band 25 | 20M    | 1905   | 26590   | QPSK | 1   | 0      | Band 25 | 5M    | 1932.5 | 8065    | 16.76     | 16.98      |
|            |                | CA_41A-41A | Band 41 | 20M    | 2593   | 40620   | QPSK | 1   | 0      | Band 41 | 5M    | 2687.5 | 41565   | 17.21     | 17.34      |
|            |                | CA_66A-66A | Band 66 | 20M    | 1720   | 132072  | QPSK | 1   | 99     | Band 66 | 5M    | 2197.5 | 67311   | 16.70     | 16.68      |

**<Reduced Power Mode for Handheld On>**

| Configure  |                | CA List    | PCC     |       |        |         |      |     |        | SCC     |       |        |         | Power     |            |
|------------|----------------|------------|---------|-------|--------|---------|------|-----|--------|---------|-------|--------|---------|-----------|------------|
|            |                |            | LTE     | BW    | UL     |         | Mod. | UL# | UL     | LTE     | BW    | DL     | DL      | With CA   | Without CA |
|            |                |            | Band    | (MHz) | Freq.  | Channel |      | RB  | Offset | Band    | (MHz) | Freq.  | Channel | Tx. Power | Tx. Power  |
|            |                |            |         |       | (MHz)  |         |      |     |        |         |       | (MHz)  |         | (dBm)     | (dBm)      |
| Inter-Band |                | CA_2A-4A   | Band 2  | 20M   | 1880   | 18900   | QPSK | 1   | 99     | Band 4  | 20M   | 2132.5 | 2175    | 19.69     | 20.13      |
|            |                |            | Band 4  | 20M   | 1732.5 | 20175   | QPSK | 1   | 0      | Band 2  | 20M   | 1960   | 900     | 19.78     | 20.15      |
|            |                | CA_2A-5A   | Band 2  | 20M   | 1880   | 18900   | QPSK | 1   | 99     | Band 5  | 10M   | 881.5  | 2525    | 19.71     | 20.13      |
|            |                |            | Band 5  | 10M   | 836.5  | 20525   | QPSK | 1   | 0      | Band 2  | 20M   | 1960   | 900     | 22.80     | 22.85      |
|            |                | CA_2A-12A  | Band 2  | 20M   | 1880   | 18900   | QPSK | 1   | 99     | Band 12 | 10M   | 737.5  | 5095    | 19.67     | 20.13      |
|            |                |            | Band 12 | 10M   | 707.5  | 23095   | QPSK | 1   | 0      | Band 2  | 20M   | 1960   | 900     | 22.45     | 22.61      |
|            |                | CA_2A-13A  | Band 2  | 20M   | 1880   | 18900   | QPSK | 1   | 99     | Band 13 | 10M   | 751    | 5230    | 19.78     | 20.13      |
|            |                |            | Band 13 | 10M   | 782    | 23230   | QPSK | 1   | 0      | Band 2  | 20M   | 1960   | 900     | 22.23     | 22.42      |
|            |                | CA_2A-66A  | Band 2  | 20M   | 1880   | 18900   | QPSK | 1   | 99     | Band 66 | 20M   | 2155   | 66886   | 19.76     | 20.13      |
|            |                |            | Band 66 | 20M   | 1720   | 132072  | QPSK | 1   | 99     | Band 2  | 20M   | 1960   | 900     | 19.87     | 20.28      |
|            |                | CA_4A-5A   | Band 4  | 20M   | 1732.5 | 20175   | QPSK | 1   | 0      | Band 5  | 10M   | 881.5  | 2525    | 19.78     | 20.15      |
|            |                |            | Band 5  | 10M   | 836.5  | 20525   | QPSK | 1   | 0      | Band 4  | 20M   | 2132.5 | 2175    | 22.81     | 22.85      |
|            |                | CA_4A-7A   | Band 4  | 20M   | 1732.5 | 20175   | QPSK | 1   | 0      | Band 7  | 20M   | 2655   | 3100    | 20.00     | 20.15      |
|            |                |            | Band 7  | 20M   | 2560   | 21350   | QPSK | 1   | 0      | Band 4  | 20M   | 2132.5 | 2175    | 18.65     | 18.79      |
|            |                | CA_4A-12A  | Band 4  | 20M   | 1732.5 | 20175   | QPSK | 1   | 0      | Band 12 | 10M   | 737.5  | 5095    | 19.87     | 20.15      |
|            |                |            | Band 12 | 10M   | 707.5  | 23095   | QPSK | 1   | 0      | Band 4  | 20M   | 2132.5 | 2175    | 22.54     | 22.61      |
|            |                | CA_4A-13A  | Band 4  | 20M   | 1732.5 | 20175   | QPSK | 1   | 0      | Band 13 | 10M   | 751    | 5230    | 19.98     | 20.15      |
|            |                |            | Band 13 | 10M   | 782    | 23230   | QPSK | 1   | 0      | Band 4  | 20M   | 2132.5 | 2175    | 22.31     | 22.42      |
|            |                | CA_5A-66A  | Band 5  | 10M   | 836.5  | 20525   | QPSK | 1   | 0      | Band 66 | 20M   | 2155   | 66886   | 22.76     | 22.85      |
|            |                |            | Band 66 | 20M   | 1720   | 132072  | QPSK | 1   | 99     | Band 5  | 10M   | 881.5  | 2525    | 20.12     | 20.28      |
|            |                | CA_12A-66A | Band 12 | 10M   | 707.5  | 23095   | QPSK | 1   | 0      | Band 66 | 20M   | 2155   | 66886   | 22.45     | 22.61      |
|            |                |            | Band 66 | 20M   | 1720   | 132072  | QPSK | 1   | 99     | Band 12 | 10M   | 737.5  | 5095    | 20.00     | 20.28      |
|            |                | CA_13A-66A | Band 13 | 10M   | 782    | 23230   | QPSK | 1   | 0      | Band 66 | 20M   | 2155   | 66886   | 22.21     | 22.42      |
|            |                |            | Band 66 | 20M   | 1720   | 132072  | QPSK | 1   | 99     | Band 13 | 10M   | 751    | 5230    | 19.99     | 20.28      |
|            |                | CA_25A-26A | Band 25 | 20M   | 1905   | 26590   | QPSK | 1   | 0      | Band 26 | 15M   | 876.5  | 8865    | 19.78     | 20.12      |
|            |                |            | Band 26 | 15M   | 831.5  | 26865   | QPSK | 1   | 0      | Band 25 | 20M   | 1960   | 8340    | 22.65     | 22.86      |
| Intra-Band | Contiguous     | CA_2C      | Band 2  | 20M   | 1880   | 18900   | QPSK | 1   | 99     | Band 2  | 20M   | 1979.8 | 1098    | 19.88     | 20.13      |
|            |                | CA_41C     | Band 41 | 20M   | 2593   | 40620   | QPSK | 1   | 0      | Band 41 | 20M   | 2612.8 | 40818   | 21.30     | 21.51      |
|            |                | CA_66B     | Band 66 | 15M   | 1717.5 | 132047  | QPSK | 75  | 0      | Band 66 | 5M    | 2126.8 | 66604   | 20.10     | 20.26      |
|            |                | CA_66C     | Band 66 | 20M   | 1720   | 132072  | QPSK | 1   | 99     | Band 66 | 20M   | 2139.8 | 66734   | 20.12     | 20.28      |
|            | Non-Contiguous | CA_2A-2A   | Band 2  | 20M   | 1880   | 18900   | QPSK | 1   | 99     | Band 2  | 5M    | 1987.5 | 1175    | 19.98     | 20.13      |
|            |                | CA_4A-4A   | Band 4  | 20M   | 1732.5 | 20175   | QPSK | 1   | 0      | Band 4  | 5M    | 2152.5 | 2375    | 19.96     | 20.15      |
|            |                | CA_7A-7A   | Band 7  | 20M   | 2560   | 21350   | QPSK | 1   | 0      | Band 7  | 20M   | 2630   | 2850    | 18.67     | 18.79      |
|            |                | CA_25A-25A | Band 25 | 20M   | 1905   | 26590   | QPSK | 1   | 0      | Band 25 | 5M    | 1932.5 | 8065    | 19.98     | 20.12      |
|            |                | CA_41A-41A | Band 41 | 20M   | 2593   | 40620   | QPSK | 1   | 0      | Band 41 | 5M    | 2687.5 | 41565   | 21.34     | 21.51      |
|            |                | CA_66A-66A | Band 66 | 20M   | 1720   | 132072  | QPSK | 1   | 99     | Band 66 | 5M    | 2197.5 | 67311   | 20.12     | 20.28      |

**<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.18 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.

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

| 2.4GHz WLAN | Mode              | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Duty Cycle % |
|-------------|-------------------|---------|-----------------|---------------------|---------------|--------------|
|             | 802.11b 1Mbps     | 1       | 2412            | 19.21               | 19.50         | 100.00       |
|             |                   | 6       | 2437            | 19.32               | 19.50         |              |
|             |                   | 11      | 2462            | 18.91               | 19.50         |              |
|             | 802.11g 6Mbps     | 1       | 2412            | 17.69               | 18.50         | 95.63        |
|             |                   | 6       | 2437            | 17.85               | 18.50         |              |
|             |                   | 11      | 2462            | 18.06               | 18.50         |              |
|             | 802.11n-HT20 MCS0 | 1       | 2412            | 17.76               | 18.50         | 94.35        |
|             |                   | 6       | 2437            | 17.94               | 18.50         |              |
|             |                   | 11      | 2462            | 18.13               | 18.50         |              |

**<5GHz WLAN>**

| 5.2GHz WLAN | Mode                | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Duty Cycle % |
|-------------|---------------------|---------|-----------------|---------------------|---------------|--------------|
|             | 802.11a 6Mbps       | 36      | 5180            | 17.64               | 19.50         | 95.63        |
|             |                     | 40      | 5200            | 18.26               | 19.50         |              |
|             |                     | 44      | 5220            | 18.21               | 19.50         |              |
|             |                     | 48      | 5240            | 18.97               | 19.50         |              |
|             | 802.11n-HT20 MCS0   | 36      | 5180            | 17.87               | 19.50         | 94.84        |
|             |                     | 40      | 5200            | 18.54               | 19.50         |              |
|             |                     | 44      | 5220            | 18.62               | 19.50         |              |
|             |                     | 48      | 5240            | 19.11               | 19.50         |              |
|             | 802.11n-HT40 MCS0   | 38      | 5190            | 17.56               | 18.50         | 87.74        |
|             |                     | 46      | 5230            | 18.14               | 18.50         |              |
|             | 802.11ac-VHT20 MCS0 | 36      | 5180            | 17.64               | 19.50         | 95.47        |
|             |                     | 40      | 5200            | 18.45               | 19.50         |              |
|             |                     | 44      | 5220            | 18.53               | 19.50         |              |
|             |                     | 48      | 5240            | 19.01               | 19.50         |              |
|             | 802.11ac-VHT40 MCS0 | 38      | 5190            | 17.25               | 18.50         | 88.85        |
|             |                     | 46      | 5230            | 18.07               | 18.50         |              |
|             | 802.11ac-VHT80 MCS0 | 42      | 5210            | 15.54               | 17.00         | 76.51        |

| 5.3GHz WLAN | Mode                | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Duty Cycle % |
|-------------|---------------------|---------|-----------------|---------------------|---------------|--------------|
|             | 802.11a 6Mbps       | 52      | 5260            | 18.20               | 19.50         | 95.63        |
|             |                     | 56      | 5280            | 18.53               | 19.50         |              |
|             |                     | 60      | 5300            | 18.42               | 19.50         |              |
|             |                     | 64      | 5320            | 18.57               | 19.50         |              |
|             | 802.11n-HT20 MCS0   | 52      | 5260            | 18.61               | 19.50         | 94.84        |
|             |                     | 56      | 5280            | 18.95               | 19.50         |              |
|             |                     | 60      | 5300            | 18.78               | 19.50         |              |
|             |                     | 64      | 5320            | 18.94               | 19.50         |              |
|             | 802.11n-HT40 MCS0   | 54      | 5270            | 18.15               | 18.50         | 87.74        |
|             |                     | 62      | 5310            | 18.44               | 18.50         |              |
|             | 802.11ac-VHT20 MCS0 | 52      | 5260            | 18.54               | 19.50         | 95.47        |
|             |                     | 56      | 5280            | 18.93               | 19.50         |              |
|             |                     | 60      | 5300            | 18.75               | 19.50         |              |
|             |                     | 64      | 5320            | 18.93               | 19.50         |              |
|             | 802.11ac-VHT40 MCS0 | 54      | 5270            | 18.09               | 18.50         | 88.85        |
|             |                     | 62      | 5310            | 18.44               | 18.50         |              |
|             | 802.11ac-VHT80 MCS0 | 58      | 5290            | 16.62               | 17.00         | 76.51        |

| 5.5GHz WLAN | Mode                | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Duty Cycle % |
|-------------|---------------------|---------|-----------------|---------------------|---------------|--------------|
|             | 802.11a 6Mbps       | 100     | 5500            | 18.40               | 19.50         | 95.63        |
|             |                     | 116     | 5580            | 18.55               | 19.50         |              |
|             |                     | 124     | 5620            | 18.46               | 19.50         |              |
|             |                     | 132     | 5660            | 17.68               | 19.00         |              |
|             |                     | 140     | 5700            | 17.96               | 19.00         |              |
|             |                     | 144     | 5720            | 17.44               | 19.00         |              |
|             | 802.11n-HT20 MCS0   | 100     | 5500            | 18.88               | 19.50         | 94.84        |
|             |                     | 116     | 5580            | 18.91               | 19.50         |              |
|             |                     | 124     | 5620            | 18.82               | 19.50         |              |
|             |                     | 132     | 5660            | 17.98               | 19.00         |              |
|             |                     | 140     | 5700            | 18.03               | 19.00         |              |
|             |                     | 144     | 5720            | 17.41               | 19.00         |              |
|             | 802.11n-HT40 MCS0   | 102     | 5510            | 18.66               | 19.00         | 87.74        |
|             |                     | 110     | 5550            | 18.58               | 19.00         |              |
|             |                     | 126     | 5630            | 18.31               | 19.00         |              |
|             |                     | 134     | 5670            | 17.30               | 18.00         |              |
|             |                     | 142     | 5710            | 17.16               | 18.00         |              |
|             | 802.11ac-VHT20 MCS0 | 100     | 5500            | 18.85               | 19.50         | 95.47        |
|             |                     | 116     | 5580            | 18.89               | 19.50         |              |
|             |                     | 124     | 5620            | 18.81               | 19.50         |              |
|             |                     | 132     | 5660            | 17.92               | 19.00         |              |
|             |                     | 140     | 5700            | 17.96               | 19.00         |              |
|             |                     | 144     | 5720            | 17.40               | 19.00         |              |
|             | 802.11ac-VHT40 MCS0 | 102     | 5510            | 18.54               | 19.00         | 88.85        |
|             |                     | 110     | 5550            | 18.53               | 19.00         |              |
|             |                     | 126     | 5630            | 18.20               | 19.00         |              |
|             |                     | 134     | 5670            | 17.29               | 18.00         |              |
|             |                     | 142     | 5710            | 16.98               | 18.00         |              |
|             | 802.11ac-VHT80 MCS0 | 106     | 5530            | 16.50               | 17.00         | 76.51        |
|             |                     | 122     | 5610            | 16.32               | 17.00         |              |
|             |                     | 138     | 5690            | 14.98               | 16.00         |              |

| 5.8GHz<br>WLAN | Mode                   | Channel | Frequency<br>(MHz) | Average power<br>(dBm) | Tune-Up<br>Limit | Duty Cycle % |
|----------------|------------------------|---------|--------------------|------------------------|------------------|--------------|
|                | 802.11a MCS0           | 149     | 5745               | 17.57                  | 18.50            | 95.63        |
|                |                        | 157     | 5785               | 17.78                  | 18.50            |              |
|                |                        | 165     | 5825               | 17.60                  | 18.50            |              |
|                | 802.11n-HT20<br>MCS0   | 149     | 5745               | 17.83                  | 18.50            | 94.84        |
|                |                        | 157     | 5785               | 17.92                  | 18.50            |              |
|                |                        | 165     | 5825               | 17.65                  | 18.50            |              |
|                | 802.11n-HT40<br>MCS0   | 151     | 5755               | 16.92                  | 18.00            | 87.74        |
|                |                        | 159     | 5795               | 17.08                  | 18.00            |              |
|                | 802.11ac-VHT20<br>MCS0 | 149     | 5745               | 17.61                  | 18.50            | 95.47        |
|                |                        | 157     | 5785               | 17.77                  | 18.50            |              |
|                |                        | 165     | 5825               | 17.64                  | 18.50            |              |
|                | 802.11ac-VHT40<br>MCS0 | 151     | 5755               | 16.89                  | 18.00            | 88.85        |
|                |                        | 159     | 5795               | 16.94                  | 18.00            |              |
|                | 802.11ac-VHT80<br>MCS0 | 155     | 5775               | 14.59                  | 16.00            | 76.51        |

**<Reduced Power Mode for Receiver On>**
**<2.4GHz WLAN>**

| 2.4GHz WLAN | Mode              | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Duty Cycle % |
|-------------|-------------------|---------|-----------------|---------------------|---------------|--------------|
|             | 802.11b 1Mbps     | 1       | 2412            | 17.04               | 17.50         | 100.00       |
|             |                   | 6       | 2437            | 17.12               | 17.50         |              |
|             |                   | 11      | 2462            | 17.01               | 17.50         |              |
|             | 802.11g 6Mbps     | 1       | 2412            | 15.70               | 16.50         | 95.63        |
|             |                   | 6       | 2437            | 15.87               | 16.50         |              |
|             |                   | 11      | 2462            | 16.12               | 16.50         |              |
|             | 802.11n-HT20 MCS0 | 1       | 2412            | 15.88               | 16.50         | 94.35        |
|             |                   | 6       | 2437            | 15.96               | 16.50         |              |
|             |                   | 11      | 2462            | 16.17               | 16.50         |              |

**<5GHz WLAN>**

| 5.2GHz WLAN | Mode                | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Duty Cycle % |
|-------------|---------------------|---------|-----------------|---------------------|---------------|--------------|
|             | 802.11a 6Mbps       | 36      | 5180            | 16.44               | 18.00         | 95.63        |
|             |                     | 40      | 5200            | 17.18               | 18.50         |              |
|             |                     | 44      | 5220            | 16.81               | 18.50         |              |
|             |                     | 48      | 5240            | 17.12               | 18.50         |              |
|             | 802.11n-HT20 MCS0   | 36      | 5180            | 16.38               | 18.00         | 94.84        |
|             |                     | 40      | 5200            | 17.06               | 18.50         |              |
|             |                     | 44      | 5220            | 16.64               | 18.50         |              |
|             |                     | 48      | 5240            | 17.14               | 18.50         |              |
|             | 802.11n-HT40 MCS0   | 38      | 5190            | 16.25               | 17.50         | 87.74        |
|             |                     | 46      | 5230            | 16.63               | 17.50         |              |
|             | 802.11ac-VHT20 MCS0 | 36      | 5180            | 16.41               | 18.00         | 95.47        |
|             |                     | 40      | 5200            | 17.17               | 18.50         |              |
|             |                     | 44      | 5220            | 16.78               | 18.50         |              |
|             |                     | 48      | 5240            | 17.29               | 18.50         |              |
|             | 802.11ac-VHT40 MCS0 | 38      | 5190            | 16.18               | 17.50         | 88.85        |
|             |                     | 46      | 5230            | 16.52               | 17.50         |              |
|             | 802.11ac-VHT80 MCS0 | 42      | 5210            | 14.32               | 16.00         | 76.51        |

| 5.3GHz WLAN | Mode                | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Duty Cycle % |
|-------------|---------------------|---------|-----------------|---------------------|---------------|--------------|
|             | 802.11a 6Mbps       | 52      | 5260            | 16.57               | 18.50         | 95.63        |
|             |                     | 56      | 5280            | 16.64               | 18.50         |              |
|             |                     | 60      | 5300            | 16.62               | 18.50         |              |
|             |                     | 64      | 5320            | 17.30               | 18.50         |              |
|             | 802.11n-HT20 MCS0   | 52      | 5260            | 16.39               | 18.00         | 94.84        |
|             |                     | 56      | 5280            | 16.61               | 18.50         |              |
|             |                     | 60      | 5300            | 16.55               | 18.50         |              |
|             |                     | 64      | 5320            | 17.31               | 18.50         |              |
|             | 802.11n-HT40 MCS0   | 54      | 5270            | 16.73               | 17.50         | 87.74        |
|             |                     | 62      | 5310            | 16.35               | 17.50         |              |
|             | 802.11ac-VHT20 MCS0 | 52      | 5260            | 16.52               | 18.50         | 95.47        |
|             |                     | 56      | 5280            | 16.24               | 18.00         |              |
|             |                     | 60      | 5300            | 16.12               | 18.00         |              |
|             |                     | 64      | 5320            | 16.23               | 18.00         |              |
|             | 802.11ac-VHT40 MCS0 | 54      | 5270            | 16.73               | 17.50         | 88.85        |
|             |                     | 62      | 5310            | 16.65               | 17.50         |              |
|             | 802.11ac-VHT80 MCS0 | 58      | 5290            | 15.44               | 16.00         | 76.51        |

| 5.5GHz WLAN | Mode                | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Duty Cycle % |
|-------------|---------------------|---------|-----------------|---------------------|---------------|--------------|
|             | 802.11a 6Mbps       | 100     | 5500            | 16.86               | 18.50         | 95.63        |
|             |                     | 116     | 5580            | 17.00               | 18.50         |              |
|             |                     | 124     | 5620            | 16.77               | 18.50         |              |
|             |                     | 132     | 5660            | 16.28               | 18.00         |              |
|             |                     | 140     | 5700            | 16.57               | 18.00         |              |
|             |                     | 144     | 5720            | 16.62               | 18.00         |              |
|             | 802.11n-HT20 MCS0   | 100     | 5500            | 16.71               | 18.50         | 94.84        |
|             |                     | 116     | 5580            | 17.02               | 18.50         |              |
|             |                     | 124     | 5620            | 16.80               | 18.50         |              |
|             |                     | 132     | 5660            | 16.15               | 18.00         |              |
|             |                     | 140     | 5700            | 16.45               | 18.00         |              |
|             |                     | 144     | 5720            | 16.15               | 18.00         |              |
|             | 802.11n-HT40 MCS0   | 102     | 5510            | 16.44               | 18.00         | 87.74        |
|             |                     | 110     | 5550            | 16.68               | 18.00         |              |
|             |                     | 126     | 5630            | 16.46               | 18.00         |              |
|             |                     | 134     | 5670            | 15.91               | 17.00         |              |
|             |                     | 142     | 5710            | 16.04               | 17.00         |              |
|             | 802.11ac-VHT20 MCS0 | 100     | 5500            | 16.08               | 18.00         | 95.47        |
|             |                     | 116     | 5580            | 16.98               | 18.50         |              |
|             |                     | 124     | 5620            | 16.78               | 18.50         |              |
|             |                     | 132     | 5660            | 16.19               | 18.00         |              |
|             |                     | 140     | 5700            | 16.46               | 18.00         |              |
|             |                     | 144     | 5720            | 16.44               | 18.00         |              |
|             | 802.11ac-VHT40 MCS0 | 102     | 5510            | 17.13               | 18.00         | 88.85        |
|             |                     | 110     | 5550            | 16.31               | 18.00         |              |
|             |                     | 126     | 5630            | 16.77               | 18.00         |              |
|             |                     | 134     | 5670            | 16.32               | 17.00         |              |
|             |                     | 142     | 5710            | 15.88               | 17.00         |              |
|             | 802.11ac-VHT80 MCS0 | 106     | 5530            | 15.42               | 16.00         | 76.51        |
|             |                     | 122     | 5610            | 15.27               | 16.00         |              |
|             |                     | 138     | 5690            | 13.96               | 15.00         |              |

| 5.8GHz<br>WLAN | Mode                   | Channel | Frequency<br>(MHz) | Average power<br>(dBm) | Tune-Up<br>Limit | Duty Cycle % |
|----------------|------------------------|---------|--------------------|------------------------|------------------|--------------|
|                | 802.11a MCS0           | 149     | 5745               | 16.15                  | 17.50            | 95.63        |
|                |                        | 157     | 5785               | 16.22                  | 17.50            |              |
|                |                        | 165     | 5825               | 16.10                  | 17.50            |              |
|                | 802.11n-HT20<br>MCS0   | 149     | 5745               | 15.87                  | 17.50            | 94.84        |
|                |                        | 157     | 5785               | 15.92                  | 17.50            |              |
|                |                        | 165     | 5825               | 16.08                  | 17.50            |              |
|                | 802.11n-HT40<br>MCS0   | 151     | 5755               | 15.38                  | 17.00            | 87.74        |
|                |                        | 159     | 5795               | 15.82                  | 17.00            |              |
|                | 802.11ac-VHT20<br>MCS0 | 149     | 5745               | 15.70                  | 17.50            | 95.47        |
|                |                        | 157     | 5785               | 15.97                  | 17.50            |              |
|                |                        | 165     | 5825               | 16.01                  | 17.50            |              |
|                | 802.11ac-VHT40<br>MCS0 | 151     | 5755               | 16.10                  | 17.00            | 88.85        |
|                |                        | 159     | 5795               | 15.92                  | 17.00            |              |
|                | 802.11ac-VHT80<br>MCS0 | 155     | 5775               | 13.17                  | 15.00            | 76.51        |

**<Reduced Power Mode for P-Sensor On>**
**<5GHz WLAN>**

| 5.2GHz WLAN | Mode                | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Duty Cycle % |
|-------------|---------------------|---------|-----------------|---------------------|---------------|--------------|
|             | 802.11a 6Mbps       | 36      | 5180            | 15.23               | 17.00         | 95.63        |
|             |                     | 40      | 5200            | 16.11               | 17.50         |              |
|             |                     | 44      | 5220            | 15.76               | 17.50         |              |
|             |                     | 48      | 5240            | 16.31               | 17.50         |              |
|             | 802.11n-HT20 MCS0   | 36      | 5180            | 15.16               | 17.00         | 94.84        |
|             |                     | 40      | 5200            | 16.01               | 17.50         |              |
|             |                     | 44      | 5220            | 15.81               | 17.50         |              |
|             |                     | 48      | 5240            | 16.29               | 17.50         |              |
|             | 802.11n-HT40 MCS0   | 38      | 5190            | 15.46               | 16.50         | 87.74        |
|             |                     | 46      | 5230            | 15.49               | 16.50         |              |
|             | 802.11ac-VHT20 MCS0 | 36      | 5180            | 15.12               | 17.00         | 95.47        |
|             |                     | 40      | 5200            | 15.64               | 17.50         |              |
|             |                     | 44      | 5220            | 15.73               | 17.50         |              |
|             |                     | 48      | 5240            | 16.28               | 17.50         |              |
|             | 802.11ac-VHT40 MCS0 | 38      | 5190            | 15.22               | 16.50         | 88.85        |
|             |                     | 46      | 5230            | 15.93               | 16.50         |              |
|             | 802.11ac-VHT80 MCS0 | 42      | 5210            | 13.24               | 15.00         | 76.51        |

| 5.3GHz WLAN | Mode                | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Duty Cycle % |
|-------------|---------------------|---------|-----------------|---------------------|---------------|--------------|
|             | 802.11a 6Mbps       | 52      | 5260            | 15.98               | 17.50         | 95.63        |
|             |                     | 56      | 5280            | 16.45               | 17.50         |              |
|             |                     | 60      | 5300            | 16.40               | 17.50         |              |
|             |                     | 64      | 5320            | 16.47               | 17.50         |              |
|             | 802.11n-HT20 MCS0   | 52      | 5260            | 15.92               | 17.00         | 94.84        |
|             |                     | 56      | 5280            | 16.10               | 17.50         |              |
|             |                     | 60      | 5300            | 16.38               | 17.50         |              |
|             |                     | 64      | 5320            | 16.22               | 17.50         |              |
|             | 802.11n-HT40 MCS0   | 54      | 5270            | 15.58               | 16.50         | 87.74        |
|             |                     | 62      | 5310            | 16.21               | 16.50         |              |
|             | 802.11ac-VHT20 MCS0 | 52      | 5260            | 15.97               | 17.50         | 95.47        |
|             |                     | 56      | 5280            | 16.26               | 17.00         |              |
|             |                     | 60      | 5300            | 16.23               | 17.00         |              |
|             |                     | 64      | 5320            | 16.13               | 17.00         |              |
|             | 802.11ac-VHT40 MCS0 | 54      | 5270            | 15.53               | 16.50         | 88.85        |
|             |                     | 62      | 5310            | 16.18               | 16.50         |              |
|             | 802.11ac-VHT80 MCS0 | 58      | 5290            | 14.20               | 15.00         | 76.51        |

|             | Mode                | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Duty Cycle % |
|-------------|---------------------|---------|-----------------|---------------------|---------------|--------------|
| 5.5GHz WLAN | 802.11a 6Mbps       | 100     | 5500            | 16.10               | 17.50         | 95.63        |
|             |                     | 116     | 5580            | 16.18               | 17.50         |              |
|             |                     | 124     | 5620            | 16.13               | 17.50         |              |
|             |                     | 132     | 5660            | 15.56               | 17.00         |              |
|             |                     | 140     | 5700            | 15.78               | 17.00         |              |
|             |                     | 144     | 5720            | 15.36               | 17.00         |              |
|             | 802.11n-HT20 MCS0   | 100     | 5500            | 15.79               | 17.50         | 94.84        |
|             |                     | 116     | 5580            | 16.06               | 17.50         |              |
|             |                     | 124     | 5620            | 15.79               | 17.50         |              |
|             |                     | 132     | 5660            | 15.42               | 17.00         |              |
|             |                     | 140     | 5700            | 16.00               | 17.00         |              |
|             |                     | 144     | 5720            | 15.40               | 17.00         |              |
|             | 802.11n-HT40 MCS0   | 102     | 5510            | 16.62               | 17.00         | 87.74        |
|             |                     | 110     | 5550            | 16.50               | 17.00         |              |
|             |                     | 126     | 5630            | 16.30               | 17.00         |              |
|             |                     | 134     | 5670            | 15.29               | 16.00         |              |
|             |                     | 142     | 5710            | 15.13               | 16.00         |              |
|             | 802.11ac-VHT20 MCS0 | 100     | 5500            | 16.12               | 17.00         | 95.47        |
|             |                     | 116     | 5580            | 16.21               | 17.50         |              |
|             |                     | 124     | 5620            | 16.21               | 17.50         |              |
|             |                     | 132     | 5660            | 15.57               | 17.00         |              |
|             |                     | 140     | 5700            | 15.78               | 17.00         |              |
|             |                     | 144     | 5720            | 15.35               | 17.00         |              |
|             | 802.11ac-VHT40 MCS0 | 102     | 5510            | 16.06               | 17.00         | 88.85        |
|             |                     | 110     | 5550            | 16.03               | 17.00         |              |
|             |                     | 126     | 5630            | 16.17               | 17.00         |              |
|             |                     | 134     | 5670            | 15.16               | 16.00         |              |
|             |                     | 142     | 5710            | 14.95               | 16.00         |              |
|             | 802.11ac-VHT80 MCS0 | 106     | 5530            | 14.32               | 15.00         | 76.51        |
|             |                     | 122     | 5610            | 14.28               | 15.00         |              |
|             |                     | 138     | 5690            | 12.90               | 14.00         |              |

| 5.8GHz<br>WLAN | Mode                   | Channel | Frequency<br>(MHz) | Average power<br>(dBm) | Tune-Up<br>Limit | Duty Cycle % |
|----------------|------------------------|---------|--------------------|------------------------|------------------|--------------|
|                | 802.11a MCS0           | 149     | 5745               | 15.47                  | 16.50            | 95.63        |
|                |                        | 157     | 5785               | 15.52                  | 16.50            |              |
|                |                        | 165     | 5825               | 15.48                  | 16.50            |              |
|                | 802.11n-HT20<br>MCS0   | 149     | 5745               | 15.37                  | 16.50            | 94.84        |
|                |                        | 157     | 5785               | 15.48                  | 16.50            |              |
|                |                        | 165     | 5825               | 15.54                  | 16.50            |              |
|                | 802.11n-HT40<br>MCS0   | 151     | 5755               | 14.83                  | 16.00            | 87.74        |
|                |                        | 159     | 5795               | 14.89                  | 16.00            |              |
|                | 802.11ac-VHT20<br>MCS0 | 149     | 5745               | 15.46                  | 16.50            | 95.47        |
|                |                        | 157     | 5785               | 15.42                  | 16.50            |              |
|                |                        | 165     | 5825               | 15.54                  | 16.50            |              |
|                | 802.11ac-VHT40<br>MCS0 | 151     | 5755               | 15.02                  | 16.00            | 88.85        |
|                |                        | 159     | 5795               | 14.89                  | 16.00            |              |
|                | 802.11ac-VHT80<br>MCS0 | 155     | 5775               | 12.48                  | 14.00            | 76.51        |

**<Reduced Power Mode for Hotspot On>**

**<5GHz WLAN>**

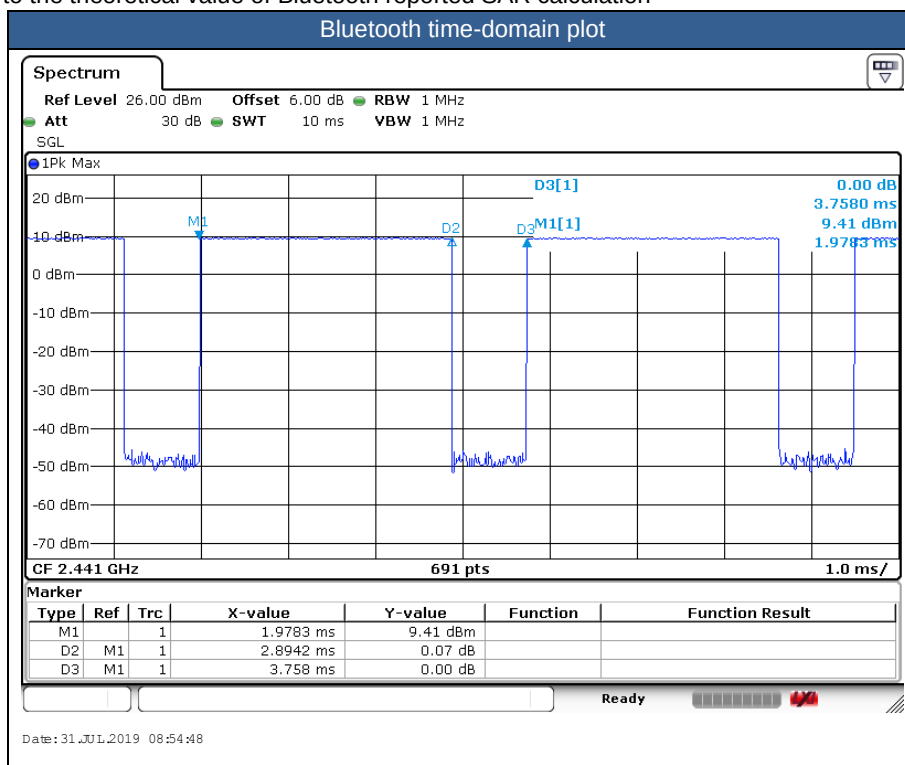
| 5.2GHz WLAN | Mode                | Channel | Frequency (MHz) | Average power (dBm) | Tune-Up Limit | Duty Cycle % |
|-------------|---------------------|---------|-----------------|---------------------|---------------|--------------|
|             | 802.11a 6Mbps       | 36      | 5180            | 15.23               | 17.00         | 95.63        |
|             |                     | 40      | 5200            | 16.11               | 17.50         |              |
|             |                     | 44      | 5220            | 15.76               | 17.50         |              |
|             |                     | 48      | 5240            | 16.31               | 17.50         |              |
|             | 802.11n-HT20 MCS0   | 36      | 5180            | 15.16               | 17.00         | 94.84        |
|             |                     | 40      | 5200            | 16.01               | 17.50         |              |
|             |                     | 44      | 5220            | 15.81               | 17.50         |              |
|             |                     | 48      | 5240            | 16.29               | 17.50         |              |
|             | 802.11n-HT40 MCS0   | 38      | 5190            | 15.46               | 16.50         | 87.74        |
|             |                     | 46      | 5230            | 15.49               | 16.50         |              |
|             | 802.11ac-VHT20 MCS0 | 36      | 5180            | 15.12               | 17.00         | 95.47        |
|             |                     | 40      | 5200            | 15.64               | 17.50         |              |
|             |                     | 44      | 5220            | 15.73               | 17.50         |              |
|             |                     | 48      | 5240            | 16.28               | 17.50         |              |
|             | 802.11ac-VHT40 MCS0 | 38      | 5190            | 15.22               | 16.50         | 88.85        |
|             |                     | 46      | 5230            | 15.93               | 16.50         |              |
|             | 802.11ac-VHT80 MCS0 | 42      | 5210            | 13.24               | 15.00         | 76.51        |

| 5.8GHz<br>WLAN | Mode                   | Channel | Frequency<br>(MHz) | Average power<br>(dBm) | Tune-Up<br>Limit | Duty Cycle % |
|----------------|------------------------|---------|--------------------|------------------------|------------------|--------------|
|                | 802.11a MCS0           | 149     | 5745               | 15.47                  | 16.50            | 95.63        |
|                |                        | 157     | 5785               | 15.52                  | 16.50            |              |
|                |                        | 165     | 5825               | 15.48                  | 16.50            |              |
|                | 802.11n-HT20<br>MCS0   | 149     | 5745               | 15.37                  | 16.50            | 94.84        |
|                |                        | 157     | 5785               | 15.48                  | 16.50            |              |
|                |                        | 165     | 5825               | 15.54                  | 16.50            |              |
|                | 802.11n-HT40<br>MCS0   | 151     | 5755               | 14.83                  | 16.00            | 87.74        |
|                |                        | 159     | 5795               | 14.89                  | 16.00            |              |
|                | 802.11ac-VHT20<br>MCS0 | 149     | 5745               | 15.46                  | 16.50            | 95.47        |
|                |                        | 157     | 5785               | 15.42                  | 16.50            |              |
|                |                        | 165     | 5825               | 15.54                  | 16.50            |              |
|                | 802.11ac-VHT40<br>MCS0 | 151     | 5755               | 15.02                  | 16.00            | 88.85        |
|                |                        | 159     | 5795               | 14.89                  | 16.00            |              |
|                | 802.11ac-VHT80<br>MCS0 | 155     | 5775               | 12.48                  | 14.00            | 76.51        |

**<2.4GHz Bluetooth>**

**General Note:**

1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.
2. The Bluetooth duty cycle is 77.01 % as following figure, according to 2016 Oct. TCB workshop for Bluetooth SAR scaling need further consideration and the theoretical duty cycle is 83.3%, therefore the actual duty cycle will be scaled up to the theoretical value of Bluetooth reported SAR calculation

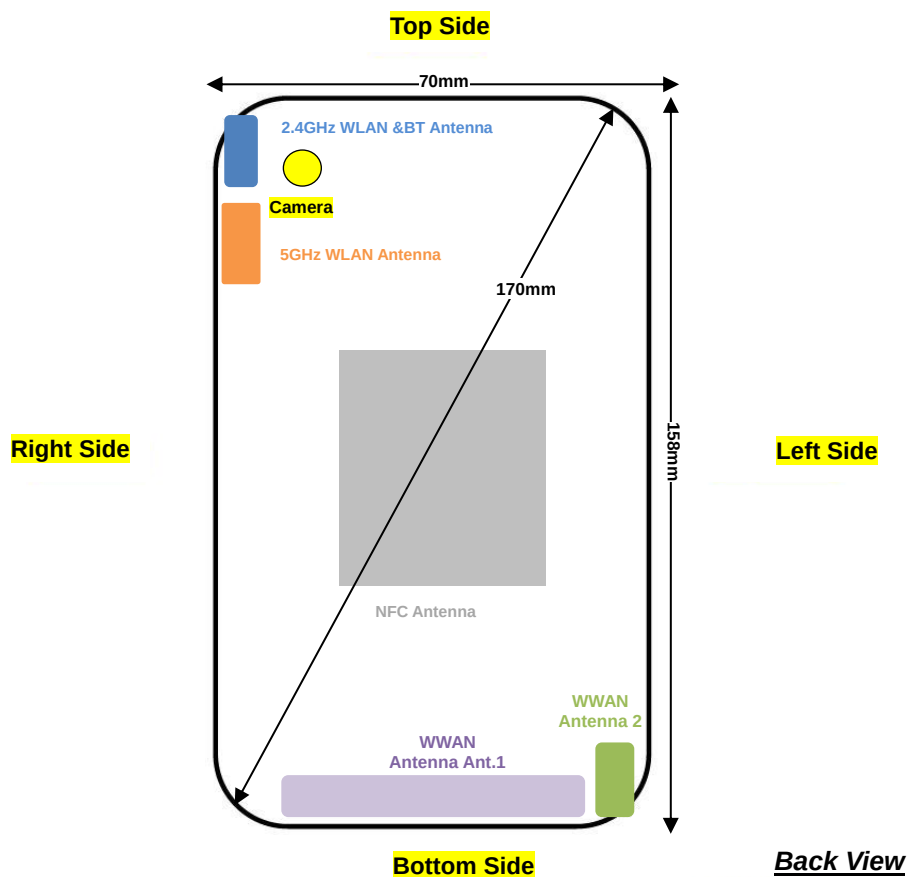


| Mode   | Channel | Frequency (MHz) | Average power (dBm) | Tune-up limit (dBm) |
|--------|---------|-----------------|---------------------|---------------------|
|        |         |                 | 1Mbps               |                     |
| BR/EDR | CH 00   | 2402            | 8.61                | 10.00               |
|        | CH 39   | 2441            | 9.58                | 10.00               |
|        | CH 78   | 2480            | 7.34                | 9.00                |

| Mode          | Channel | Frequency (MHz) | Average power (dBm) |  |
|---------------|---------|-----------------|---------------------|--|
|               |         |                 | GFSK                |  |
| v4.0 LE       | CH 00   | 2402            | 9.49                |  |
|               | CH 19   | 2440            | 9.42                |  |
|               | CH 39   | 2480            | 8.58                |  |
| Tune-up Limit |         |                 | 10.00               |  |

| Mode          | Channel | Frequency (MHz) | Average power (dBm) |  |
|---------------|---------|-----------------|---------------------|--|
|               |         |                 | GFSK                |  |
| v5.0 LE       | CH 00   | 2402            | 9.52                |  |
|               | CH 19   | 2440            | 9.41                |  |
|               | CH 39   | 2480            | 8.67                |  |
| Tune-up Limit |         |                 | 10.00               |  |

## 14. Antenna Location



| Distance of the Antenna to the EUT surface/edge |        |        |          |             |            |           |
|-------------------------------------------------|--------|--------|----------|-------------|------------|-----------|
| Antennas                                        | Back   | Front  | Top Side | Bottom Side | Right Side | Left Side |
| WWAN Antenna 1                                  | ≤ 25mm | ≤ 25mm | >25mm    | ≤ 25mm      | ≤ 25mm     | ≤ 25mm    |
| WWAN Antenna 2                                  | ≤ 25mm | ≤ 25mm | >25mm    | ≤ 25mm      | >25mm      | ≤ 25mm    |
| 2.4GHz WLAN & BT                                | ≤ 25mm | ≤ 25mm | ≤ 25mm   | >25mm       | ≤ 25mm     | >25mm     |
| 5GHz 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 Antenna 1                        | Yes  | Yes   | No       | Yes         | Yes        | Yes       |
| WWAN Antenna 2                        | Yes  | Yes   | No       | Yes         | No         | Yes       |
| 2.4GHz WLAN & BT                      | Yes  | Yes   | Yes      | No          | Yes        | No        |
| 5GHz WLAN                             | Yes  | Yes   | Yes      | No          | Yes        | No        |

### General Note:

- This device has two WWAN transmitter antennas. WWAN antenna 1 is located at the right of bottom edge of the device and WWAN antenna 2 is located at the left side of bottom edge of the device which can refer to antenna location chapter. WWAN antenna 1 frequency bands include GSM850/1900, WCDMA Band II/IV/V, CDMA BC0/BC1/BC10, and LTE Band 2/4/5/12/13/17/25/26/66, WWAN antenna 2 frequency band only include LTE Band 7/38/41.
- Referring to KDB 941225 D06 v02r01, when the overall device length and width are  $\geq 9\text{cm} \times 5\text{cm}$ , 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.

## **15. 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: Reported SAR(W/kg)= Measured SAR(W/kg)\*Tune-up Scaling Factor
  - d. For BT/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 when the measured SAR is  $\geq 0.8$ W/kg. Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, the same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.
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. When the phone is in talking mode and receiver worked, then power reduction will be implemented immediately at WLAN2.4GHz and WLAN5GHz.
6. The device employs proximity sensors that detect the presence of the user's body at the front or back faces of the device. When front or back body worn condition is detected, GSM850/GSM1900, WCDMA band II/IV/V, CDMA BC0/BC1/BC10, LTE band 2/4/5/7/25/26/38/41/66 and WLAN5GHz reduced power will be active. (P-sensor can't work at detecting presence of the user's body at the four edges of the device.)
7. When hotspot mode is enabled, power reduction will be activated to limit the maximum power of GSM850/GSM1900, WCDMA band II/IV/V, CDMA BC0/BC1/BC10, LTE band 2/4/5/7/25/26/38/41/66 and WLAN5.2GHz/5.8GHz.
8. For P-sensor reduced power level is higher than hotspot reduced power for GSM1900, WCDMA band II/IV, LTE band 2/4/5/7/25/38/41/66, so for front/back P-sensor SAR can represent conservatively for front/back hotspot SAR.
9. P-sensor can detect handheld state, WCDMA band II/IV, CDMA BC1 and LTE band 2/4/7/25/38/41/66 for front/back/bottom sides of product specific 10g SAR condition reduced powers will be active.
10. This device has two WWAN transmitter antennas. WWAN antenna 1 is located at the right of bottom edge of the device and WWAN antenna 2 is located at the left side of bottom edge of the device which can refer to antenna location chapter. WWAN antenna 1 frequency bands include GSM850/1900, WCDMA Band II/IV/V, CDMA BC0/BC1/BC10, and LTE Band 2/4/5/12/13/17/25/26/66, WWAN antenna 2 frequency bands include LTE Band 7/38/41.
11. Per KDB648474 D04v01r03, for smart phones with a display diagonal dimension  $> 15.0$  cm or an overall diagonal dimension  $> 16.0$  cm, when hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR  $> 1.2$  W/kg, however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power (for handheld on state, the maximum full power means reduced power), including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold.
  - a. For this device SAR for WWAN transmitter scaled to maximum output power mode for product specific 10g SAR is higher than 1.2W/kg of GSM850/1900, WCDMA Band II/IV/V, CDMA BC0/BC1/BC10, LTE Band 2/4/5/7/25/26/38/41/66, therefore product specific 10g SAR is necessary.
  - b. WLAN 5.3/5.5GHz tested the product specific 10g SAR since it has no hotspot mode.
  - c. When 10-g product specific 10g SAR is considered, SAR thresholds is specified in the procedures for SAR test reduction and exclusion should be multiplied by 2.5.

**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 3Tx slots for GSM850/GSM1900 are 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/p-sensor on are implemented in GSM850/1900 band, for SAR testing EUT was set in reduced power mode and GPRS 3 Tx slots due to its highest frame-average power.

**WCDMA 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 (HSDPA / HSUPA / 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/64QAM output power for each RB allocation configuration is  $> \text{not } \frac{1}{2}$  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/64QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is  $> \text{not } \frac{1}{2}$  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 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 B17 / B2 / B5 / B38 / B4 SAR test was covered by B12 / B25 / B26 / B41 / B66; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
  - c. the maximum output power, including tolerance, for the smaller band is  $\leq$  the larger band to qualify for the SAR test exclusion
  - d. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band

**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 closest/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.

## 15.1 Head SAR

### <GSM SAR>

| Plot No. | Band    | Mode            | Test Position | Power Mode | 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) |
|----------|---------|-----------------|---------------|------------|-----|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
| 01       | GSM850  | GPRS 3 Tx slots | Right Cheek   | Full       | 251 | 848.8       | 29.06               | 30.00               | 1.242                  | 0.18             | 0.414                  | <b>0.514</b>           |
|          | GSM850  | GPRS 3 Tx slots | Right Tilted  | Full       | 251 | 848.8       | 29.06               | 30.00               | 1.242                  | 0.01             | 0.168                  | 0.209                  |
|          | GSM850  | GPRS 3 Tx slots | Left Cheek    | Full       | 251 | 848.8       | 29.06               | 30.00               | 1.242                  | 0.02             | 0.302                  | 0.375                  |
|          | GSM850  | GPRS 3 Tx slots | Left Tilted   | Full       | 251 | 848.8       | 29.06               | 30.00               | 1.242                  | -0.02            | 0.160                  | 0.199                  |
|          | GSM850  | GPRS 3 Tx slots | Right Cheek   | Full       | 128 | 824.2       | 28.63               | 30.00               | 1.371                  | 0.02             | 0.265                  | 0.363                  |
|          | GSM850  | GPRS 3 Tx slots | Right Cheek   | Full       | 189 | 836.4       | 28.81               | 30.00               | 1.315                  | -0.08            | 0.354                  | 0.466                  |
|          | GSM1900 | GPRS 3 Tx slots | Right Cheek   | Full       | 810 | 1909.8      | 26.51               | 27.00               | 1.119                  | 0.03             | 0.046                  | 0.052                  |
|          | GSM1900 | GPRS 3 Tx slots | Right Tilted  | Full       | 810 | 1909.8      | 26.51               | 27.00               | 1.119                  | 0.19             | 0.048                  | 0.054                  |
|          | GSM1900 | GPRS 3 Tx slots | Left Cheek    | Full       | 810 | 1909.8      | 26.51               | 27.00               | 1.119                  | 0.13             | 0.081                  | 0.090                  |
|          | GSM1900 | GPRS 3 Tx slots | Left Tilted   | Full       | 810 | 1909.8      | 26.51               | 27.00               | 1.119                  | -0.03            | 0.031                  | 0.035                  |
|          | GSM1900 | GPRS 3 Tx slots | Left Cheek    | Full       | 512 | 1850.2      | 26.01               | 27.00               | 1.256                  | 0.04             | 0.069                  | 0.086                  |
| 02       | GSM1900 | GPRS 3 Tx slots | Left Cheek    | Full       | 661 | 1880        | 26.07               | 27.00               | 1.239                  | 0.02             | 0.082                  | <b>0.102</b>           |

### <WCDMA SAR>

| Plot No. | Band     | Mode         | Test Position | Power Mode | 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) |
|----------|----------|--------------|---------------|------------|------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
| 03       | WCDMA V  | RMC 12.2Kbps | Right Cheek   | Full       | 4233 | 846.6       | 22.56               | 24.00               | 1.393                  | 0.16             | 0.487                  | <b>0.678</b>           |
|          | WCDMA V  | RMC 12.2Kbps | Right Tilted  | Full       | 4233 | 846.6       | 22.56               | 24.00               | 1.393                  | 0.03             | 0.200                  | 0.279                  |
|          | WCDMA V  | RMC 12.2Kbps | Left Cheek    | Full       | 4233 | 846.6       | 22.56               | 24.00               | 1.393                  | 0.02             | 0.350                  | 0.488                  |
|          | WCDMA V  | RMC 12.2Kbps | Left Tilted   | Full       | 4233 | 846.6       | 22.56               | 24.00               | 1.393                  | 0.01             | 0.179                  | 0.249                  |
|          | WCDMA V  | RMC 12.2Kbps | Right Cheek   | Full       | 4132 | 826.4       | 22.31               | 24.00               | 1.476                  | 0.09             | 0.360                  | 0.531                  |
|          | WCDMA V  | RMC 12.2Kbps | Right Cheek   | Full       | 4182 | 836.4       | 22.46               | 24.00               | 1.426                  | 0.09             | 0.395                  | 0.563                  |
|          | WCDMA IV | RMC 12.2Kbps | Right Cheek   | Full       | 1312 | 1712.4      | 22.53               | 24.00               | 1.403                  | 0.01             | 0.073                  | 0.103                  |
|          | WCDMA IV | RMC 12.2Kbps | Right Tilted  | Full       | 1312 | 1712.4      | 22.53               | 24.00               | 1.403                  | 0.03             | 0.065                  | 0.092                  |
|          | WCDMA IV | RMC 12.2Kbps | Left Cheek    | Full       | 1312 | 1712.4      | 22.53               | 24.00               | 1.403                  | -0.02            | 0.142                  | 0.199                  |
|          | WCDMA IV | RMC 12.2Kbps | Left Tilted   | Full       | 1312 | 1712.4      | 22.53               | 24.00               | 1.403                  | 0.03             | 0.062                  | 0.087                  |
|          | WCDMA IV | RMC 12.2Kbps | Left Cheek    | Full       | 1413 | 1732.6      | 22.45               | 24.00               | 1.429                  | 0.1              | 0.179                  | 0.256                  |
| 04       | WCDMA IV | RMC 12.2Kbps | Left Cheek    | Full       | 1513 | 1752.6      | 22.52               | 24.00               | 1.406                  | 0.06             | 0.202                  | <b>0.284</b>           |
|          | WCDMA II | RMC 12.2Kbps | Right Cheek   | Full       | 9538 | 1907.6      | 22.57               | 24.00               | 1.390                  | 0.19             | 0.091                  | 0.126                  |
|          | WCDMA II | RMC 12.2Kbps | Right Tilted  | Full       | 9538 | 1907.6      | 22.57               | 24.00               | 1.390                  | 0.07             | 0.074                  | 0.103                  |
|          | WCDMA II | RMC 12.2Kbps | Left Cheek    | Full       | 9538 | 1907.6      | 22.57               | 24.00               | 1.390                  | 0.07             | 0.143                  | 0.199                  |
|          | WCDMA II | RMC 12.2Kbps | Left Tilted   | Full       | 9538 | 1907.6      | 22.57               | 24.00               | 1.390                  | -0.03            | 0.066                  | 0.091                  |
|          | WCDMA II | RMC 12.2Kbps | Left Cheek    | Full       | 9262 | 1852.4      | 22.52               | 24.00               | 1.406                  | 0.05             | 0.151                  | 0.212                  |
| 05       | WCDMA II | RMC 12.2Kbps | Left Cheek    | Full       | 9400 | 1880        | 22.53               | 24.00               | 1.403                  | 0.03             | 0.157                  | <b>0.220</b>           |

**<CDMA2000 SAR>**

| Plot No. | Band          | Mode     | Test Position | Power Mode | 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) |
|----------|---------------|----------|---------------|------------|------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | CDMA2000 BC10 | RC3 SO55 | Right Cheek   | Full       | 476  | 817.9       | 23.80               | 25.00               | 1.318                  | 0.02             | 0.201                  | 0.265                  |
|          | CDMA2000 BC10 | RC3 SO55 | Right Tilted  | Full       | 476  | 817.9       | 23.80               | 25.00               | 1.318                  | 0.02             | 0.079                  | 0.104                  |
|          | CDMA2000 BC10 | RC3 SO55 | Left Cheek    | Full       | 476  | 817.9       | 23.80               | 25.00               | 1.318                  | -0.05            | 0.137                  | 0.181                  |
|          | CDMA2000 BC10 | RC3 SO55 | Left Tilted   | Full       | 476  | 817.9       | 23.80               | 25.00               | 1.318                  | 0.02             | 0.051                  | 0.067                  |
| 06       | CDMA2000 BC10 | RC3 SO55 | Right Cheek   | Full       | 580  | 820.5       | 23.79               | 25.00               | 1.321                  | 0.07             | 0.201                  | 0.266                  |
|          | CDMA2000 BC10 | RC3 SO55 | Right Cheek   | Full       | 684  | 823.1       | 23.75               | 25.00               | 1.334                  | 0.04             | 0.175                  | 0.233                  |
|          | CDMA2000 BC0  | RC3 SO55 | Right Cheek   | Full       | 1013 | 824.7       | 23.88               | 25.00               | 1.294                  | 0.16             | 0.330                  | 0.427                  |
|          | CDMA2000 BC0  | RC3 SO55 | Right Tilted  | Full       | 1013 | 824.7       | 23.88               | 25.00               | 1.294                  | 0.01             | 0.155                  | 0.201                  |
|          | CDMA2000 BC0  | RC3 SO55 | Left Cheek    | Full       | 1013 | 824.7       | 23.88               | 25.00               | 1.294                  | 0.05             | 0.262                  | 0.339                  |
|          | CDMA2000 BC0  | RC3 SO55 | Left Tilted   | Full       | 1013 | 824.7       | 23.88               | 25.00               | 1.294                  | 0.03             | 0.141                  | 0.182                  |
|          | CDMA2000 BC0  | RC3 SO55 | Right Cheek   | Full       | 384  | 836.52      | 23.77               | 25.00               | 1.327                  | -0.04            | 0.388                  | 0.515                  |
| 07       | CDMA2000 BC0  | RC3 SO55 | Right Cheek   | Full       | 777  | 848.31      | 23.58               | 25.00               | 1.387                  | 0.04             | 0.377                  | 0.523                  |
|          | CDMA2000 BC1  | RC3 SO55 | Right Cheek   | Full       | 25   | 1851.25     | 24.13               | 25.00               | 1.222                  | -0.09            | 0.107                  | 0.131                  |
|          | CDMA2000 BC1  | RC3 SO55 | Right Tilted  | Full       | 25   | 1851.25     | 24.13               | 25.00               | 1.222                  | -0.04            | 0.108                  | 0.132                  |
|          | CDMA2000 BC1  | RC3 SO55 | Left Cheek    | Full       | 25   | 1851.25     | 24.13               | 25.00               | 1.222                  | -0.05            | 0.156                  | 0.191                  |
|          | CDMA2000 BC1  | RC3 SO55 | Left Tilted   | Full       | 25   | 1851.25     | 24.13               | 25.00               | 1.222                  | -0.02            | 0.070                  | 0.085                  |
| 08       | CDMA2000 BC1  | RC3 SO55 | Left Cheek    | Full       | 600  | 1880        | 24.06               | 25.00               | 1.242                  | -0.09            | 0.158                  | 0.196                  |
|          | CDMA2000 BC1  | RC3 SO55 | Left Cheek    | Full       | 1175 | 1908.75     | 23.94               | 25.00               | 1.276                  | 0.19             | 0.148                  | 0.189                  |



**<FDD LTE SAR>**

| Plot No. | Band        | BW (MHz) | Modulation | RB Size | RB Offset | Test Position | Power Mode | 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 12 | 10M      | QPSK       | 1       | 0         | Right Cheek   | Full       | 23095  | 707.5       | 22.61               | 24.00               | 1.377                  | 0.02             | 0.305                  | <b>0.420</b>           |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Right Cheek   | Full       | 23095  | 707.5       | 21.51               | 23.00               | 1.409                  | 0.02             | 0.252                  | 0.355                  |
|          | LTE Band 12 | 10M      | QPSK       | 1       | 0         | Right Tilted  | Full       | 23095  | 707.5       | 22.61               | 24.00               | 1.377                  | 0.01             | 0.135                  | 0.186                  |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Right Tilted  | Full       | 23095  | 707.5       | 21.51               | 23.00               | 1.409                  | 0.03             | 0.111                  | 0.156                  |
|          | LTE Band 12 | 10M      | QPSK       | 1       | 0         | Left Cheek    | Full       | 23095  | 707.5       | 22.61               | 24.00               | 1.377                  | 0.15             | 0.234                  | 0.322                  |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Left Cheek    | Full       | 23095  | 707.5       | 21.51               | 23.00               | 1.409                  | 0.06             | 0.195                  | 0.275                  |
|          | LTE Band 12 | 10M      | QPSK       | 1       | 0         | Left Tilted   | Full       | 23095  | 707.5       | 22.61               | 24.00               | 1.377                  | 0.12             | 0.130                  | 0.179                  |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Left Tilted   | Full       | 23095  | 707.5       | 21.51               | 23.00               | 1.409                  | 0.03             | 0.107                  | 0.151                  |
| 10       | LTE Band 13 | 10M      | QPSK       | 1       | 0         | Right Cheek   | Full       | 23230  | 782         | 22.42               | 24.00               | 1.439                  | 0.08             | 0.123                  | 0.177                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Right Cheek   | Full       | 23230  | 782         | 21.31               | 23.00               | 1.476                  | 0.09             | 0.161                  | <b>0.238</b>           |
|          | LTE Band 13 | 10M      | QPSK       | 1       | 0         | Right Tilted  | Full       | 23230  | 782         | 22.42               | 24.00               | 1.439                  | 0.09             | 0.046                  | 0.066                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Right Tilted  | Full       | 23230  | 782         | 21.31               | 23.00               | 1.476                  | 0.01             | 0.058                  | 0.086                  |
|          | LTE Band 13 | 10M      | QPSK       | 1       | 0         | Left Cheek    | Full       | 23230  | 782         | 22.42               | 24.00               | 1.439                  | 0.01             | 0.085                  | 0.123                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Left Cheek    | Full       | 23230  | 782         | 21.31               | 23.00               | 1.476                  | 0.01             | 0.107                  | 0.158                  |
|          | LTE Band 13 | 10M      | QPSK       | 1       | 0         | Left Tilted   | Full       | 23230  | 782         | 22.42               | 24.00               | 1.439                  | 0.02             | 0.046                  | 0.065                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Left Tilted   | Full       | 23230  | 782         | 21.31               | 23.00               | 1.476                  | 0.03             | 0.057                  | 0.084                  |
| 11       | LTE Band 26 | 15M      | QPSK       | 1       | 0         | Right Cheek   | Full       | 26865  | 831.5       | 22.86               | 24.00               | 1.300                  | -0.09            | 0.510                  | <b>0.663</b>           |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Right Cheek   | Full       | 26865  | 831.5       | 21.93               | 23.00               | 1.279                  | 0.04             | 0.306                  | 0.391                  |
|          | LTE Band 26 | 15M      | QPSK       | 1       | 0         | Right Tilted  | Full       | 26865  | 831.5       | 22.86               | 24.00               | 1.300                  | 0.03             | 0.160                  | 0.208                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Right Tilted  | Full       | 26865  | 831.5       | 21.93               | 23.00               | 1.279                  | 0.02             | 0.136                  | 0.174                  |
|          | LTE Band 26 | 15M      | QPSK       | 1       | 0         | Left Cheek    | Full       | 26865  | 831.5       | 22.86               | 24.00               | 1.300                  | 0.02             | 0.274                  | 0.356                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Left Cheek    | Full       | 26865  | 831.5       | 21.93               | 23.00               | 1.279                  | 0.03             | 0.229                  | 0.293                  |
|          | LTE Band 26 | 15M      | QPSK       | 1       | 0         | Left Tilted   | Full       | 26865  | 831.5       | 22.86               | 24.00               | 1.300                  | 0.03             | 0.159                  | 0.207                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Left Tilted   | Full       | 26865  | 831.5       | 21.93               | 23.00               | 1.279                  | 0.01             | 0.134                  | 0.171                  |
| 12       | LTE Band 66 | 20M      | QPSK       | 1       | 0         | Right Cheek   | Full       | 132322 | 1745        | 22.59               | 24.00               | 1.384                  | -0.07            | 0.062                  | 0.085                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 0         | Right Cheek   | Full       | 132322 | 1745        | 21.54               | 23.00               | 1.400                  | 0.16             | 0.046                  | 0.064                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 0         | Right Tilted  | Full       | 132322 | 1745        | 22.59               | 24.00               | 1.384                  | -0.07            | 0.052                  | 0.072                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 0         | Right Tilted  | Full       | 132322 | 1745        | 21.54               | 23.00               | 1.400                  | -0.01            | 0.043                  | 0.060                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 0         | Left Cheek    | Full       | 132322 | 1745        | 22.59               | 24.00               | 1.384                  | 0.08             | 0.109                  | <b>0.151</b>           |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 0         | Left Cheek    | Full       | 132322 | 1745        | 21.54               | 23.00               | 1.400                  | 0.02             | 0.085                  | 0.119                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 0         | Left Tilted   | Full       | 132322 | 1745        | 22.59               | 24.00               | 1.384                  | -0.04            | 0.080                  | 0.110                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 0         | Left Tilted   | Full       | 132322 | 1745        | 21.54               | 23.00               | 1.400                  | -0.05            | 0.057                  | 0.080                  |
| 13       | LTE Band 66 | 20M      | QPSK       | 1       | 0         | Left Cheek    | Full       | 132072 | 1720        | 22.22               | 24.00               | 1.507                  | 0.06             | 0.066                  | 0.099                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 0         | Left Cheek    | Full       | 132572 | 1770        | 22.33               | 24.00               | 1.469                  | -0.03            | 0.064                  | 0.094                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Right Cheek   | Full       | 26340  | 1880        | 22.75               | 24.00               | 1.334                  | 0.02             | 0.063                  | 0.084                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Right Cheek   | Full       | 26340  | 1880        | 21.65               | 23.00               | 1.365                  | -0.03            | 0.050                  | 0.069                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Right Tilted  | Full       | 26340  | 1880        | 22.75               | 24.00               | 1.334                  | -0.05            | 0.065                  | 0.086                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Right Tilted  | Full       | 26340  | 1880        | 21.65               | 23.00               | 1.365                  | -0.02            | 0.050                  | 0.068                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Left Cheek    | Full       | 26340  | 1880        | 22.75               | 24.00               | 1.334                  | 0.09             | 0.138                  | <b>0.184</b>           |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Left Cheek    | Full       | 26340  | 1880        | 21.65               | 23.00               | 1.365                  | -0.13            | 0.109                  | 0.149                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Left Tilted   | Full       | 26340  | 1880        | 22.75               | 24.00               | 1.334                  | -0.05            | 0.063                  | 0.084                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 0         | Left Tilted   | Full       | 26340  | 1880        | 21.65               | 23.00               | 1.365                  | -0.09            | 0.050                  | 0.068                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Left Cheek    | Full       | 26140  | 1860        | 22.40               | 24.00               | 1.445                  | 0.08             | 0.099                  | 0.143                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Left Cheek    | Full       | 26590  | 1905        | 22.74               | 24.00               | 1.337                  | 0.09             | 0.095                  | 0.127                  |



# FCC SAR Test Report

Report No. : FA932901-02

| Plot No. | Band       | BW (MHz) | Modulation | RB Size | RB Offset | Test Position | Power Mode | 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 7 | 20M      | QPSK       | 1       | 0         | Right Cheek   | Full       | 21350 | 2560        | 22.33               | 24.00               | 1.469                  | 0.07             | 0.189                  | 0.278                  |
|          | LTE Band 7 | 20M      | QPSK       | 50      | 0         | Right Cheek   | Full       | 21350 | 2560        | 21.29               | 23.00               | 1.483                  | 0.03             | 0.148                  | 0.219                  |
|          | LTE Band 7 | 20M      | QPSK       | 1       | 0         | Right Tilted  | Full       | 21350 | 2560        | 22.33               | 24.00               | 1.469                  | -0.03            | 0.148                  | 0.217                  |
|          | LTE Band 7 | 20M      | QPSK       | 50      | 0         | Right Tilted  | Full       | 21350 | 2560        | 21.29               | 23.00               | 1.483                  | 0.12             | 0.117                  | 0.173                  |
|          | LTE Band 7 | 20M      | QPSK       | 1       | 0         | Left Cheek    | Full       | 21350 | 2560        | 22.33               | 24.00               | 1.469                  | 0.03             | 0.183                  | 0.269                  |
|          | LTE Band 7 | 20M      | QPSK       | 50      | 0         | Left Cheek    | Full       | 21350 | 2560        | 21.29               | 23.00               | 1.483                  | 0.08             | 0.124                  | 0.184                  |
|          | LTE Band 7 | 20M      | QPSK       | 1       | 0         | Left Tilted   | Full       | 21350 | 2560        | 22.33               | 24.00               | 1.469                  | -0.09            | 0.080                  | 0.117                  |
|          | LTE Band 7 | 20M      | QPSK       | 50      | 0         | Left Tilted   | Full       | 21350 | 2560        | 21.29               | 23.00               | 1.483                  | -0.08            | 0.063                  | 0.093                  |
|          | LTE Band 7 | 20M      | QPSK       | 1       | 0         | Right Cheek   | Full       | 20850 | 2510        | 22.15               | 24.00               | 1.531                  | 0.05             | 0.188                  | 0.288                  |
| 14       | LTE Band 7 | 20M      | QPSK       | 1       | 0         | Right Cheek   | Full       | 21100 | 2535        | 22.24               | 24.00               | 1.500                  | 0.02             | 0.195                  | 0.292                  |

## <TDD LTE SAR>

| Plot No. | Band        | BW (MHz) | Modulation | RB Size | RB Offset | Test Position | Power Mode | 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 41 | 20M      | QPSK       | 1       | 0         | Right Cheek   | Full       | 40620 | 2593        | 22.76               | 24.00               | 1.330                  | 62.9         | 1.006                     | 0.06             | 0.081                  | 0.109                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 0         | Right Cheek   | Full       | 40620 | 2593        | 21.69               | 23.00               | 1.352                  | 62.9         | 1.006                     | 0.03             | 0.064                  | 0.087                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Right Tilted  | Full       | 40620 | 2593        | 22.76               | 24.00               | 1.330                  | 62.9         | 1.006                     | -0.06            | 0.060                  | 0.080                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 0         | Right Tilted  | Full       | 40620 | 2593        | 21.69               | 23.00               | 1.352                  | 62.9         | 1.006                     | -0.01            | 0.045                  | 0.061                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Left Cheek    | Full       | 40620 | 2593        | 22.76               | 24.00               | 1.330                  | 62.9         | 1.006                     | 0.09             | 0.100                  | 0.134                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 0         | Left Cheek    | Full       | 40620 | 2593        | 21.69               | 23.00               | 1.352                  | 62.9         | 1.006                     | -0.06            | 0.082                  | 0.111                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Left Tilted   | Full       | 40620 | 2593        | 22.76               | 24.00               | 1.330                  | 62.9         | 1.006                     | 0.08             | 0.032                  | 0.043                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 0         | Left Tilted   | Full       | 40620 | 2593        | 21.69               | 23.00               | 1.352                  | 62.9         | 1.006                     | 0.01             | 0.027                  | 0.036                  |
| 15       | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Left Cheek    | Full       | 39750 | 2506        | 22.37               | 24.00               | 1.455                  | 62.9         | 1.006                     | 0.08             | 0.167                  | 0.245                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Left Cheek    | Full       | 40185 | 2549.5      | 22.71               | 24.00               | 1.346                  | 62.9         | 1.006                     | -0.06            | 0.134                  | 0.181                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Left Cheek    | Full       | 41055 | 2636.5      | 22.69               | 24.00               | 1.352                  | 62.9         | 1.006                     | 0.06             | 0.121                  | 0.165                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Left Cheek    | Full       | 41490 | 2680        | 22.69               | 24.00               | 1.352                  | 62.9         | 1.006                     | 0.04             | 0.116                  | 0.158                  |

## <WLAN 2.4GHz SAR>

| Plot No. | Band       | Mode          | Test Position | Power Mode | Ch. | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Duty Cycle % | Duty Cycle Scaling Factor | Power Drift (dB) | Max Area Scan SAR | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|------------|---------------|---------------|------------|-----|-------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|-------------------|------------------------|------------------------|
|          | WLAN2.4GHz | 802.11b 1Mbps | Right Cheek   | Reduced    | 6   | 2437        | 17.12               | 17.50               | 1.091                  | 100          | 1.000                     | -0.18            | 0.329             | 0.239                  | 0.261                  |
|          | WLAN2.4GHz | 802.11b 1Mbps | Right Tilted  | Reduced    | 6   | 2437        | 17.12               | 17.50               | 1.091                  | 100          | 1.000                     | 0.01             | 0.472             | 0.277                  | 0.302                  |
|          | WLAN2.4GHz | 802.11b 1Mbps | Left Cheek    | Reduced    | 6   | 2437        | 17.12               | 17.50               | 1.091                  | 100          | 1.000                     | -0.02            | 1.124             | 0.681                  | 0.743                  |
|          | WLAN2.4GHz | 802.11b 1Mbps | Left Cheek    | Reduced    | 1   | 2412        | 17.04               | 17.50               | 1.112                  | 100          | 1.000                     | 0.03             |                   | 0.617                  | 0.686                  |
| 16       | WLAN2.4GHz | 802.11b 1Mbps | Left Cheek    | Reduced    | 11  | 2462        | 17.01               | 17.50               | 1.119                  | 100          | 1.000                     | 0.08             |                   | 0.729                  | 0.816                  |
|          | WLAN2.4GHz | 802.11b 1Mbps | Left Tilted   | Reduced    | 6   | 2437        | 17.12               | 17.50               | 1.091                  | 100          | 1.000                     | -0.07            | 1.031             | 0.516                  | 0.563                  |

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Form version. : 170509

**<Bluetooth SAR>**

| Plot No. | Band      | Mode  | Test Position | Power Mode | 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) |
|----------|-----------|-------|---------------|------------|-----|-------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|------------------------|------------------------|
|          | Bluetooth | 1Mbps | Right Cheek   | Full       | 39  | 2441        | 9.58                | 10.00               | 1.100                  | 77.01        | 1.082                     | -0.07            | 0.037                  | 0.044                  |
|          | Bluetooth | 1Mbps | Right Tilted  | Full       | 39  | 2441        | 9.58                | 10.00               | 1.100                  | 77.01        | 1.082                     | 0.06             | 0.046                  | 0.055                  |
|          | Bluetooth | 1Mbps | Left Cheek    | Full       | 39  | 2441        | 9.58                | 10.00               | 1.100                  | 77.01        | 1.082                     | -0.02            | 0.083                  | 0.099                  |
|          | Bluetooth | 1Mbps | Left Cheek    | Full       | 0   | 2402        | 8.61                | 10.00               | 1.376                  | 77.01        | 1.082                     | 0.05             | 0.062                  | 0.092                  |
| 17       | Bluetooth | 1Mbps | Left Cheek    | Full       | 78  | 2480        | 7.34                | 9.00                | 1.464                  | 77.01        | 1.082                     | -0.15            | 0.082                  | <b>0.130</b>           |
|          | Bluetooth | 1Mbps | Left Tilted   | Full       | 39  | 2441        | 9.58                | 10.00               | 1.100                  | 77.01        | 1.082                     | -0.09            | 0.053                  | 0.063                  |

**<WLAN 5GHz SAR>**

| Plot No. | Band        | Mode          | Test Position | Power Mode | Ch. | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Duty Cycle % | Duty Cycle Scaling Factor | Power Drift (dB) | Max Area Scan SAR | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|-------------|---------------|---------------|------------|-----|-------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|-------------------|------------------------|------------------------|
|          | WLAN5.3GHz  | 802.11a 6Mbps | Right Cheek   | Reduced    | 64  | 5320        | 17.30               | 18.50               | 1.317                  | 95.63        | 1.046                     | 0.01             | 0.406             | 0.184                  | 0.253                  |
|          | WLAN5.3GHz  | 802.11a 6Mbps | Right Tilted  | Reduced    | 64  | 5320        | 17.30               | 18.50               | 1.317                  | 95.63        | 1.046                     | 0.06             | 0.410             | 0.164                  | 0.226                  |
| 18       | WLAN5.3GHz  | 802.11a 6Mbps | Left Cheek    | Reduced    | 64  | 5320        | 17.30               | 18.50               | 1.317                  | 95.63        | 1.046                     | -0.01            | 2.059             | 0.844                  | <b>1.163</b>           |
|          | WLAN5.3GHz  | 802.11a 6Mbps | Left Cheek    | Reduced    | 56  | 5280        | 16.64               | 18.50               | 1.535                  | 95.63        | 1.046                     | -0.03            |                   | 0.683                  | 1.096                  |
|          | WLAN5.3GHz  | 802.11a 6Mbps | Left Cheek    | Reduced    | 52  | 5260        | 16.57               | 18.50               | 1.558                  | 95.63        | 1.046                     | 0.03             |                   | 0.693                  | 1.129                  |
|          | WLAN5.3GHz  | 802.11a 6Mbps | Left Tilted   | Reduced    | 64  | 5320        | 17.30               | 18.50               | 1.317                  | 95.63        | 1.046                     | -0.08            | 1.269             | 0.487                  | 0.671                  |
|          | WLAN5.5GHz  | 802.11a 6Mbps | Right Cheek   | Reduced    | 116 | 5580        | 17.00               | 18.50               | 1.411                  | 95.63        | 1.046                     | 0.01             | 0.355             | 0.142                  | 0.210                  |
|          | WLAN5.5GHz  | 802.11a 6Mbps | Right Tilted  | Reduced    | 116 | 5580        | 17.00               | 18.50               | 1.411                  | 95.63        | 1.046                     | 0.04             | 0.357             | 0.125                  | 0.185                  |
|          | WLAN5.5GHz  | 802.11a 6Mbps | Left Cheek    | Reduced    | 116 | 5580        | 17.00               | 18.50               | 1.411                  | 95.63        | 1.046                     | -0.06            | 1.040             | 0.588                  | 0.868                  |
| 19       | WLAN5.5GHz  | 802.11a 6Mbps | Left Cheek    | Reduced    | 100 | 5500        | 16.86               | 18.50               | 1.457                  | 95.63        | 1.046                     | 0.03             |                   | 0.620                  | <b>0.945</b>           |
|          | WLAN5.5GHz  | 802.11a 6Mbps | Left Cheek    | Reduced    | 144 | 5720        | 16.62               | 18.50               | 1.540                  | 95.63        | 1.046                     | 0.02             |                   | 0.522                  | 0.841                  |
|          | WLAN5.5GHz  | 802.11a 6Mbps | Left Tilted   | Reduced    | 116 | 5580        | 17.00               | 18.50               | 1.411                  | 95.63        | 1.046                     | -0.04            | 0.532             | 0.304                  | 0.449                  |
|          | WLAN 5.8GHz | 802.11a 6Mbps | Right Cheek   | Reduced    | 157 | 5785        | 16.22               | 17.50               | 1.343                  | 95.63        | 1.046                     | -0.01            | 0.251             | 0.137                  | 0.192                  |
|          | WLAN 5.8GHz | 802.11a 6Mbps | Right Tilted  | Reduced    | 157 | 5785        | 16.22               | 17.50               | 1.343                  | 95.63        | 1.046                     | 0.03             | 0.206             | 0.083                  | 0.116                  |
|          | WLAN 5.8GHz | 802.11a 6Mbps | Left Cheek    | Reduced    | 157 | 5785        | 16.22               | 17.50               | 1.343                  | 95.63        | 1.046                     | -0.01            | 1.042             | 0.493                  | 0.692                  |
| 20       | WLAN 5.8GHz | 802.11a 6Mbps | Left Cheek    | Reduced    | 149 | 5745        | 16.15               | 17.50               | 1.365                  | 95.63        | 1.046                     | -0.01            |                   | 0.701                  | <b>1.001</b>           |
|          | WLAN 5.8GHz | 802.11a 6Mbps | Left Cheek    | Reduced    | 165 | 5825        | 16.10               | 17.50               | 1.380                  | 95.63        | 1.046                     | -0.01            |                   | 0.498                  | 0.719                  |
|          | WLAN 5.8GHz | 802.11a 6Mbps | Left Tilted   | Reduced    | 157 | 5785        | 16.22               | 17.50               | 1.343                  | 95.63        | 1.046                     | -0.08            | 0.502             | 0.252                  | 0.354                  |

## 15.2 Hotspot SAR

### <GSM SAR>

| Plot No. | Band    | Mode            | Test Position | Gap (mm) | Power Mode | 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 3 Tx slots | Front         | 5        | Reduced    | 251 | 848.8       | 25.77               | 27.00               | 1.327                  | 0.08             | 0.760                  | 1.009                  |
|          | GSM850  | GPRS 3 Tx slots | Front         | 5        | Reduced    | 128 | 824.2       | 25.51               | 27.00               | 1.409                  | 0.02             | 0.657                  | 0.926                  |
|          | GSM850  | GPRS 3 Tx slots | Front         | 5        | Reduced    | 189 | 836.4       | 25.71               | 27.00               | 1.346                  | 0.01             | 0.873                  | 1.175                  |
|          | GSM850  | GPRS 3 Tx slots | Back          | 5        | Reduced    | 251 | 848.8       | 25.77               | 27.00               | 1.327                  | -0.04            | 1.000                  | 1.327                  |
|          | GSM850  | GPRS 3 Tx slots | Back          | 5        | Reduced    | 128 | 824.2       | 25.51               | 27.00               | 1.409                  | 0.03             | 0.905                  | 1.275                  |
| 21       | GSM850  | GPRS 3 Tx slots | Back          | 5        | Reduced    | 189 | 836.4       | 25.71               | 27.00               | 1.346                  | 0.07             | 1.060                  | 1.427                  |
|          | GSM850  | GPRS 3 Tx slots | Left Side     | 5        | Reduced    | 251 | 848.8       | 25.77               | 27.00               | 1.327                  | 0.01             | 0.116                  | 0.154                  |
|          | GSM850  | GPRS 3 Tx slots | Right Side    | 5        | Reduced    | 251 | 848.8       | 25.77               | 27.00               | 1.327                  | 0.02             | 0.345                  | 0.458                  |
|          | GSM850  | GPRS 3 Tx slots | Bottom Side   | 5        | Reduced    | 251 | 848.8       | 25.77               | 27.00               | 1.327                  | -0.08            | 0.742                  | 0.985                  |
|          | GSM850  | GPRS 3 Tx slots | Bottom Side   | 5        | Reduced    | 128 | 824.2       | 25.51               | 27.00               | 1.409                  | -0.08            | 0.686                  | 0.967                  |
|          | GSM850  | GPRS 3 Tx slots | Bottom Side   | 5        | Reduced    | 189 | 836.4       | 25.71               | 27.00               | 1.346                  | -0.06            | 0.823                  | 1.108                  |
|          | GSM1900 | GPRS 3 Tx slots | Front         | 5        | Reduced    | 810 | 1909.8      | 24.83               | 26.00               | 1.309                  | -0.03            | 0.716                  | 0.937                  |
|          | GSM1900 | GPRS 3 Tx slots | Front         | 5        | Reduced    | 512 | 1850.2      | 24.56               | 26.00               | 1.393                  | -0.03            | 0.623                  | 0.868                  |
|          | GSM1900 | GPRS 3 Tx slots | Front         | 5        | Reduced    | 661 | 1880        | 24.52               | 26.00               | 1.406                  | -0.09            | 0.635                  | 0.893                  |
|          | GSM1900 | GPRS 3 Tx slots | Back          | 5        | Reduced    | 810 | 1909.8      | 24.83               | 26.00               | 1.309                  | -0.02            | 0.881                  | 1.153                  |
| 22       | GSM1900 | GPRS 3 Tx slots | Back          | 5        | Reduced    | 512 | 1850.2      | 24.56               | 26.00               | 1.393                  | 0.06             | 0.974                  | 1.357                  |
|          | GSM1900 | GPRS 3 Tx slots | Back          | 5        | Reduced    | 661 | 1880        | 24.52               | 26.00               | 1.406                  | -0.01            | 0.792                  | 1.114                  |
|          | GSM1900 | GPRS 3 Tx slots | Left Side     | 5        | Reduced    | 810 | 1909.8      | 23.21               | 24.00               | 1.199                  | 0.09             | 0.033                  | 0.040                  |
|          | GSM1900 | GPRS 3 Tx slots | Right Side    | 5        | Reduced    | 810 | 1909.8      | 23.21               | 24.00               | 1.199                  | 0.15             | 0.365                  | 0.438                  |
|          | GSM1900 | GPRS 3 Tx slots | Bottom Side   | 5        | Reduced    | 810 | 1909.8      | 23.21               | 24.00               | 1.199                  | 0.09             | 0.868                  | 1.041                  |
|          | GSM1900 | GPRS 3 Tx slots | Bottom Side   | 5        | Reduced    | 512 | 1850.2      | 22.76               | 24.00               | 1.330                  | 0.04             | 0.791                  | 1.052                  |
|          | GSM1900 | GPRS 3 Tx slots | Bottom Side   | 5        | Reduced    | 661 | 1880        | 22.77               | 24.00               | 1.327                  | 0.02             | 0.783                  | 1.039                  |

**<WCDMA SAR>**

| Plot No. | Band     | Mode         | Test Position | Gap (mm) | Power Mode | 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 V  | RMC 12.2Kbps | Front         | 5        | Reduced    | 4233 | 846.6       | 19.34               | 20.50               | 1.306                  | 0.06             | 0.658                  | 0.859                  |
|          | WCDMA V  | RMC 12.2Kbps | Front         | 5        | Reduced    | 4132 | 826.4       | 19.12               | 20.50               | 1.374                  | 0.09             | 0.531                  | 0.730                  |
|          | WCDMA V  | RMC 12.2Kbps | Front         | 5        | Reduced    | 4182 | 836.4       | 19.32               | 20.50               | 1.312                  | 0.09             | 0.513                  | 0.673                  |
| 23       | WCDMA V  | RMC 12.2Kbps | Back          | 5        | Reduced    | 4233 | 846.6       | 19.34               | 20.50               | 1.306                  | 0.04             | 0.981                  | <b>1.281</b>           |
|          | WCDMA V  | RMC 12.2Kbps | Back          | 5        | Reduced    | 4132 | 826.4       | 19.12               | 20.50               | 1.374                  | -0.02            | 0.792                  | 1.088                  |
|          | WCDMA V  | RMC 12.2Kbps | Back          | 5        | Reduced    | 4182 | 836.4       | 19.32               | 20.50               | 1.312                  | 0.03             | 0.825                  | 1.083                  |
|          | WCDMA V  | RMC 12.2Kbps | Left Side     | 5        | Reduced    | 4233 | 846.6       | 19.43               | 20.50               | 1.279                  | 0.02             | 0.345                  | 0.441                  |
|          | WCDMA V  | RMC 12.2Kbps | Right Side    | 5        | Reduced    | 4233 | 846.6       | 19.43               | 20.50               | 1.279                  | 0.02             | 0.120                  | 0.154                  |
|          | WCDMA V  | RMC 12.2Kbps | Bottom Side   | 5        | Reduced    | 4233 | 846.6       | 19.43               | 20.50               | 1.279                  | 0.08             | 0.471                  | 0.603                  |
|          | WCDMA IV | RMC 12.2Kbps | Front         | 5        | Reduced    | 1312 | 1712.4      | 18.55               | 20.00               | 1.396                  | -0.03            | 0.813                  | 1.135                  |
|          | WCDMA IV | RMC 12.2Kbps | Front         | 5        | Reduced    | 1413 | 1732.6      | 18.47               | 20.00               | 1.422                  | -0.09            | 0.806                  | 1.146                  |
|          | WCDMA IV | RMC 12.2Kbps | Front         | 5        | Reduced    | 1513 | 1752.6      | 18.52               | 20.00               | 1.406                  | 0.02             | 0.766                  | 1.077                  |
| 24       | WCDMA IV | RMC 12.2Kbps | Back          | 5        | Reduced    | 1312 | 1712.4      | 18.55               | 20.00               | 1.396                  | -0.01            | 0.907                  | <b>1.267</b>           |
|          | WCDMA IV | RMC 12.2Kbps | Back          | 5        | Reduced    | 1413 | 1732.6      | 18.47               | 20.00               | 1.422                  | 0.06             | 0.840                  | 1.195                  |
|          | WCDMA IV | RMC 12.2Kbps | Back          | 5        | Reduced    | 1513 | 1752.6      | 18.52               | 20.00               | 1.406                  | -0.07            | 0.850                  | 1.195                  |
|          | WCDMA IV | RMC 12.2Kbps | Left Side     | 5        | Reduced    | 1312 | 1712.4      | 16.12               | 17.50               | 1.374                  | 0.03             | 0.036                  | 0.049                  |
|          | WCDMA IV | RMC 12.2Kbps | Right Side    | 5        | Reduced    | 1312 | 1712.4      | 16.12               | 17.50               | 1.374                  | 0.03             | 0.288                  | 0.396                  |
|          | WCDMA IV | RMC 12.2Kbps | Bottom Side   | 5        | Reduced    | 1312 | 1712.4      | 16.12               | 17.50               | 1.374                  | 0.07             | 0.908                  | 1.248                  |
|          | WCDMA IV | RMC 12.2Kbps | Bottom Side   | 5        | Reduced    | 1413 | 1732.6      | 16.03               | 17.50               | 1.403                  | 0.03             | 0.868                  | 1.218                  |
|          | WCDMA IV | RMC 12.2Kbps | Bottom Side   | 5        | Reduced    | 1513 | 1752.6      | 16.06               | 17.50               | 1.393                  | 0.06             | 0.882                  | 1.229                  |
|          | WCDMA II | RMC 12.2Kbps | Front         | 5        | Reduced    | 9262 | 1852.4      | 18.40               | 19.50               | 1.288                  | -0.05            | 0.661                  | 0.852                  |
|          | WCDMA II | RMC 12.2Kbps | Front         | 5        | Reduced    | 9400 | 1880        | 18.39               | 19.50               | 1.291                  | 0.07             | 0.510                  | 0.659                  |
|          | WCDMA II | RMC 12.2Kbps | Front         | 5        | Reduced    | 9538 | 1907.6      | 18.36               | 19.50               | 1.300                  | 0.06             | 0.521                  | 0.677                  |
|          | WCDMA II | RMC 12.2Kbps | Back          | 5        | Reduced    | 9262 | 1852.4      | 18.40               | 19.50               | 1.288                  | -0.06            | 0.823                  | 1.060                  |
| 25       | WCDMA II | RMC 12.2Kbps | Back          | 5        | Reduced    | 9400 | 1880        | 18.39               | 19.50               | 1.291                  | -0.14            | 0.978                  | <b>1.263</b>           |
|          | WCDMA II | RMC 12.2Kbps | Back          | 5        | Reduced    | 9538 | 1907.6      | 18.36               | 19.50               | 1.300                  | 0.04             | 0.827                  | 1.075                  |
|          | WCDMA II | RMC 12.2Kbps | Left Side     | 5        | Reduced    | 9262 | 1852.4      | 17.34               | 18.00               | 1.164                  | 0.09             | 0.027                  | 0.031                  |
|          | WCDMA II | RMC 12.2Kbps | Right Side    | 5        | Reduced    | 9262 | 1852.4      | 17.34               | 18.00               | 1.164                  | 0.01             | 0.265                  | 0.308                  |
|          | WCDMA II | RMC 12.2Kbps | Bottom Side   | 5        | Reduced    | 9262 | 1852.4      | 17.34               | 18.00               | 1.164                  | 0.07             | 0.790                  | 0.920                  |
|          | WCDMA II | RMC 12.2Kbps | Bottom Side   | 5        | Reduced    | 9400 | 1880        | 17.02               | 18.00               | 1.253                  | 0.19             | 0.915                  | 1.147                  |
|          | WCDMA II | RMC 12.2Kbps | Bottom Side   | 5        | Reduced    | 9538 | 1907.6      | 17.33               | 18.00               | 1.167                  | 0.09             | 0.942                  | 1.099                  |



**<CDMA2000 SAR>**

| Plot No. | Band          | Mode           | Test Position | Gap (mm) | Power Mode | 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) |
|----------|---------------|----------------|---------------|----------|------------|------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | CDMA2000 BC10 | RTAP 153.6Kbps | Front         | 5        | Reduced    | 476  | 817.9       | 21.91               | 23.00               | 1.285                  | 0.07             | 0.804                  | 1.033                  |
|          | CDMA2000 BC10 | RTAP 153.6Kbps | Front         | 5        | Reduced    | 580  | 820.5       | 21.83               | 23.00               | 1.309                  | 0.05             | 0.698                  | 0.914                  |
|          | CDMA2000 BC10 | RTAP 153.6Kbps | Front         | 5        | Reduced    | 684  | 823.1       | 21.78               | 23.00               | 1.324                  | -0.01            | 0.658                  | 0.871                  |
| 26       | CDMA2000 BC10 | RTAP 153.6Kbps | Back          | 5        | Reduced    | 476  | 817.9       | 21.91               | 23.00               | 1.285                  | -0.07            | 0.898                  | 1.154                  |
|          | CDMA2000 BC10 | RTAP 153.6Kbps | Back          | 5        | Reduced    | 580  | 820.5       | 21.83               | 23.00               | 1.309                  | 0.02             | 0.849                  | 1.111                  |
|          | CDMA2000 BC10 | RTAP 153.6Kbps | Back          | 5        | Reduced    | 684  | 823.1       | 21.78               | 23.00               | 1.324                  | 0.06             | 0.737                  | 0.976                  |
|          | CDMA2000 BC10 | RTAP 153.6Kbps | Left Side     | 5        | Reduced    | 476  | 817.9       | 21.91               | 23.00               | 1.285                  | 0.05             | 0.132                  | 0.170                  |
|          | CDMA2000 BC10 | RTAP 153.6Kbps | Right Side    | 5        | Reduced    | 476  | 817.9       | 21.91               | 23.00               | 1.285                  | 0.01             | 0.445                  | 0.572                  |
|          | CDMA2000 BC10 | RTAP 153.6Kbps | Bottom Side   | 5        | Reduced    | 476  | 817.9       | 21.91               | 23.00               | 1.285                  | 0.02             | 0.606                  | 0.779                  |
|          | CDMA2000 BC0  | RTAP 153.6Kbps | Front         | 5        | Reduced    | 1013 | 824.7       | 20.83               | 22.00               | 1.309                  | 0.01             | 0.690                  | 0.903                  |
|          | CDMA2000 BC0  | RTAP 153.6Kbps | Front         | 5        | Reduced    | 384  | 836.52      | 20.76               | 22.00               | 1.330                  | -0.04            | 0.889                  | 1.183                  |
|          | CDMA2000 BC0  | RTAP 153.6Kbps | Front         | 5        | Reduced    | 777  | 848.31      | 20.70               | 22.00               | 1.349                  | 0.01             | 0.883                  | 1.191                  |
|          | CDMA2000 BC0  | RTAP 153.6Kbps | Back          | 5        | Reduced    | 1013 | 824.7       | 20.83               | 22.00               | 1.309                  | 0.05             | 0.767                  | 1.004                  |
| 27       | CDMA2000 BC0  | RTAP 153.6Kbps | Back          | 5        | Reduced    | 384  | 836.52      | 20.76               | 22.00               | 1.330                  | 0.05             | 0.997                  | 1.326                  |
|          | CDMA2000 BC0  | RTAP 153.6Kbps | Back          | 5        | Reduced    | 777  | 848.31      | 20.70               | 22.00               | 1.349                  | 0.01             | 0.871                  | 1.175                  |
|          | CDMA2000 BC0  | RTAP 153.6Kbps | Left Side     | 5        | Reduced    | 1013 | 824.7       | 20.83               | 22.00               | 1.309                  | 0.01             | 0.121                  | 0.158                  |
|          | CDMA2000 BC0  | RTAP 153.6Kbps | Right Side    | 5        | Reduced    | 1013 | 824.7       | 20.83               | 22.00               | 1.309                  | 0.02             | 0.443                  | 0.580                  |
|          | CDMA2000 BC0  | RTAP 153.6Kbps | Bottom Side   | 5        | Reduced    | 1013 | 824.7       | 20.83               | 22.00               | 1.309                  | 0.02             | 0.625                  | 0.818                  |
|          | CDMA2000 BC0  | RTAP 153.6Kbps | Bottom Side   | 5        | Reduced    | 384  | 836.52      | 20.76               | 22.00               | 1.330                  | -0.13            | 0.694                  | 0.923                  |
|          | CDMA2000 BC0  | RTAP 153.6Kbps | Bottom Side   | 5        | Reduced    | 777  | 848.31      | 20.70               | 22.00               | 1.349                  | -0.04            | 0.663                  | 0.894                  |
|          | CDMA2000 BC1  | RTAP 153.6Kbps | Front         | 5        | Reduced    | 25   | 1851.25     | 19.06               | 20.00               | 1.242                  | -0.12            | 0.576                  | 0.715                  |
|          | CDMA2000 BC1  | RTAP 153.6Kbps | Back          | 5        | Reduced    | 25   | 1851.25     | 19.06               | 20.00               | 1.242                  | -0.14            | 0.843                  | 1.047                  |
|          | CDMA2000 BC1  | RTAP 153.6Kbps | Back          | 5        | Reduced    | 600  | 1880        | 19.03               | 20.00               | 1.250                  | 0.07             | 0.874                  | 1.093                  |
|          | CDMA2000 BC1  | RTAP 153.6Kbps | Back          | 5        | Reduced    | 1175 | 1908.75     | 18.93               | 20.00               | 1.279                  | 0.04             | 0.865                  | 1.107                  |
|          | CDMA2000 BC1  | RTAP 153.6Kbps | Left Side     | 5        | Reduced    | 25   | 1851.25     | 19.06               | 20.00               | 1.242                  | 0.01             | 0.061                  | 0.075                  |
|          | CDMA2000 BC1  | RTAP 153.6Kbps | Right Side    | 5        | Reduced    | 25   | 1851.25     | 19.06               | 20.00               | 1.242                  | 0.03             | 0.458                  | 0.569                  |
| 28       | CDMA2000 BC1  | RTAP 153.6Kbps | Bottom Side   | 5        | Reduced    | 25   | 1851.25     | 19.06               | 20.00               | 1.242                  | 0.02             | 1.010                  | 1.254                  |
|          | CDMA2000 BC1  | RTAP 153.6Kbps | Bottom Side   | 5        | Reduced    | 600  | 1880        | 19.03               | 20.00               | 1.250                  | 0.06             | 0.972                  | 1.215                  |
|          | CDMA2000 BC1  | RTAP 153.6Kbps | Bottom Side   | 5        | Reduced    | 1175 | 1908.75     | 18.93               | 20.00               | 1.279                  | 0.07             | 0.949                  | 1.214                  |

**<LTE SAR>**

| Plot No. | Band        | BW (MHz) | Modulation | RB Size | RB Offset | Test Position | Gap (mm) | Power Mode | 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 12 | 10M      | QPSK       | 1       | 0         | Front         | 5        | Full       | 23095 | 707.5       | 22.61               | 24.00               | 1.377                  | -0.09            | 0.627                  | 0.864                  |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Front         | 5        | Full       | 23095 | 707.5       | 21.51               | 23.00               | 1.409                  | -0.05            | 0.407                  | 0.574                  |
|          | LTE Band 12 | 10M      | QPSK       | 50      | 0         | Front         | 5        | Full       | 23095 | 707.5       | 21.48               | 23.00               | 1.419                  | 0.05             | 0.543                  | 0.771                  |
| 29       | LTE Band 12 | 10M      | QPSK       | 1       | 0         | Back          | 5        | Full       | 23095 | 707.5       | 22.61               | 24.00               | 1.377                  | 0.05             | 0.789                  | <b>1.087</b>           |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Back          | 5        | Full       | 23095 | 707.5       | 21.51               | 23.00               | 1.409                  | 0.05             | 0.500                  | 0.705                  |
|          | LTE Band 12 | 10M      | QPSK       | 50      | 0         | Back          | 5        | Full       | 23095 | 707.5       | 21.48               | 23.00               | 1.419                  | -0.05            | 0.583                  | 0.827                  |
|          | LTE Band 12 | 10M      | QPSK       | 1       | 0         | Left Side     | 5        | Full       | 23095 | 707.5       | 22.61               | 24.00               | 1.377                  | 0.03             | 0.265                  | 0.365                  |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Left Side     | 5        | Full       | 23095 | 707.5       | 21.51               | 23.00               | 1.409                  | 0.03             | 0.229                  | 0.323                  |
|          | LTE Band 12 | 10M      | QPSK       | 1       | 0         | Right Side    | 5        | Full       | 23095 | 707.5       | 22.61               | 24.00               | 1.377                  | 0.03             | 0.415                  | 0.572                  |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Right Side    | 5        | Full       | 23095 | 707.5       | 21.51               | 23.00               | 1.409                  | 0.03             | 0.345                  | 0.486                  |
|          | LTE Band 12 | 10M      | QPSK       | 1       | 0         | Bottom Side   | 5        | Full       | 23095 | 707.5       | 22.61               | 24.00               | 1.377                  | 0.03             | 0.560                  | 0.771                  |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Bottom Side   | 5        | Full       | 23095 | 707.5       | 21.51               | 23.00               | 1.409                  | 0.09             | 0.473                  | 0.667                  |
|          | LTE Band 13 | 10M      | QPSK       | 1       | 0         | Front         | 5        | Full       | 23230 | 782         | 22.42               | 24.00               | 1.439                  | -0.12            | 0.315                  | 0.453                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Front         | 5        | Full       | 23230 | 782         | 21.31               | 23.00               | 1.476                  | 0.04             | 0.407                  | 0.601                  |
|          | LTE Band 13 | 10M      | QPSK       | 1       | 0         | Back          | 5        | Full       | 23230 | 782         | 22.42               | 24.00               | 1.439                  | -0.05            | 0.411                  | 0.591                  |
| 30       | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Back          | 5        | Full       | 23230 | 782         | 21.31               | 23.00               | 1.476                  | 0.08             | 0.478                  | <b>0.705</b>           |
|          | LTE Band 13 | 10M      | QPSK       | 1       | 0         | Left Side     | 5        | Full       | 23230 | 782         | 22.42               | 24.00               | 1.439                  | -0.06            | 0.129                  | 0.186                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Left Side     | 5        | Full       | 23230 | 782         | 21.31               | 23.00               | 1.476                  | 0.03             | 0.138                  | 0.204                  |
|          | LTE Band 13 | 10M      | QPSK       | 1       | 0         | Right Side    | 5        | Full       | 23230 | 782         | 22.42               | 24.00               | 1.439                  | 0.04             | 0.289                  | 0.416                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Right Side    | 5        | Full       | 23230 | 782         | 21.31               | 23.00               | 1.476                  | 0.01             | 0.365                  | 0.539                  |
|          | LTE Band 13 | 10M      | QPSK       | 1       | 0         | Bottom Side   | 5        | Full       | 23230 | 782         | 22.42               | 24.00               | 1.439                  | 0.05             | 0.329                  | 0.473                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Bottom Side   | 5        | Full       | 23230 | 782         | 21.31               | 23.00               | 1.476                  | 0.05             | 0.402                  | 0.593                  |
|          | LTE Band 26 | 15M      | QPSK       | 1       | 0         | Front         | 5        | Reduced    | 26865 | 831.5       | 20.15               | 21.50               | 1.365                  | 0.04             | 0.710                  | 0.969                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Front         | 5        | Reduced    | 26865 | 831.5       | 19.93               | 21.50               | 1.435                  | 0.04             | 0.699                  | 1.003                  |
|          | LTE Band 26 | 15M      | QPSK       | 75      | 0         | Front         | 5        | Reduced    | 26865 | 831.5       | 19.92               | 21.50               | 1.439                  | 0.06             | 0.553                  | 0.796                  |
|          | LTE Band 26 | 15M      | QPSK       | 1       | 0         | Back          | 5        | Reduced    | 26865 | 831.5       | 20.15               | 21.50               | 1.365                  | 0.02             | 0.849                  | 1.159                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Back          | 5        | Reduced    | 26865 | 831.5       | 19.93               | 21.50               | 1.435                  | -0.03            | 0.833                  | 1.196                  |
| 31       | LTE Band 26 | 15M      | QPSK       | 75      | 0         | Back          | 5        | Reduced    | 26865 | 831.5       | 19.92               | 21.50               | 1.439                  | -0.06            | 0.832                  | <b>1.197</b>           |
|          | LTE Band 26 | 15M      | QPSK       | 1       | 0         | Left Side     | 5        | Reduced    | 26865 | 831.5       | 20.15               | 21.50               | 1.365                  | 0.03             | 0.137                  | 0.187                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Left Side     | 5        | Reduced    | 26865 | 831.5       | 19.93               | 21.50               | 1.435                  | 0.03             | 0.129                  | 0.185                  |
|          | LTE Band 26 | 15M      | QPSK       | 1       | 0         | Right Side    | 5        | Reduced    | 26865 | 831.5       | 20.15               | 21.50               | 1.365                  | 0.02             | 0.369                  | 0.504                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Right Side    | 5        | Reduced    | 26865 | 831.5       | 19.93               | 21.50               | 1.435                  | 0.06             | 0.356                  | 0.511                  |
|          | LTE Band 26 | 15M      | QPSK       | 1       | 0         | Bottom Side   | 5        | Reduced    | 26865 | 831.5       | 20.15               | 21.50               | 1.365                  | 0.08             | 0.594                  | 0.811                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Bottom Side   | 5        | Reduced    | 26865 | 831.5       | 19.93               | 21.50               | 1.435                  | 0.02             | 0.582                  | 0.835                  |
|          | LTE Band 26 | 15M      | QPSK       | 75      | 0         | Bottom Side   | 5        | Reduced    | 26865 | 831.5       | 19.92               | 21.50               | 1.439                  | 0.01             | 0.517                  | 0.744                  |



| Plot No. | Band        | BW (MHz) | Modulation | RB Size | RB Offset | Test Position | Gap (mm) | Power Mode | 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         | 5        | Reduced    | 132072 | 1720        | 18.27               | 19.50               | 1.327                  | 0.05             | 0.648                  | 0.860                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Front         | 5        | Reduced    | 132322 | 1745        | 18.13               | 19.50               | 1.371                  | 0.03             | 0.540                  | 0.740                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Front         | 5        | Reduced    | 132572 | 1770        | 18.10               | 19.50               | 1.380                  | 0.09             | 0.504                  | 0.696                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 24        | Front         | 5        | Reduced    | 132072 | 1720        | 18.13               | 19.50               | 1.371                  | 0.05             | 0.677                  | 0.928                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 24        | Front         | 5        | Reduced    | 132322 | 1745        | 18.00               | 19.50               | 1.413                  | -0.01            | 0.574                  | 0.811                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 24        | Front         | 5        | Reduced    | 132572 | 1770        | 18.11               | 19.50               | 1.377                  | -0.09            | 0.526                  | 0.724                  |
|          | LTE Band 66 | 20M      | QPSK       | 100     | 0         | Front         | 5        | Reduced    | 132072 | 1720        | 18.12               | 19.50               | 1.374                  | 0.04             | 0.617                  | 0.848                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Back          | 5        | Reduced    | 132072 | 1720        | 18.27               | 19.50               | 1.327                  | 0.08             | 0.937                  | 1.244                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Back          | 5        | Reduced    | 132322 | 1745        | 18.13               | 19.50               | 1.371                  | 0.02             | 0.863                  | 1.183                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Back          | 5        | Reduced    | 132572 | 1770        | 18.10               | 19.50               | 1.380                  | 0.11             | 0.755                  | 1.042                  |
| 32       | LTE Band 66 | 20M      | QPSK       | 50      | 24        | Back          | 5        | Reduced    | 132072 | 1720        | 18.13               | 19.50               | 1.371                  | 0.05             | 0.967                  | <b>1.326</b>           |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 24        | Back          | 5        | Reduced    | 132322 | 1745        | 18.00               | 19.50               | 1.413                  | -0.06            | 0.909                  | 1.284                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 24        | Back          | 5        | Reduced    | 132572 | 1770        | 18.11               | 19.50               | 1.377                  | 0.02             | 0.884                  | 1.217                  |
|          | LTE Band 66 | 20M      | QPSK       | 100     | 0         | Back          | 5        | Reduced    | 132072 | 1720        | 18.12               | 19.50               | 1.374                  | -0.01            | 0.961                  | 1.320                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Left Side     | 5        | Reduced    | 132072 | 1720        | 16.68               | 18.00               | 1.355                  | -0.06            | 0.024                  | 0.032                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 24        | Left Side     | 5        | Reduced    | 132072 | 1720        | 16.65               | 18.00               | 1.365                  | -0.04            | 0.025                  | 0.033                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Right Side    | 5        | Reduced    | 132072 | 1720        | 16.68               | 18.00               | 1.355                  | -0.03            | 0.277                  | 0.375                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 24        | Right Side    | 5        | Reduced    | 132072 | 1720        | 16.65               | 18.00               | 1.365                  | -0.02            | 0.281                  | 0.383                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Bottom Side   | 5        | Reduced    | 132072 | 1720        | 16.68               | 18.00               | 1.355                  | 0.01             | 0.765                  | 1.037                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Bottom Side   | 5        | Reduced    | 132322 | 1745        | 16.60               | 18.00               | 1.380                  | 0.04             | 0.742                  | 1.024                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Bottom Side   | 5        | Reduced    | 132572 | 1770        | 16.64               | 18.00               | 1.368                  | 0.09             | 0.693                  | 0.948                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 24        | Bottom Side   | 5        | Reduced    | 132072 | 1720        | 16.65               | 18.00               | 1.365                  | 0.05             | 0.794                  | 1.083                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 24        | Bottom Side   | 5        | Reduced    | 132322 | 1745        | 16.58               | 18.00               | 1.387                  | 0.05             | 0.800                  | 1.109                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 24        | Bottom Side   | 5        | Reduced    | 132572 | 1770        | 16.62               | 18.00               | 1.374                  | 0.09             | 0.725                  | 0.996                  |
|          | LTE Band 66 | 20M      | QPSK       | 100     | 0         | Bottom Side   | 5        | Reduced    | 132072 | 1745        | 16.66               | 18.00               | 1.361                  | 0.03             | 0.786                  | 1.070                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Front         | 5        | Reduced    | 26590  | 1905        | 18.51               | 20.00               | 1.409                  | 0.13             | 0.529                  | 0.746                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 50        | Front         | 5        | Reduced    | 26590  | 1905        | 18.46               | 20.00               | 1.426                  | -0.01            | 0.481                  | 0.686                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Back          | 5        | Reduced    | 26590  | 1905        | 18.51               | 20.00               | 1.409                  | -0.13            | 0.937                  | 1.321                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Back          | 5        | Reduced    | 26140  | 1860        | 18.20               | 20.00               | 1.514                  | 0.05             | 0.861                  | 1.303                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Back          | 5        | Reduced    | 26340  | 1880        | 18.19               | 20.00               | 1.517                  | 0.17             | 0.836                  | 1.268                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 50        | Back          | 5        | Reduced    | 26590  | 1905        | 18.46               | 20.00               | 1.426                  | 0.03             | 0.811                  | 1.156                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 50        | Back          | 5        | Reduced    | 26140  | 1860        | 18.12               | 20.00               | 1.542                  | 0.07             | 0.799                  | 1.232                  |
| 33       | LTE Band 25 | 20M      | QPSK       | 50      | 50        | Back          | 5        | Reduced    | 26340  | 1880        | 18.20               | 20.00               | 1.514                  | 0.01             | 0.901                  | <b>1.364</b>           |
|          | LTE Band 25 | 20M      | QPSK       | 100     | 0         | Back          | 5        | Reduced    | 26590  | 1905        | 18.33               | 20.00               | 1.469                  | -0.09            | 0.928                  | 1.363                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Left Side     | 5        | Reduced    | 26590  | 1905        | 16.98               | 18.00               | 1.265                  | -0.03            | 0.031                  | 0.040                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 50        | Left Side     | 5        | Reduced    | 26590  | 1905        | 16.95               | 18.00               | 1.274                  | -0.06            | 0.031                  | 0.039                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Right Side    | 5        | Reduced    | 26590  | 1905        | 16.98               | 18.00               | 1.265                  | -0.03            | 0.337                  | 0.426                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 50        | Right Side    | 5        | Reduced    | 26590  | 1905        | 16.95               | 18.00               | 1.274                  | -0.04            | 0.344                  | 0.438                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Bottom Side   | 5        | Reduced    | 26590  | 1905        | 16.98               | 18.00               | 1.265                  | 0.04             | 0.844                  | 1.067                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Bottom Side   | 5        | Reduced    | 26140  | 1860        | 16.63               | 18.00               | 1.371                  | 0.05             | 0.787                  | 1.079                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Bottom Side   | 5        | Reduced    | 26340  | 1880        | 16.71               | 18.00               | 1.346                  | 0.06             | 0.810                  | 1.090                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 50        | Bottom Side   | 5        | Reduced    | 26590  | 1905        | 16.95               | 18.00               | 1.274                  | 0.06             | 0.854                  | 1.088                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 50        | Bottom Side   | 5        | Reduced    | 26140  | 1860        | 16.56               | 18.00               | 1.393                  | 0.06             | 0.788                  | 1.098                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 50        | Bottom Side   | 5        | Reduced    | 26340  | 1880        | 16.66               | 18.00               | 1.361                  | 0.02             | 0.818                  | 1.114                  |
|          | LTE Band 25 | 20M      | QPSK       | 100     | 0         | Bottom Side   | 5        | Reduced    | 26590  | 1905        | 16.83               | 18.00               | 1.309                  | 0.01             | 0.810                  | 1.060                  |



# FCC SAR Test Report

Report No. : FA932901-02

| Plot No. | Band       | BW (MHz) | Modulation | RB Size | RB Offset | Test Position | Gap (mm) | Power Mode | 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 7 | 20M      | QPSK       | 1       | 0         | Front         | 5        | Reduced    | 21350 | 2560        | 18.91               | 20.00               | 1.285                  | 0.05             | 0.851                  | 1.094                  |
|          | LTE Band 7 | 20M      | QPSK       | 1       | 0         | Front         | 5        | Reduced    | 20850 | 2510        | 18.80               | 20.00               | 1.318                  | 0.04             | 0.643                  | 0.848                  |
|          | LTE Band 7 | 20M      | QPSK       | 1       | 0         | Front         | 5        | Reduced    | 21100 | 2535        | 18.76               | 20.00               | 1.330                  | 0.07             | 0.745                  | 0.991                  |
|          | LTE Band 7 | 20M      | QPSK       | 50      | 0         | Front         | 5        | Reduced    | 21350 | 2560        | 18.76               | 20.00               | 1.330                  | 0.05             | 0.878                  | 1.168                  |
|          | LTE Band 7 | 20M      | QPSK       | 50      | 0         | Front         | 5        | Reduced    | 20850 | 2510        | 18.74               | 20.00               | 1.337                  | 0.06             | 0.652                  | 0.871                  |
|          | LTE Band 7 | 20M      | QPSK       | 50      | 0         | Front         | 5        | Reduced    | 21100 | 2535        | 18.76               | 20.00               | 1.330                  | 0.03             | 0.758                  | 1.008                  |
|          | LTE Band 7 | 20M      | QPSK       | 100     | 0         | Front         | 5        | Reduced    | 21350 | 2560        | 18.70               | 20.00               | 1.349                  | 0.02             | 0.892                  | 1.203                  |
|          | LTE Band 7 | 20M      | QPSK       | 1       | 0         | Back          | 5        | Reduced    | 21350 | 2560        | 18.91               | 20.00               | 1.285                  | -0.04            | 0.953                  | 1.225                  |
|          | LTE Band 7 | 20M      | QPSK       | 1       | 0         | Back          | 5        | Reduced    | 20850 | 2510        | 18.80               | 20.00               | 1.318                  | 0.03             | 0.886                  | 1.168                  |
|          | LTE Band 7 | 20M      | QPSK       | 1       | 0         | Back          | 5        | Reduced    | 21100 | 2535        | 18.76               | 20.00               | 1.330                  | -0.14            | 0.981                  | 1.305                  |
| 34       | LTE Band 7 | 20M      | QPSK       | 50      | 0         | Back          | 5        | Reduced    | 21350 | 2560        | 18.76               | 20.00               | 1.330                  | 0.08             | 0.999                  | 1.329                  |
|          | LTE Band 7 | 20M      | QPSK       | 50      | 0         | Back          | 5        | Reduced    | 20850 | 2510        | 18.74               | 20.00               | 1.337                  | 0.03             | 0.906                  | 1.211                  |
|          | LTE Band 7 | 20M      | QPSK       | 50      | 0         | Back          | 5        | Reduced    | 21100 | 2535        | 18.76               | 20.00               | 1.330                  | 0.01             | 0.912                  | 1.213                  |
|          | LTE Band 7 | 20M      | QPSK       | 100     | 0         | Back          | 5        | Reduced    | 21350 | 2560        | 18.70               | 20.00               | 1.349                  | 0.05             | 0.892                  | 1.203                  |
|          | LTE Band 7 | 20M      | QPSK       | 1       | 0         | Left Side     | 5        | Reduced    | 21350 | 2560        | 13.78               | 15.00               | 1.324                  | 0.03             | 0.132                  | 0.175                  |
|          | LTE Band 7 | 20M      | QPSK       | 50      | 0         | Left Side     | 5        | Reduced    | 21350 | 2560        | 13.76               | 15.00               | 1.330                  | 0.02             | 0.129                  | 0.172                  |
|          | LTE Band 7 | 20M      | QPSK       | 1       | 0         | Bottom Side   | 5        | Reduced    | 21350 | 2560        | 13.78               | 15.00               | 1.324                  | 0.11             | 0.785                  | 1.040                  |
|          | LTE Band 7 | 20M      | QPSK       | 1       | 0         | Bottom Side   | 5        | Reduced    | 20850 | 2510        | 13.73               | 15.00               | 1.340                  | 0.07             | 0.581                  | 0.778                  |
|          | LTE Band 7 | 20M      | QPSK       | 1       | 0         | Bottom Side   | 5        | Reduced    | 21100 | 2535        | 13.67               | 15.00               | 1.358                  | 0.08             | 0.684                  | 0.929                  |
|          | LTE Band 7 | 20M      | QPSK       | 50      | 0         | Bottom Side   | 5        | Reduced    | 21350 | 2560        | 13.76               | 15.00               | 1.330                  | 0.08             | 0.753                  | 1.002                  |
|          | LTE Band 7 | 20M      | QPSK       | 50      | 0         | Bottom Side   | 5        | Reduced    | 20850 | 2510        | 13.70               | 15.00               | 1.349                  | 0.07             | 0.599                  | 0.808                  |
|          | LTE Band 7 | 20M      | QPSK       | 50      | 0         | Bottom Side   | 5        | Reduced    | 21100 | 2535        | 13.70               | 15.00               | 1.349                  | 0.03             | 0.694                  | 0.936                  |
|          | LTE Band 7 | 20M      | QPSK       | 100     | 0         | Bottom Side   | 5        | Reduced    | 21350 | 2560        | 13.72               | 15.00               | 1.343                  | 0.03             | 0.758                  | 1.018                  |



**<TDD LTE SAR>**

| Plot No. | Band        | BW (MHz) | Modulation | RB Size | RB Offset | Test Position | Gap (mm) | Power Mode | 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 41 | 20M      | QPSK       | 1       | 0         | Front         | 5        | Reduced    | 40620 | 2593        | 21.06               | 22.00               | 1.242                  | 62.9         | 1.006                     | 0.02             | 0.776                  | 0.969                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Front         | 5        | Reduced    | 39750 | 2506        | 20.71               | 22.00               | 1.346                  | 62.9         | 1.006                     | 0.05             | 0.516                  | 0.699                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Front         | 5        | Reduced    | 40185 | 2549.5      | 20.82               | 22.00               | 1.312                  | 62.9         | 1.006                     | 0.04             | 0.664                  | 0.877                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Front         | 5        | Reduced    | 41055 | 2636.5      | 20.79               | 22.00               | 1.321                  | 62.9         | 1.006                     | 0.07             | 0.902                  | 1.199                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Front         | 5        | Reduced    | 41490 | 2680        | 20.81               | 22.00               | 1.315                  | 62.9         | 1.006                     | 0.04             | 0.614                  | 0.812                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 0         | Front         | 5        | Reduced    | 40620 | 2593        | 20.95               | 22.00               | 1.274                  | 62.9         | 1.006                     | 0.08             | 0.931                  | 1.193                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 0         | Front         | 5        | Reduced    | 39750 | 2506        | 20.62               | 22.00               | 1.374                  | 62.9         | 1.006                     | 0.05             | 0.534                  | 0.738                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 0         | Front         | 5        | Reduced    | 40185 | 2549.5      | 20.77               | 22.00               | 1.327                  | 62.9         | 1.006                     | 0.06             | 0.709                  | 0.947                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 0         | Front         | 5        | Reduced    | 41055 | 2636.5      | 20.76               | 22.00               | 1.330                  | 62.9         | 1.006                     | 0.04             | 0.828                  | 1.108                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 0         | Front         | 5        | Reduced    | 41490 | 2680        | 20.84               | 22.00               | 1.306                  | 62.9         | 1.006                     | 0.01             | 0.528                  | 0.694                  |
|          | LTE Band 41 | 20M      | QPSK       | 100     | 0         | Front         | 5        | Reduced    | 40620 | 2593        | 20.93               | 22.00               | 1.279                  | 62.9         | 1.006                     | 0.09             | 0.908                  | 1.169                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Back          | 5        | Reduced    | 40620 | 2593        | 21.06               | 22.00               | 1.242                  | 62.9         | 1.006                     | 0.06             | 1.040                  | 1.299                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Back          | 5        | Reduced    | 39750 | 2506        | 20.71               | 22.00               | 1.346                  | 62.9         | 1.006                     | -0.08            | 0.717                  | 0.971                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Back          | 5        | Reduced    | 40185 | 2549.5      | 20.82               | 22.00               | 1.312                  | 62.9         | 1.006                     | -0.03            | 0.856                  | 1.130                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Back          | 5        | Reduced    | 41055 | 2636.5      | 20.79               | 22.00               | 1.321                  | 62.9         | 1.006                     | 0.07             | 0.928                  | 1.234                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Back          | 5        | Reduced    | 41490 | 2680        | 20.81               | 22.00               | 1.315                  | 62.9         | 1.006                     | -0.09            | 0.706                  | 0.934                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 0         | Back          | 5        | Reduced    | 40620 | 2593        | 20.95               | 22.00               | 1.274                  | 62.9         | 1.006                     | -0.09            | 0.983                  | 1.259                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 0         | Back          | 5        | Reduced    | 39750 | 2506        | 20.62               | 22.00               | 1.374                  | 62.9         | 1.006                     | 0.03             | 0.649                  | 0.897                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 0         | Back          | 5        | Reduced    | 40185 | 2549.5      | 20.77               | 22.00               | 1.327                  | 62.9         | 1.006                     | 0.02             | 0.952                  | 1.271                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 0         | Back          | 5        | Reduced    | 41055 | 2636.5      | 20.76               | 22.00               | 1.330                  | 62.9         | 1.006                     | 0.09             | 0.964                  | 1.290                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 0         | Back          | 5        | Reduced    | 41490 | 2680        | 20.84               | 22.00               | 1.306                  | 62.9         | 1.006                     | -0.14            | 0.700                  | 0.920                  |
| 35       | LTE Band 41 | 20M      | QPSK       | 100     | 0         | Back          | 5        | Reduced    | 40620 | 2593        | 20.93               | 22.00               | 1.279                  | 62.9         | 1.006                     | 0.04             | 1.100                  | 1.416                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Left Side     | 5        | Reduced    | 40620 | 2593        | 17.34               | 18.00               | 1.164                  | 62.9         | 1.006                     | 0.02             | 0.147                  | 0.172                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 0         | Left Side     | 5        | Reduced    | 40620 | 2593        | 17.28               | 18.00               | 1.180                  | 62.9         | 1.006                     | 0.03             | 0.153                  | 0.182                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Bottom Side   | 5        | Reduced    | 40620 | 2593        | 17.34               | 18.00               | 1.164                  | 62.9         | 1.006                     | -0.07            | 0.896                  | 1.049                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Bottom Side   | 5        | Reduced    | 39750 | 2506        | 17.12               | 18.00               | 1.225                  | 62.9         | 1.006                     | 0.01             | 0.544                  | 0.670                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Bottom Side   | 5        | Reduced    | 40185 | 2549.5      | 17.09               | 18.00               | 1.233                  | 62.9         | 1.006                     | 0.07             | 0.862                  | 1.069                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Bottom Side   | 5        | Reduced    | 41055 | 2636.5      | 17.22               | 18.00               | 1.197                  | 62.9         | 1.006                     | 0.08             | 0.703                  | 0.846                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Bottom Side   | 5        | Reduced    | 41490 | 2680        | 17.27               | 18.00               | 1.183                  | 62.9         | 1.006                     | 0.08             | 0.431                  | 0.513                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 50        | Bottom Side   | 5        | Reduced    | 40620 | 2593        | 17.28               | 18.00               | 1.180                  | 62.9         | 1.006                     | 0.09             | 0.884                  | 1.050                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 50        | Bottom Side   | 5        | Reduced    | 39750 | 2506        | 16.94               | 18.00               | 1.276                  | 62.9         | 1.006                     | 0.02             | 0.607                  | 0.779                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 50        | Bottom Side   | 5        | Reduced    | 40185 | 2549.5      | 17.04               | 18.00               | 1.247                  | 62.9         | 1.006                     | 0.08             | 0.791                  | 0.993                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 50        | Bottom Side   | 5        | Reduced    | 41055 | 2636.5      | 17.18               | 18.00               | 1.208                  | 62.9         | 1.006                     | 0.05             | 0.593                  | 0.721                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 50        | Bottom Side   | 5        | Reduced    | 41490 | 2680        | 17.26               | 18.00               | 1.186                  | 62.9         | 1.006                     | 0.05             | 0.384                  | 0.458                  |
|          | LTE Band 41 | 20M      | QPSK       | 100     | 0         | Bottom Side   | 5        | Reduced    | 40620 | 2593        | 17.20               | 18.00               | 1.202                  | 62.9         | 1.006                     | 0.06             | 0.903                  | 1.092                  |

**<WLAN 2.4GHz SAR>**

| Plot No. | Band       | Mode          | Test Position | Gap (mm) | Power Mode | Ch. | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Duty Cycle % | Duty Cycle Scaling Factor | Power Drift (dB) | Max Area Scan SAR | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|------------|---------------|---------------|----------|------------|-----|-------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|-------------------|------------------------|------------------------|
|          | WLAN2.4GHz | 802.11b 1Mbps | Front         | 5        | Full       | 6   | 2437        | 19.32               | 19.50               | 1.042                  | 100          | 1.000                     | 0.01             | 0.693             | 0.444                  | 0.463                  |
| 36       | WLAN2.4GHz | 802.11b 1Mbps | Back          | 5        | Full       | 6   | 2437        | 19.32               | 19.50               | 1.042                  | 100          | 1.000                     | 0.08             | 1.007             | 0.829                  | <b>0.864</b>           |
|          | WLAN2.4GHz | 802.11b 1Mbps | Back          | 5        | Full       | 1   | 2412        | 19.21               | 19.50               | 1.069                  | 100          | 1.000                     | 0.03             |                   | 0.437                  | 0.467                  |
|          | WLAN2.4GHz | 802.11b 1Mbps | Back          | 5        | Full       | 11  | 2462        | 18.91               | 19.50               | 1.146                  | 100          | 1.000                     | 0.09             |                   | 0.619                  | 0.709                  |
|          | WLAN2.4GHz | 802.11b 1Mbps | Right Side    | 5        | Full       | 6   | 2437        | 19.32               | 19.50               | 1.042                  | 100          | 1.000                     | 0.01             | 1.070             | 0.581                  | 0.606                  |
|          | WLAN2.4GHz | 802.11b 1Mbps | Top Side      | 5        | Full       | 6   | 2437        | 19.32               | 19.50               | 1.042                  | 100          | 1.000                     | 0.02             | 0.619             | 0.391                  | 0.408                  |

**<Bluetooth SAR>**

| Plot No. | Band      | Mode  | Test Position | Gap (mm) | Power Mode | 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) |
|----------|-----------|-------|---------------|----------|------------|-----|-------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|------------------------|------------------------|
|          | Bluetooth | 1Mbps | Front         | 5        | Full       | 39  | 2441        | 9.58                | 10.00               | 1.100                  | 76.64        | 1.087                     | -0.01            | 0.038                  | 0.046                  |
|          | Bluetooth | 1Mbps | Back          | 5        | Full       | 39  | 2441        | 9.58                | 10.00               | 1.100                  | 76.64        | 1.087                     | -0.07            | 0.053                  | 0.064                  |
|          | Bluetooth | 1Mbps | Back          | 5        | Full       | 0   | 2402        | 8.61                | 10.00               | 1.376                  | 76.64        | 1.087                     | 0.06             | 0.047                  | 0.070                  |
| 37       | Bluetooth | 1Mbps | Back          | 5        | Full       | 78  | 2480        | 7.34                | 9.00                | 1.464                  | 76.64        | 1.087                     | -0.08            | 0.053                  | <b>0.084</b>           |
|          | Bluetooth | 1Mbps | Right Side    | 5        | Full       | 39  | 2441        | 9.58                | 10.00               | 1.100                  | 76.64        | 1.087                     | 0.02             | 0.014                  | 0.017                  |
|          | Bluetooth | 1Mbps | Top Side      | 5        | Full       | 39  | 2441        | 9.58                | 10.00               | 1.100                  | 76.64        | 1.087                     | 0.01             | 0.039                  | 0.046                  |

**<WLAN 5GHz SAR>**

| Plot No. | Band        | Mode          | Test Position | Gap (mm) | Power Mode | Ch. | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Duty Cycle % | Duty Cycle Scaling Factor | Power Drift (dB) | Max Area Scan SAR | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|-------------|---------------|---------------|----------|------------|-----|-------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|-------------------|------------------------|------------------------|
| 38       | WLAN5.2GHz  | 802.11a 6Mbps | Front         | 5        | Reduced    | 48  | 5240        | 16.31               | 17.50               | 1.314                  | 95.63        | 1.046                     | -0.04            | 0.244             | 0.125                  | <b>0.172</b>           |
|          | WLAN5.2GHz  | 802.11a 6Mbps | Front         | 5        | Reduced    | 36  | 5180        | 15.23               | 17.00               | 1.503                  | 95.63        | 1.046                     | 0.03             |                   | 0.069                  | 0.109                  |
|          | WLAN5.2GHz  | 802.11a 6Mbps | Front         | 5        | Reduced    | 40  | 5200        | 16.11               | 17.50               | 1.377                  | 95.63        | 1.046                     | -0.08            |                   | 0.077                  | 0.111                  |
|          | WLAN5.2GHz  | 802.11a 6Mbps | Back          | 5        | Reduced    | 48  | 5240        | 16.31               | 17.50               | 1.314                  | 95.63        | 1.046                     | -0.03            | 0.203             | 0.099                  | 0.136                  |
|          | WLAN5.2GHz  | 802.11a 6Mbps | Right Side    | 5        | Reduced    | 48  | 5240        | 16.31               | 17.50               | 1.314                  | 95.63        | 1.046                     |                  | 0.153             |                        |                        |
|          | WLAN5.2GHz  | 802.11a 6Mbps | Top Side      | 5        | Reduced    | 48  | 5240        | 16.31               | 17.50               | 1.314                  | 95.63        | 1.046                     |                  | 0.082             |                        |                        |
|          | WLAN 5.8GHz | 802.11a 6Mbps | Front         | 5        | Reduced    | 157 | 5785        | 15.52               | 16.50               | 1.252                  | 95.63        | 1.046                     | 0.06             | 0.371             | 0.146                  | 0.191                  |
|          | WLAN 5.8GHz | 802.11a 6Mbps | Back          | 5        | Reduced    | 157 | 5785        | 15.52               | 16.50               | 1.252                  | 95.63        | 1.046                     | 0.01             | 0.687             | 0.330                  | 0.432                  |
|          | WLAN 5.8GHz | 802.11a 6Mbps | Back          | 5        | Reduced    | 149 | 5745        | 15.47               | 16.50               | 1.266                  | 95.63        | 1.046                     | -0.05            |                   | 0.389                  | 0.515                  |
| 39       | WLAN 5.8GHz | 802.11a 6Mbps | Back          | 5        | Reduced    | 165 | 5825        | 15.48               | 16.50               | 1.264                  | 95.63        | 1.046                     | -0.05            |                   | 0.435                  | <b>0.575</b>           |
|          | WLAN 5.8GHz | 802.11a 6Mbps | Right Side    | 5        | Reduced    | 157 | 5785        | 15.52               | 16.50               | 1.252                  | 95.63        | 1.046                     | 0.06             | 0.557             | 0.272                  | 0.356                  |
|          | WLAN 5.8GHz | 802.11a 6Mbps | Top Side      | 5        | Reduced    | 157 | 5785        | 15.52               | 16.50               | 1.252                  | 95.63        | 1.046                     |                  | 0.198             |                        |                        |

### 15.3 Body Worn Accessory SAR

#### <GSM SAR>

| Plot No. | Band    | Mode            | Test Position | Gap (mm) | Headset | Power Mode | 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 3 Tx slots | Front         | 5        | -       | Reduced    | 251 | 848.8       | 25.77               | 27.00               | 1.327                  | 0.08             | 0.760                  | 1.009                  |
|          | GSM850  | GPRS 3 Tx slots | Front         | 5        | -       | Reduced    | 128 | 824.2       | 25.51               | 27.00               | 1.409                  | 0.02             | 0.657                  | 0.926                  |
|          | GSM850  | GPRS 3 Tx slots | Front         | 5        | -       | Reduced    | 189 | 836.4       | 25.71               | 27.00               | 1.346                  | 0.01             | 0.873                  | 1.175                  |
|          | GSM850  | GPRS 3 Tx slots | Back          | 5        | -       | Reduced    | 251 | 848.8       | 25.77               | 27.00               | 1.327                  | -0.04            | 1.000                  | 1.327                  |
|          | GSM850  | GPRS 3 Tx slots | Back          | 5        | -       | Reduced    | 128 | 824.2       | 25.51               | 27.00               | 1.409                  | 0.03             | 0.905                  | 1.275                  |
| 40       | GSM850  | GPRS 3 Tx slots | Back          | 5        | -       | Reduced    | 189 | 836.4       | 25.71               | 27.00               | 1.346                  | 0.07             | 1.060                  | 1.427                  |
|          | GSM850  | GPRS 3 Tx slots | Back          | 5        | Headset | Reduced    | 189 | 836.4       | 25.71               | 27.00               | 1.346                  | 0.09             | 0.970                  | 1.305                  |
|          | GSM1900 | GPRS 3 Tx slots | Front         | 5        | -       | Reduced    | 810 | 1909.8      | 24.83               | 26.00               | 1.309                  | -0.03            | 0.716                  | 0.937                  |
|          | GSM1900 | GPRS 3 Tx slots | Front         | 5        | -       | Reduced    | 512 | 1850.2      | 24.56               | 26.00               | 1.393                  | -0.03            | 0.623                  | 0.868                  |
|          | GSM1900 | GPRS 3 Tx slots | Front         | 5        | -       | Reduced    | 661 | 1880        | 24.52               | 26.00               | 1.406                  | -0.09            | 0.635                  | 0.893                  |
|          | GSM1900 | GPRS 3 Tx slots | Back          | 5        | -       | Reduced    | 810 | 1909.8      | 24.83               | 26.00               | 1.309                  | -0.02            | 0.881                  | 1.153                  |
| 41       | GSM1900 | GPRS 3 Tx slots | Back          | 5        | -       | Reduced    | 512 | 1850.2      | 24.56               | 26.00               | 1.393                  | 0.06             | 0.974                  | 1.357                  |
|          | GSM1900 | GPRS 3 Tx slots | Back          | 5        | -       | Reduced    | 661 | 1880        | 24.52               | 26.00               | 1.406                  | -0.01            | 0.792                  | 1.114                  |
|          | GSM1900 | GPRS 3 Tx slots | Back          | 5        | Headset | Reduced    | 512 | 1850.2      | 24.56               | 26.00               | 1.393                  | 0.01             | 0.811                  | 1.130                  |

#### <WCDMA SAR>

| Plot No. | Band     | Mode         | Test Position | Gap (mm) | Headset | Power Mode | 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 V  | RMC 12.2Kbps | Front         | 5        | -       | Reduced    | 4233 | 846.6       | 19.34               | 20.50               | 1.306                  | 0.06             | 0.658                  | 0.859                  |
|          | WCDMA V  | RMC 12.2Kbps | Front         | 5        | -       | Reduced    | 4132 | 826.4       | 19.12               | 20.50               | 1.374                  | 0.09             | 0.531                  | 0.730                  |
|          | WCDMA V  | RMC 12.2Kbps | Front         | 5        | -       | Reduced    | 4182 | 836.4       | 19.32               | 20.50               | 1.312                  | 0.09             | 0.513                  | 0.673                  |
| 42       | WCDMA V  | RMC 12.2Kbps | Back          | 5        | -       | Reduced    | 4233 | 846.6       | 19.34               | 20.50               | 1.306                  | 0.04             | 0.981                  | 1.281                  |
|          | WCDMA V  | RMC 12.2Kbps | Back          | 5        | -       | Reduced    | 4132 | 826.4       | 19.12               | 20.50               | 1.374                  | -0.02            | 0.792                  | 1.088                  |
|          | WCDMA V  | RMC 12.2Kbps | Back          | 5        | -       | Reduced    | 4182 | 836.4       | 19.32               | 20.50               | 1.312                  | 0.03             | 0.825                  | 1.083                  |
|          | WCDMA V  | RMC 12.2Kbps | Back          | 5        | Headset | Reduced    | 4233 | 846.6       | 19.34               | 20.50               | 1.306                  | 0.07             | 0.770                  | 1.006                  |
|          | WCDMA IV | RMC 12.2Kbps | Front         | 5        | -       | Reduced    | 1312 | 1712.4      | 18.55               | 20.00               | 1.396                  | -0.03            | 0.813                  | 1.135                  |
|          | WCDMA IV | RMC 12.2Kbps | Front         | 5        | -       | Reduced    | 1413 | 1732.6      | 18.47               | 20.00               | 1.422                  | -0.09            | 0.806                  | 1.146                  |
|          | WCDMA IV | RMC 12.2Kbps | Front         | 5        | -       | Reduced    | 1513 | 1752.6      | 18.52               | 20.00               | 1.406                  | 0.02             | 0.766                  | 1.077                  |
| 43       | WCDMA IV | RMC 12.2Kbps | Back          | 5        | -       | Reduced    | 1312 | 1712.4      | 18.55               | 20.00               | 1.396                  | -0.01            | 0.907                  | 1.267                  |
|          | WCDMA IV | RMC 12.2Kbps | Back          | 5        | -       | Reduced    | 1413 | 1732.6      | 18.47               | 20.00               | 1.422                  | 0.06             | 0.840                  | 1.195                  |
|          | WCDMA IV | RMC 12.2Kbps | Back          | 5        | -       | Reduced    | 1513 | 1752.6      | 18.52               | 20.00               | 1.406                  | -0.07            | 0.850                  | 1.195                  |
|          | WCDMA IV | RMC 12.2Kbps | Back          | 5        | Headset | Reduced    | 1312 | 1712.4      | 18.55               | 20.00               | 1.396                  | -0.09            | 0.900                  | 1.257                  |
|          | WCDMA II | RMC 12.2Kbps | Front         | 5        | -       | Reduced    | 9262 | 1852.4      | 18.40               | 19.50               | 1.288                  | -0.05            | 0.661                  | 0.852                  |
|          | WCDMA II | RMC 12.2Kbps | Front         | 5        | -       | Reduced    | 9400 | 1880        | 18.39               | 19.50               | 1.291                  | 0.07             | 0.510                  | 0.659                  |
|          | WCDMA II | RMC 12.2Kbps | Front         | 5        | -       | Reduced    | 9538 | 1907.6      | 18.36               | 19.50               | 1.300                  | 0.06             | 0.521                  | 0.677                  |
|          | WCDMA II | RMC 12.2Kbps | Back          | 5        | -       | Reduced    | 9262 | 1852.4      | 18.40               | 19.50               | 1.288                  | -0.06            | 0.823                  | 1.060                  |
| 44       | WCDMA II | RMC 12.2Kbps | Back          | 5        | -       | Reduced    | 9400 | 1880        | 18.39               | 19.50               | 1.291                  | -0.14            | 0.978                  | 1.263                  |
|          | WCDMA II | RMC 12.2Kbps | Back          | 5        | -       | Reduced    | 9538 | 1907.6      | 18.36               | 19.50               | 1.300                  | 0.04             | 0.827                  | 1.075                  |
|          | WCDMA II | RMC 12.2Kbps | Back          | 5        | Headset | Reduced    | 9400 | 1880        | 18.39               | 19.50               | 1.291                  | -0.09            | 0.822                  | 1.061                  |



**<CDMA2000 SAR>**

| Plot No. | Band          | Mode     | Test Position | Gap (mm) | Headset | Power Mode | 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) |
|----------|---------------|----------|---------------|----------|---------|------------|------|-------------|---------------------|---------------------|------------------------|------------------|------------------------|------------------------|
|          | CDMA2000 BC10 | RC3 SO32 | Front         | 5        | -       | Reduced    | 476  | 817.9       | 21.86               | 23.00               | 1.300                  | -0.02            | 0.867                  | 1.127                  |
|          | CDMA2000 BC10 | RC3 SO32 | Front         | 5        | -       | Reduced    | 580  | 820.5       | 21.79               | 23.00               | 1.321                  | 0.01             | 0.886                  | 1.171                  |
|          | CDMA2000 BC10 | RC3 SO32 | Front         | 5        | -       | Reduced    | 684  | 823.1       | 21.72               | 23.00               | 1.343                  | -0.02            | 0.846                  | 1.136                  |
|          | CDMA2000 BC10 | RC3 SO32 | Back          | 5        | -       | Reduced    | 476  | 817.9       | 21.86               | 23.00               | 1.300                  | 0.02             | 0.992                  | 1.290                  |
|          | CDMA2000 BC10 | RC3 SO32 | Back          | 5        | -       | Reduced    | 580  | 820.5       | 21.79               | 23.00               | 1.321                  | 0.03             | 0.914                  | 1.208                  |
| 45       | CDMA2000 BC10 | RC3 SO32 | Back          | 5        | -       | Reduced    | 684  | 823.1       | 21.72               | 23.00               | 1.343                  | 0.04             | 1.000                  | 1.343                  |
|          | CDMA2000 BC10 | RC3 SO32 | Back          | 5        | Headset | Reduced    | 684  | 823.1       | 21.72               | 23.00               | 1.343                  | -0.03            | 0.715                  | 0.960                  |
|          | CDMA2000 BC0  | RC3 SO32 | Front         | 5        | -       | Reduced    | 1013 | 824.7       | 20.81               | 22.00               | 1.315                  | -0.04            | 0.759                  | 0.998                  |
|          | CDMA2000 BC0  | RC3 SO32 | Front         | 5        | -       | Reduced    | 384  | 836.52      | 20.68               | 22.00               | 1.355                  | -0.01            | 0.799                  | 1.083                  |
|          | CDMA2000 BC0  | RC3 SO32 | Front         | 5        | -       | Reduced    | 777  | 848.31      | 20.61               | 22.00               | 1.377                  | -0.06            | 0.806                  | 1.110                  |
|          | CDMA2000 BC0  | RC3 SO32 | Back          | 5        | -       | Reduced    | 1013 | 824.7       | 20.81               | 22.00               | 1.315                  | 0.05             | 0.850                  | 1.118                  |
| 46       | CDMA2000 BC0  | RC3 SO32 | Back          | 5        | -       | Reduced    | 384  | 836.52      | 20.68               | 22.00               | 1.355                  | 0.14             | 0.964                  | 1.306                  |
|          | CDMA2000 BC0  | RC3 SO32 | Back          | 5        | -       | Reduced    | 777  | 848.31      | 20.61               | 22.00               | 1.377                  | 0.01             | 0.916                  | 1.262                  |
|          | CDMA2000 BC0  | RC3 SO32 | Back          | 5        | Headset | Reduced    | 384  | 836.52      | 20.68               | 22.00               | 1.355                  | 0.06             | 0.901                  | 1.221                  |
|          | CDMA2000 BC1  | RC3 SO32 | Front         | 5        | -       | Reduced    | 25   | 1851.25     | 19.79               | 20.50               | 1.178                  | -0.18            | 0.750                  | 0.883                  |
|          | CDMA2000 BC1  | RC3 SO32 | Front         | 5        | -       | Reduced    | 600  | 1880        | 19.76               | 20.50               | 1.186                  | 0.03             | 0.722                  | 0.856                  |
|          | CDMA2000 BC1  | RC3 SO32 | Front         | 5        | -       | Reduced    | 1175 | 1908.75     | 19.68               | 20.50               | 1.208                  | 0.03             | 0.764                  | 0.923                  |
|          | CDMA2000 BC1  | RC3 SO32 | Back          | 5        | -       | Reduced    | 25   | 1851.25     | 19.79               | 20.50               | 1.178                  | -0.03            | 1.070                  | 1.260                  |
|          | CDMA2000 BC1  | RC3 SO32 | Back          | 5        | -       | Reduced    | 600  | 1880        | 19.76               | 20.50               | 1.186                  | -0.01            | 0.950                  | 1.126                  |
| 47       | CDMA2000 BC1  | RC3 SO32 | Back          | 5        | -       | Reduced    | 1175 | 1908.75     | 19.68               | 20.50               | 1.208                  | 0.12             | 1.140                  | 1.377                  |
|          | CDMA2000 BC1  | RC3 SO32 | Back          | 5        | Headset | Reduced    | 1175 | 1908.75     | 19.68               | 20.50               | 1.208                  | 0.03             | 1.080                  | 1.304                  |



**<LTE SAR>**

| Plot No. | Band        | BW (MHz) | Modulation | RB Size | RB Offset | Test Position | Gap (mm) | Headset | Power Mode | 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 12 | 10M      | QPSK       | 1       | 0         | Front         | 5        | -       | Full       | 23095 | 707.5       | 22.61               | 24.00               | 1.377                  | -0.09            | 0.627                  | 0.864                  |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Front         | 5        | -       | Full       | 23095 | 707.5       | 21.51               | 23.00               | 1.409                  | -0.05            | 0.407                  | 0.574                  |
|          | LTE Band 12 | 10M      | QPSK       | 50      | 0         | Front         | 5        | -       | Full       | 23095 | 707.5       | 21.48               | 23.00               | 1.419                  | 0.05             | 0.543                  | 0.771                  |
| 48       | LTE Band 12 | 10M      | QPSK       | 1       | 0         | Back          | 5        | -       | Full       | 23095 | 707.5       | 22.61               | 24.00               | 1.377                  | 0.05             | 0.789                  | <b>1.087</b>           |
|          | LTE Band 12 | 10M      | QPSK       | 25      | 0         | Back          | 5        | -       | Full       | 23095 | 707.5       | 21.51               | 23.00               | 1.409                  | 0.05             | 0.500                  | 0.705                  |
|          | LTE Band 12 | 10M      | QPSK       | 50      | 0         | Back          | 5        | -       | Full       | 23095 | 707.5       | 21.48               | 23.00               | 1.419                  | -0.05            | 0.583                  | 0.827                  |
|          | LTE Band 13 | 10M      | QPSK       | 1       | 0         | Front         | 5        | -       | Full       | 23230 | 782         | 22.42               | 24.00               | 1.439                  | -0.12            | 0.315                  | 0.453                  |
|          | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Front         | 5        | -       | Full       | 23230 | 782         | 21.31               | 23.00               | 1.476                  | 0.04             | 0.407                  | 0.601                  |
|          | LTE Band 13 | 10M      | QPSK       | 1       | 0         | Back          | 5        | -       | Full       | 23230 | 782         | 22.42               | 24.00               | 1.439                  | -0.05            | 0.411                  | 0.591                  |
| 49       | LTE Band 13 | 10M      | QPSK       | 25      | 0         | Back          | 5        | -       | Full       | 23230 | 782         | 21.31               | 23.00               | 1.476                  | 0.08             | 0.478                  | <b>0.705</b>           |
|          | LTE Band 26 | 15M      | QPSK       | 1       | 0         | Front         | 5        | -       | Reduced    | 26865 | 831.5       | 20.15               | 21.50               | 1.365                  | 0.04             | 0.710                  | 0.969                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Front         | 5        | -       | Reduced    | 26865 | 831.5       | 19.93               | 21.50               | 1.435                  | 0.04             | 0.699                  | 1.003                  |
|          | LTE Band 26 | 15M      | QPSK       | 75      | 0         | Front         | 5        | -       | Reduced    | 26865 | 831.5       | 19.92               | 21.50               | 1.439                  | 0.06             | 0.553                  | 0.796                  |
|          | LTE Band 26 | 15M      | QPSK       | 1       | 0         | Back          | 5        | -       | Reduced    | 26865 | 831.5       | 20.15               | 21.50               | 1.365                  | 0.02             | 0.849                  | 1.159                  |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Back          | 5        | -       | Reduced    | 26865 | 831.5       | 19.93               | 21.50               | 1.435                  | -0.03            | 0.833                  | 1.196                  |
| 50       | LTE Band 26 | 15M      | QPSK       | 75      | 0         | Back          | 5        | -       | Reduced    | 26865 | 831.5       | 19.92               | 21.50               | 1.439                  | -0.06            | 0.832                  | <b>1.197</b>           |



| Plot No. | Band        | BW (MHz) | Modulation | RB Size | RB Offset | Test Position | Gap (mm) | Headset | Power Mode | 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         | 5        | -       | Reduced    | 132072 | 1720        | 18.27               | 19.50               | 1.327                  | 0.05             | 0.648                  | 0.860                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Front         | 5        | -       | Reduced    | 132322 | 1745        | 18.13               | 19.50               | 1.371                  | 0.03             | 0.540                  | 0.740                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Front         | 5        | -       | Reduced    | 132572 | 1770        | 18.10               | 19.50               | 1.380                  | 0.09             | 0.504                  | 0.696                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 24        | Front         | 5        | -       | Reduced    | 132072 | 1720        | 18.13               | 19.50               | 1.371                  | 0.05             | 0.677                  | 0.928                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 24        | Front         | 5        | -       | Reduced    | 132322 | 1745        | 18.00               | 19.50               | 1.413                  | -0.01            | 0.574                  | 0.811                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 24        | Front         | 5        | -       | Reduced    | 132572 | 1770        | 18.11               | 19.50               | 1.377                  | -0.09            | 0.526                  | 0.724                  |
|          | LTE Band 66 | 20M      | QPSK       | 100     | 0         | Front         | 5        | -       | Reduced    | 132072 | 1720        | 18.12               | 19.50               | 1.374                  | 0.04             | 0.617                  | 0.848                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Back          | 5        | -       | Reduced    | 132072 | 1720        | 18.27               | 19.50               | 1.327                  | 0.08             | 0.937                  | 1.244                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Back          | 5        | -       | Reduced    | 132322 | 1745        | 18.13               | 19.50               | 1.371                  | 0.02             | 0.863                  | 1.183                  |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Back          | 5        | -       | Reduced    | 132572 | 1770        | 18.10               | 19.50               | 1.380                  | 0.11             | 0.755                  | 1.042                  |
| 51       | LTE Band 66 | 20M      | QPSK       | 50      | 24        | Back          | 5        | -       | Reduced    | 132072 | 1720        | 18.13               | 19.50               | 1.371                  | 0.05             | 0.967                  | 1.326                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 24        | Back          | 5        | -       | Reduced    | 132322 | 1745        | 18.00               | 19.50               | 1.413                  | -0.06            | 0.909                  | 1.284                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 24        | Back          | 5        | -       | Reduced    | 132572 | 1770        | 18.11               | 19.50               | 1.377                  | 0.02             | 0.884                  | 1.217                  |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 24        | Back          | 5        | Headset | Reduced    | 132072 | 1720        | 18.13               | 19.50               | 1.371                  | -0.05            | 0.873                  | 1.197                  |
|          | LTE Band 66 | 20M      | QPSK       | 100     | 0         | Back          | 5        | -       | Reduced    | 132072 | 1720        | 18.12               | 19.50               | 1.374                  | -0.01            | 0.961                  | 1.320                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Front         | 5        | -       | Reduced    | 26590  | 1905        | 18.51               | 20.00               | 1.409                  | 0.13             | 0.529                  | 0.746                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 50        | Front         | 5        | -       | Reduced    | 26590  | 1905        | 18.46               | 20.00               | 1.426                  | -0.01            | 0.481                  | 0.686                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Back          | 5        | -       | Reduced    | 26590  | 1905        | 18.51               | 20.00               | 1.409                  | -0.13            | 0.937                  | 1.321                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Back          | 5        | -       | Reduced    | 26140  | 1860        | 18.20               | 20.00               | 1.514                  | 0.05             | 0.861                  | 1.303                  |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Back          | 5        | -       | Reduced    | 26340  | 1880        | 18.19               | 20.00               | 1.517                  | 0.17             | 0.836                  | 1.268                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 50        | Back          | 5        | -       | Reduced    | 26590  | 1905        | 18.46               | 20.00               | 1.426                  | 0.03             | 0.811                  | 1.156                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 50        | Back          | 5        | -       | Reduced    | 26140  | 1860        | 18.12               | 20.00               | 1.542                  | 0.07             | 0.799                  | 1.232                  |
| 52       | LTE Band 25 | 20M      | QPSK       | 50      | 50        | Back          | 5        | -       | Reduced    | 26340  | 1880        | 18.20               | 20.00               | 1.514                  | 0.01             | 0.901                  | 1.364                  |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 50        | Back          | 5        | Headset | Reduced    | 26340  | 1880        | 18.20               | 20.00               | 1.514                  | -0.12            | 0.796                  | 1.205                  |
|          | LTE Band 25 | 20M      | QPSK       | 100     | 0         | Back          | 5        | -       | Reduced    | 26590  | 1905        | 18.33               | 20.00               | 1.469                  | -0.09            | 0.928                  | 1.363                  |
|          | LTE Band 7  | 20M      | QPSK       | 1       | 0         | Front         | 5        | -       | Reduced    | 21350  | 2560        | 18.91               | 20.00               | 1.285                  | 0.05             | 0.851                  | 1.094                  |
|          | LTE Band 7  | 20M      | QPSK       | 1       | 0         | Front         | 5        | -       | Reduced    | 20850  | 2510        | 18.80               | 20.00               | 1.318                  | 0.04             | 0.643                  | 0.848                  |
|          | LTE Band 7  | 20M      | QPSK       | 1       | 0         | Front         | 5        | -       | Reduced    | 21100  | 2535        | 18.76               | 20.00               | 1.330                  | 0.07             | 0.745                  | 0.991                  |
|          | LTE Band 7  | 20M      | QPSK       | 50      | 0         | Front         | 5        | -       | Reduced    | 21350  | 2560        | 18.76               | 20.00               | 1.330                  | 0.05             | 0.878                  | 1.168                  |
|          | LTE Band 7  | 20M      | QPSK       | 50      | 0         | Front         | 5        | -       | Reduced    | 20850  | 2510        | 18.74               | 20.00               | 1.337                  | 0.06             | 0.652                  | 0.871                  |
|          | LTE Band 7  | 20M      | QPSK       | 50      | 0         | Front         | 5        | -       | Reduced    | 21100  | 2535        | 18.76               | 20.00               | 1.330                  | 0.03             | 0.758                  | 1.008                  |
|          | LTE Band 7  | 20M      | QPSK       | 100     | 0         | Front         | 5        | -       | Reduced    | 21350  | 2560        | 18.70               | 20.00               | 1.349                  | 0.02             | 0.892                  | 1.203                  |
|          | LTE Band 7  | 20M      | QPSK       | 1       | 0         | Back          | 5        | -       | Reduced    | 21350  | 2560        | 18.91               | 20.00               | 1.285                  | -0.04            | 0.953                  | 1.225                  |
|          | LTE Band 7  | 20M      | QPSK       | 1       | 0         | Back          | 5        | -       | Reduced    | 20850  | 2510        | 18.80               | 20.00               | 1.318                  | 0.03             | 0.886                  | 1.168                  |
|          | LTE Band 7  | 20M      | QPSK       | 1       | 0         | Back          | 5        | -       | Reduced    | 21100  | 2535        | 18.76               | 20.00               | 1.330                  | -0.14            | 0.981                  | 1.305                  |
| 53       | LTE Band 7  | 20M      | QPSK       | 50      | 0         | Back          | 5        | -       | Reduced    | 21350  | 2560        | 18.76               | 20.00               | 1.330                  | 0.08             | 0.999                  | 1.329                  |
|          | LTE Band 7  | 20M      | QPSK       | 50      | 0         | Back          | 5        | -       | Reduced    | 20850  | 2510        | 18.74               | 20.00               | 1.337                  | 0.03             | 0.906                  | 1.211                  |
|          | LTE Band 7  | 20M      | QPSK       | 50      | 0         | Back          | 5        | -       | Reduced    | 21100  | 2535        | 18.76               | 20.00               | 1.330                  | 0.01             | 0.912                  | 1.213                  |
|          | LTE Band 7  | 20M      | QPSK       | 100     | 0         | Back          | 5        | -       | Reduced    | 21350  | 2560        | 18.70               | 20.00               | 1.349                  | 0.05             | 0.892                  | 1.203                  |
|          | LTE Band 7  | 20M      | QPSK       | 50      | 0         | Back          | 5        | Headset | Reduced    | 21350  | 2560        | 18.76               | 20.00               | 1.330                  | -0.04            | 0.972                  | 1.293                  |



**<TDD LTE SAR>**

| Plot No. | Band        | BW (MHz) | Modulation | RB Size | RB Offset | Test Position | Gap (mm) | Headset | Power Mode | 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 41 | 20M      | QPSK       | 1       | 0         | Front         | 5        | -       | Reduced    | 40620 | 2593        | 21.06               | 22.00               | 1.242                  | 62.9         | 1.006                     | 0.02             | 0.776                  | 0.969                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Front         | 5        | -       | Reduced    | 39750 | 2506        | 20.71               | 22.00               | 1.346                  | 62.9         | 1.006                     | 0.05             | 0.516                  | 0.699                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Front         | 5        | -       | Reduced    | 40185 | 2549.5      | 20.82               | 22.00               | 1.312                  | 62.9         | 1.006                     | 0.04             | 0.664                  | 0.877                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Front         | 5        | -       | Reduced    | 41055 | 2636.5      | 20.79               | 22.00               | 1.321                  | 62.9         | 1.006                     | 0.07             | 0.902                  | 1.199                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Front         | 5        | -       | Reduced    | 41490 | 2680        | 20.81               | 22.00               | 1.315                  | 62.9         | 1.006                     | 0.04             | 0.614                  | 0.812                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 0         | Front         | 5        | -       | Reduced    | 40620 | 2593        | 20.95               | 22.00               | 1.274                  | 62.9         | 1.006                     | 0.08             | 0.931                  | 1.193                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 0         | Front         | 5        | -       | Reduced    | 39750 | 2506        | 20.62               | 22.00               | 1.374                  | 62.9         | 1.006                     | 0.05             | 0.534                  | 0.738                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 0         | Front         | 5        | -       | Reduced    | 40185 | 2549.5      | 20.77               | 22.00               | 1.327                  | 62.9         | 1.006                     | 0.06             | 0.709                  | 0.947                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 0         | Front         | 5        | -       | Reduced    | 41055 | 2636.5      | 20.76               | 22.00               | 1.330                  | 62.9         | 1.006                     | 0.04             | 0.828                  | 1.108                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 0         | Front         | 5        | -       | Reduced    | 41490 | 2680        | 20.84               | 22.00               | 1.306                  | 62.9         | 1.006                     | 0.01             | 0.528                  | 0.694                  |
|          | LTE Band 41 | 20M      | QPSK       | 100     | 0         | Front         | 5        | -       | Reduced    | 40620 | 2593        | 20.93               | 22.00               | 1.279                  | 62.9         | 1.006                     | 0.09             | 0.908                  | 1.169                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Back          | 5        | -       | Reduced    | 40620 | 2593        | 21.06               | 22.00               | 1.242                  | 62.9         | 1.006                     | 0.06             | 1.040                  | 1.299                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Back          | 5        | -       | Reduced    | 39750 | 2506        | 20.71               | 22.00               | 1.346                  | 62.9         | 1.006                     | -0.08            | 0.717                  | 0.971                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Back          | 5        | -       | Reduced    | 40185 | 2549.5      | 20.82               | 22.00               | 1.312                  | 62.9         | 1.006                     | -0.03            | 0.856                  | 1.130                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Back          | 5        | -       | Reduced    | 41055 | 2636.5      | 20.79               | 22.00               | 1.321                  | 62.9         | 1.006                     | 0.07             | 0.928                  | 1.234                  |
|          | LTE Band 41 | 20M      | QPSK       | 1       | 0         | Back          | 5        | -       | Reduced    | 41490 | 2680        | 20.81               | 22.00               | 1.315                  | 62.9         | 1.006                     | -0.09            | 0.706                  | 0.934                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 0         | Back          | 5        | -       | Reduced    | 40620 | 2593        | 20.95               | 22.00               | 1.274                  | 62.9         | 1.006                     | -0.09            | 0.983                  | 1.259                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 0         | Back          | 5        | -       | Reduced    | 39750 | 2506        | 20.62               | 22.00               | 1.374                  | 62.9         | 1.006                     | 0.03             | 0.649                  | 0.897                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 0         | Back          | 5        | -       | Reduced    | 40185 | 2549.5      | 20.77               | 22.00               | 1.327                  | 62.9         | 1.006                     | 0.02             | 0.952                  | 1.271                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 0         | Back          | 5        | -       | Reduced    | 41055 | 2636.5      | 20.76               | 22.00               | 1.330                  | 62.9         | 1.006                     | 0.09             | 0.964                  | 1.290                  |
|          | LTE Band 41 | 20M      | QPSK       | 50      | 0         | Back          | 5        | -       | Reduced    | 41490 | 2680        | 20.84               | 22.00               | 1.306                  | 62.9         | 1.006                     | -0.14            | 0.700                  | 0.920                  |
| 54       | LTE Band 41 | 20M      | QPSK       | 100     | 0         | Back          | 5        | -       | Reduced    | 40620 | 2593        | 20.93               | 22.00               | 1.279                  | 62.9         | 1.006                     | 0.04             | 1.100                  | <b>1.416</b>           |
|          | LTE Band 41 | 20M      | QPSK       | 100     | 0         | Back          | 5        | Headset | Reduced    | 40620 | 2593        | 20.93               | 22.00               | 1.279                  | 62.9         | 1.006                     | 0.03             | 1.020                  | 1.313                  |

**<WLAN 2.4GHz SAR>**

| Plot No. | Band       | Mode          | Test Position | Gap (mm) | Headset | Power Mode | Ch. | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Duty Cycle % | Duty Cycle Scaling Factor | Power Drift (dB) | Max Area Scan SAR | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|------------|---------------|---------------|----------|---------|------------|-----|-------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|-------------------|------------------------|------------------------|
|          | WLAN2.4GHz | 802.11b 1Mbps | Front         | 5        | -       | Full       | 6   | 2437        | 19.32               | 19.50               | 1.042                  | 100          | 1.000                     | 0.01             | 0.693             | 0.444                  | 0.463                  |
| 55       | WLAN2.4GHz | 802.11b 1Mbps | Back          | 5        | -       | Full       | 6   | 2437        | 19.32               | 19.50               | 1.042                  | 100          | 1.000                     | 0.08             | 1.007             | 0.829                  | <b>0.864</b>           |
|          | WLAN2.4GHz | 802.11b 1Mbps | Back          | 5        | -       | Full       | 11  | 2412        | 19.21               | 19.50               | 1.069                  | 100          | 1.000                     | 0.03             |                   | 0.437                  | 0.467                  |
|          | WLAN2.4GHz | 802.11b 1Mbps | Back          | 5        | -       | Full       | 11  | 2462        | 18.91               | 19.50               | 1.146                  | 100          | 1.000                     | 0.09             |                   | 0.619                  | 0.709                  |

**<Bluetooth SAR>**

| Plot No. | Band      | Mode  | Test Position | Gap (mm) | Headset | Power Mode | 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) |
|----------|-----------|-------|---------------|----------|---------|------------|-----|-------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|------------------------|------------------------|
|          | Bluetooth | 1Mbps | Front         | 5        | -       | Full       | 39  | 2441        | 9.58                | 10.00               | 1.100                  | 76.64        | 1.087                     | -0.01            | 0.038                  | 0.046                  |
|          | Bluetooth | 1Mbps | Back          | 5        | -       | Full       | 39  | 2441        | 9.58                | 10.00               | 1.100                  | 76.64        | 1.087                     | -0.07            | 0.053                  | 0.064                  |
|          | Bluetooth | 1Mbps | Back          | 5        | -       | Full       | 0   | 2402        | 8.61                | 10.00               | 1.376                  | 76.64        | 1.087                     | 0.06             | 0.047                  | 0.070                  |
| 56       | Bluetooth | 1Mbps | Back          | 5        | -       | Full       | 78  | 2480        | 7.34                | 9.00                | 1.464                  | 76.64        | 1.087                     | -0.08            | 0.053                  | <b>0.084</b>           |

**<WLAN 5GHz SAR>**

| Plot No. | Band        | Mode          | Test Position | Gap (mm) | Headset | Power Mode | Ch. | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Duty Cycle % | Duty Cycle Scaling Factor | Power Drift (dB) | Max Area Scan SAR | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|----------|-------------|---------------|---------------|----------|---------|------------|-----|-------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|-------------------|------------------------|------------------------|
|          | WLAN5.3GHz  | 802.11a 6Mbps | Front         | 5        | -       | Reduced    | 64  | 5320        | 16.47               | 17.50               | 1.268                  | 95.63        | 1.046                     | 0.03             | 0.485             | 0.193                  | 0.256                  |
| 57       | WLAN5.3GHz  | 802.11a 6Mbps | Back          | 5        | -       | Reduced    | 64  | 5320        | 16.47               | 17.50               | 1.268                  | 95.63        | 1.046                     | 0.07             | 0.527             | 0.265                  | <b>0.351</b>           |
|          | WLAN5.3GHz  | 802.11a 6Mbps | Back          | 5        | -       | Reduced    | 52  | 5260        | 15.98               | 17.50               | 1.419                  | 95.63        | 1.046                     | -0.07            | 0.239             | 0.120                  | 0.178                  |
|          | WLAN5.3GHz  | 802.11a 6Mbps | Back          | 5        | -       | Reduced    | 56  | 5280        | 16.45               | 17.50               | 1.274                  | 95.63        | 1.046                     | -0.08            |                   | 0.154                  | 0.205                  |
|          | WLAN 5.5GHz | 802.11a 6Mbps | Front         | 5        | -       | Reduced    | 116 | 5580        | 16.18               | 17.50               | 1.354                  | 95.63        | 1.046                     | 0.01             | 0.248             | 0.102                  | 0.144                  |
|          | WLAN 5.5GHz | 802.11a 6Mbps | Back          | 5        | -       | Reduced    | 116 | 5580        | 16.18               | 17.50               | 1.354                  | 95.63        | 1.046                     | -0.09            | 0.289             | 0.157                  | 0.222                  |
|          | WLAN 5.5GHz | 802.11a 6Mbps | Back          | 5        | -       | Reduced    | 100 | 5500        | 16.10               | 17.50               | 1.380                  | 95.63        | 1.046                     | 0.02             |                   | 0.152                  | 0.219                  |
| 58       | WLAN 5.5GHz | 802.11a 6Mbps | Back          | 5        | -       | Reduced    | 144 | 5720        | 15.36               | 17.00               | 1.457                  | 95.63        | 1.046                     | -0.05            |                   | 0.273                  | <b>0.416</b>           |
|          | WLAN 5.8GHz | 802.11a 6Mbps | Front         | 5        | -       | Reduced    | 157 | 5785        | 15.52               | 16.50               | 1.252                  | 95.63        | 1.046                     | 0.06             | 0.371             | 0.146                  | 0.191                  |
|          | WLAN 5.8GHz | 802.11a 6Mbps | Back          | 5        | -       | Reduced    | 157 | 5785        | 15.52               | 16.50               | 1.252                  | 95.63        | 1.046                     | 0.01             | 0.687             | 0.330                  | 0.432                  |
|          | WLAN 5.8GHz | 802.11a 6Mbps | Back          | 5        | -       | Reduced    | 149 | 5745        | 15.47               | 16.50               | 1.266                  | 95.63        | 1.046                     | -0.05            |                   | 0.389                  | 0.515                  |
| 59       | WLAN 5.8GHz | 802.11a 6Mbps | Back          | 5        | -       | Reduced    | 165 | 5825        | 15.48               | 16.50               | 1.264                  | 95.63        | 1.046                     | -0.05            |                   | 0.435                  | <b>0.575</b>           |



## 15.4 Product specific 10g SAR

### <GSM SAR>

| Plot No. | Band    | Mode            | Test Position | Gap (mm) | Power Mode | Ch. | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 10g SAR (W/kg) | Reported 10g SAR (W/kg) |
|----------|---------|-----------------|---------------|----------|------------|-----|-------------|---------------------|---------------------|------------------------|------------------|-------------------------|-------------------------|
|          | GSM850  | GPRS 3 Tx slots | Front         | 0        | Full       | 251 | 848.8       | 29.06               | 30.00               | 1.242                  | -0.01            | 1.600                   | 1.987                   |
| 60       | GSM850  | GPRS 3 Tx slots | Front         | 0        | Full       | 128 | 824.2       | 28.63               | 30.00               | 1.371                  | 0.01             | 2.370                   | <b>3.249</b>            |
|          | GSM850  | GPRS 3 Tx slots | Front         | 0        | Full       | 189 | 836.4       | 28.81               | 30.00               | 1.315                  | 0.08             | 2.130                   | 2.801                   |
|          | GSM850  | GPRS 3 Tx slots | Back          | 0        | Full       | 251 | 848.8       | 29.06               | 30.00               | 1.242                  | 0.06             | 1.350                   | 1.676                   |
|          | GSM850  | GPRS 3 Tx slots | Bottom Side   | 0        | Full       | 251 | 848.8       | 29.06               | 30.00               | 1.242                  | 0.09             | 0.734                   | 0.911                   |
|          | GSM1900 | GPRS 3 Tx slots | Back          | 0        | Full       | 661 | 1880        | 26.07               | 27.00               | 1.239                  | 0.01             | 2.020                   | 2.502                   |
| 61       | GSM1900 | GPRS 3 Tx slots | Back          | 0        | Full       | 512 | 1850.2      | 26.01               | 27.00               | 1.256                  | 0.04             | 2.020                   | <b>2.537</b>            |
|          | GSM1900 | GPRS 3 Tx slots | Back          | 0        | Full       | 810 | 1909.8      | 26.51               | 27.00               | 1.119                  | 0.03             | 1.860                   | 2.082                   |
|          | GSM1900 | GPRS 3 Tx slots | Bottom Side   | 0        | Full       | 661 | 1880        | 26.07               | 27.00               | 1.239                  | -0.03            | 1.920                   | 2.378                   |
|          | GSM1900 | GPRS 3 Tx slots | Bottom Side   | 0        | Full       | 512 | 1850.2      | 26.01               | 27.00               | 1.256                  | -0.01            | 1.770                   | 2.223                   |
|          | GSM1900 | GPRS 3 Tx slots | Bottom Side   | 0        | Full       | 810 | 1909.8      | 26.51               | 27.00               | 1.119                  | -0.01            | 1.800                   | 2.015                   |

### <WCDMA SAR>

| Plot No. | Band          | Mode         | Test Position | Gap (mm) | Power Mode | Ch.  | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 10g SAR (W/kg) | Reported 10g SAR (W/kg) |
|----------|---------------|--------------|---------------|----------|------------|------|-------------|---------------------|---------------------|------------------------|------------------|-------------------------|-------------------------|
|          | WCDMA Band V  | RMC 12.2Kbps | Front         | 0        | Full       | 4233 | 846.6       | 22.56               | 24.00               | 1.393                  | 0.03             | 1.380                   | 1.923                   |
|          | WCDMA Band V  | RMC 12.2Kbps | Back          | 0        | Full       | 4233 | 846.6       | 22.56               | 24.00               | 1.393                  | 0.03             | 1.940                   | 2.703                   |
|          | WCDMA Band V  | RMC 12.2Kbps | Back          | 0        | Full       | 4132 | 826.4       | 22.31               | 24.00               | 1.476                  | 0.07             | 1.780                   | 2.627                   |
| 62       | WCDMA Band V  | RMC 12.2Kbps | Back          | 0        | Full       | 4182 | 836.4       | 22.46               | 24.00               | 1.426                  | 0.04             | 2.160                   | <b>3.079</b>            |
|          | WCDMA Band V  | RMC 12.2Kbps | Bottom Side   | 0        | Full       | 4233 | 846.6       | 22.56               | 24.00               | 1.393                  | -0.15            | 0.729                   | 1.016                   |
|          | WCDMA Band IV | RMC 12.2Kbps | Front         | 0        | Reduced    | 1312 | 1712.4      | 19.63               | 21.00               | 1.371                  | -0.09            | 1.520                   | 2.084                   |
|          | WCDMA Band IV | RMC 12.2Kbps | Front         | 0        | Reduced    | 1413 | 1732.6      | 19.49               | 21.00               | 1.416                  | 0.03             | 1.530                   | 2.166                   |
|          | WCDMA Band IV | RMC 12.2Kbps | Front         | 0        | Reduced    | 1513 | 1752.6      | 19.56               | 21.00               | 1.393                  | 0.02             | 1.580                   | 2.201                   |
|          | WCDMA Band IV | RMC 12.2Kbps | Back          | 0        | Reduced    | 1312 | 1712.4      | 19.63               | 21.00               | 1.371                  | 0.01             | 1.750                   | 2.399                   |
|          | WCDMA Band IV | RMC 12.2Kbps | Back          | 0        | Reduced    | 1413 | 1732.6      | 19.49               | 21.00               | 1.416                  | 0.02             | 1.800                   | 2.548                   |
| 63       | WCDMA Band IV | RMC 12.2Kbps | Back          | 0        | Reduced    | 1513 | 1752.6      | 19.56               | 21.00               | 1.393                  | 0.07             | 1.850                   | <b>2.577</b>            |
|          | WCDMA Band IV | RMC 12.2Kbps | Bottom Side   | 0        | Reduced    | 1312 | 1712.4      | 19.63               | 21.00               | 1.371                  | 0.02             | 1.830                   | 2.509                   |
|          | WCDMA Band IV | RMC 12.2Kbps | Bottom Side   | 0        | Reduced    | 1413 | 1732.6      | 19.49               | 21.00               | 1.416                  | -0.05            | 1.770                   | 2.506                   |
|          | WCDMA Band IV | RMC 12.2Kbps | Bottom Side   | 0        | Reduced    | 1513 | 1752.6      | 19.56               | 21.00               | 1.393                  | -0.01            | 1.770                   | 2.466                   |
|          | WCDMA Band II | RMC 12.2Kbps | Front         | 0        | Reduced    | 9538 | 1907.6      | 20.05               | 21.00               | 1.245                  | 0.01             | 1.450                   | 1.805                   |
|          | WCDMA Band II | RMC 12.2Kbps | Back          | 0        | Reduced    | 9538 | 1907.6      | 20.05               | 21.00               | 1.245                  | 0.07             | 1.810                   | 2.253                   |
|          | WCDMA Band II | RMC 12.2Kbps | Back          | 0        | Reduced    | 9262 | 1852.4      | 20.04               | 21.00               | 1.247                  | 0.09             | 1.790                   | 2.233                   |
| 64       | WCDMA Band II | RMC 12.2Kbps | Back          | 0        | Reduced    | 9400 | 1880        | 19.88               | 21.00               | 1.294                  | 0.06             | 1.910                   | <b>2.472</b>            |
|          | WCDMA Band II | RMC 12.2Kbps | Bottom Side   | 0        | Reduced    | 9538 | 1907.6      | 20.05               | 21.00               | 1.245                  | 0.01             | 1.440                   | 1.792                   |



**<CDMA2000 SAR>**

| Plot No. | Band          | Mode           | Test Position | Gap (mm) | Power Mode | Ch.  | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 10g SAR (W/kg) | Reported 10g SAR (W/kg) |
|----------|---------------|----------------|---------------|----------|------------|------|-------------|---------------------|---------------------|------------------------|------------------|-------------------------|-------------------------|
|          | CDMA2000 BC10 | RTAP 153.6Kbps | Front         | 0        | Full       | 476  | 817.9       | 23.77               | 25.00               | 1.327                  | 0.06             | 1.610                   | 2.137                   |
|          | CDMA2000 BC10 | RTAP 153.6Kbps | Front         | 0        | Full       | 580  | 820.5       | 23.76               | 25.00               | 1.330                  | 0.12             | 1.710                   | 2.275                   |
|          | CDMA2000 BC10 | RTAP 153.6Kbps | Front         | 0        | Full       | 684  | 823.1       | 23.72               | 25.00               | 1.343                  | 0.01             | 1.370                   | 1.840                   |
|          | CDMA2000 BC10 | RTAP 153.6Kbps | Back          | 0        | Full       | 476  | 817.9       | 23.77               | 25.00               | 1.327                  | 0.06             | 1.680                   | 2.230                   |
| 65       | CDMA2000 BC10 | RTAP 153.6Kbps | Back          | 0        | Full       | 580  | 820.5       | 23.76               | 25.00               | 1.330                  | 0.05             | 1.710                   | <b>2.275</b>            |
|          | CDMA2000 BC10 | RTAP 153.6Kbps | Back          | 0        | Full       | 684  | 823.1       | 23.72               | 25.00               | 1.343                  | 0.11             | 1.500                   | 2.014                   |
|          | CDMA2000 BC10 | RTAP 153.6Kbps | Bottom Side   | 0        | Full       | 476  | 817.9       | 23.77               | 25.00               | 1.327                  | 0.06             | 1.080                   | 1.434                   |
|          | CDMA2000 BC0  | RTAP 153.6Kbps | Front         | 0        | Full       | 1013 | 824.7       | 23.82               | 25.00               | 1.312                  | 0.08             | 1.440                   | 1.890                   |
| 66       | CDMA2000 BC0  | RTAP 153.6Kbps | Front         | 0        | Full       | 384  | 836.52      | 23.75               | 25.00               | 1.334                  | 0.09             | 1.620                   | <b>2.160</b>            |
|          | CDMA2000 BC0  | RTAP 153.6Kbps | Front         | 0        | Full       | 777  | 848.31      | 23.57               | 25.00               | 1.390                  | -0.03            | 1.520                   | 2.113                   |
|          | CDMA2000 BC0  | RTAP 153.6Kbps | Back          | 0        | Full       | 1013 | 824.7       | 23.82               | 25.00               | 1.312                  | 0.05             | 1.350                   | 1.771                   |
|          | CDMA2000 BC0  | RTAP 153.6Kbps | Bottom Side   | 0        | Full       | 1013 | 824.7       | 23.82               | 25.00               | 1.312                  | 0.04             | 0.800                   | 1.050                   |
|          | CDMA2000 BC1  | RTAP 153.6Kbps | Back          | 0        | Reduced    | 25   | 1851.25     | 21.49               | 22.50               | 1.262                  | 0.12             | 2.430                   | 3.066                   |
|          | CDMA2000 BC1  | RTAP 153.6Kbps | Back          | 0        | Reduced    | 600  | 1880        | 21.46               | 22.50               | 1.271                  | 0.06             | 2.370                   | 3.011                   |
|          | CDMA2000 BC1  | RTAP 153.6Kbps | Back          | 0        | Reduced    | 1175 | 1908.75     | 21.38               | 22.50               | 1.294                  | 0.03             | 2.230                   | 2.886                   |
|          | CDMA2000 BC1  | RTAP 153.6Kbps | Bottom Side   | 0        | Reduced    | 25   | 1851.25     | 21.49               | 22.50               | 1.262                  | 0.17             | 2.450                   | 3.091                   |
| 67       | CDMA2000 BC1  | RTAP 153.6Kbps | Bottom Side   | 0        | Reduced    | 600  | 1880        | 21.46               | 22.50               | 1.271                  | 0.04             | 2.560                   | <b>3.253</b>            |
|          | CDMA2000 BC1  | RTAP 153.6Kbps | Bottom Side   | 0        | Reduced    | 1175 | 1908.75     | 21.38               | 22.50               | 1.294                  | 0.12             | 2.480                   | 3.210                   |



**<LTE SAR>**

| Plot No. | Band        | BW (MHz) | Modulation | RB Size | RB Offset | Test Position | Gap (mm) | Power Mode | Ch.    | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 10g SAR (W/kg) | Reported 10g SAR (W/kg) |
|----------|-------------|----------|------------|---------|-----------|---------------|----------|------------|--------|-------------|---------------------|---------------------|------------------------|------------------|-------------------------|-------------------------|
| 68       | LTE Band 26 | 15M      | QPSK       | 1       | 0         | Front         | 0        | Full       | 26865  | 831.5       | 22.86               | 24.00               | 1.300                  | 0.05             | 1.560                   | <b>2.028</b>            |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Front         | 0        | Full       | 26865  | 831.5       | 21.93               | 23.00               | 1.279                  | -0.04            | 1.340                   | 1.714                   |
|          | LTE Band 26 | 15M      | QPSK       | 75      | 0         | Front         | 0        | Full       | 26865  | 831.5       | 21.85               | 23.00               | 1.303                  | 0.08             | 1.250                   | 1.629                   |
|          | LTE Band 26 | 15M      | QPSK       | 1       | 0         | Back          | 0        | Full       | 26865  | 831.5       | 22.86               | 24.00               | 1.300                  | 0.01             | 1.410                   | 1.833                   |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Back          | 0        | Full       | 26865  | 831.5       | 21.93               | 23.00               | 1.279                  | -0.06            | 1.190                   | 1.522                   |
|          | LTE Band 26 | 15M      | QPSK       | 1       | 0         | Bottom Side   | 0        | Full       | 26865  | 831.5       | 22.86               | 24.00               | 1.300                  | 0.05             | 0.872                   | 1.134                   |
|          | LTE Band 26 | 15M      | QPSK       | 36      | 0         | Bottom Side   | 0        | Full       | 26865  | 831.5       | 21.93               | 23.00               | 1.279                  | 0.01             | 0.784                   | 1.003                   |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Front         | 0        | Reduced    | 132072 | 1720        | 20.28               | 21.50               | 1.324                  | 0.01             | 1.540                   | 2.039                   |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Front         | 0        | Reduced    | 132322 | 1745        | 20.16               | 21.50               | 1.361                  | -0.07            | 1.540                   | 2.097                   |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Front         | 0        | Reduced    | 132572 | 1770        | 20.17               | 21.50               | 1.358                  | -0.05            | 1.530                   | 2.078                   |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 24        | Front         | 0        | Reduced    | 132072 | 1720        | 20.25               | 21.50               | 1.334                  | 0.02             | 1.470                   | 1.960                   |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 24        | Front         | 0        | Reduced    | 132322 | 1745        | 20.12               | 21.50               | 1.374                  | 0.08             | 1.540                   | 2.116                   |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 24        | Front         | 0        | Reduced    | 132572 | 1770        | 20.23               | 21.50               | 1.340                  | 0.02             | 1.530                   | 2.050                   |
|          | LTE Band 66 | 20M      | QPSK       | 100     | 0         | Front         | 0        | Reduced    | 132072 | 1720        | 20.26               | 21.50               | 1.330                  | 0.03             | 1.480                   | 1.969                   |
| 69       | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Back          | 0        | Reduced    | 132072 | 1720        | 20.28               | 21.50               | 1.324                  | 0.05             | 1.960                   | <b>2.596</b>            |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Back          | 0        | Reduced    | 132322 | 1745        | 20.16               | 21.50               | 1.361                  | 0.08             | 1.820                   | 2.478                   |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Back          | 0        | Reduced    | 132572 | 1770        | 20.17               | 21.50               | 1.358                  | -0.02            | 1.840                   | 2.499                   |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 24        | Back          | 0        | Reduced    | 132072 | 1720        | 20.25               | 21.50               | 1.334                  | 0.09             | 1.580                   | 2.107                   |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 24        | Back          | 0        | Reduced    | 132322 | 1745        | 20.12               | 21.50               | 1.374                  | 0.07             | 1.650                   | 2.267                   |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 24        | Back          | 0        | Reduced    | 132572 | 1770        | 20.23               | 21.50               | 1.340                  | 0.01             | 1.680                   | 2.251                   |
|          | LTE Band 66 | 20M      | QPSK       | 100     | 0         | Back          | 0        | Reduced    | 132072 | 1720        | 20.26               | 21.50               | 1.330                  | 0.01             | 1.620                   | 2.155                   |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Bottom Side   | 0        | Reduced    | 132072 | 1720        | 20.28               | 21.50               | 1.324                  | 0.03             | 1.790                   | 2.371                   |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Bottom Side   | 0        | Reduced    | 132322 | 1745        | 20.16               | 21.50               | 1.361                  | 0.08             | 1.760                   | 2.396                   |
|          | LTE Band 66 | 20M      | QPSK       | 1       | 99        | Bottom Side   | 0        | Reduced    | 132572 | 1770        | 20.17               | 21.50               | 1.358                  | 0.04             | 1.630                   | 2.214                   |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 24        | Bottom Side   | 0        | Reduced    | 132072 | 1720        | 20.25               | 21.50               | 1.334                  | 0.08             | 1.880                   | 2.507                   |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 24        | Bottom Side   | 0        | Reduced    | 132322 | 1745        | 20.12               | 21.50               | 1.374                  | 0.08             | 1.760                   | 2.418                   |
|          | LTE Band 66 | 20M      | QPSK       | 50      | 24        | Bottom Side   | 0        | Reduced    | 132572 | 1770        | 20.23               | 21.50               | 1.340                  | -0.02            | 1.680                   | 2.251                   |
|          | LTE Band 66 | 20M      | QPSK       | 100     | 0         | Bottom Side   | 0        | Reduced    | 132072 | 1720        | 20.26               | 21.50               | 1.330                  | 0.01             | 1.880                   | 2.501                   |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Back          | 0        | Reduced    | 26590  | 1905        | 20.12               | 21.00               | 1.225                  | 0.02             | 1.880                   | 2.302                   |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Back          | 0        | Reduced    | 26140  | 1860        | 19.73               | 21.00               | 1.340                  | 0.16             | 1.770                   | 2.371                   |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Back          | 0        | Reduced    | 26340  | 1880        | 20.03               | 21.00               | 1.250                  | 0.03             | 1.790                   | 2.238                   |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 50        | Back          | 0        | Reduced    | 26590  | 1905        | 20.11               | 21.00               | 1.227                  | 0.05             | 1.810                   | 2.222                   |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 50        | Back          | 0        | Reduced    | 26140  | 1860        | 19.71               | 21.00               | 1.346                  | 0.02             | 1.790                   | 2.409                   |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 50        | Back          | 0        | Reduced    | 26340  | 1880        | 19.64               | 21.00               | 1.368                  | 0.05             | 1.790                   | 2.448                   |
|          | LTE Band 25 | 20M      | QPSK       | 100     | 0         | Back          | 0        | Reduced    | 26590  | 1905        | 20.00               | 21.00               | 1.259                  | -0.02            | 1.840                   | 2.316                   |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Bottom Side   | 0        | Reduced    | 26590  | 1905        | 20.12               | 21.00               | 1.225                  | 0.01             | 1.990                   | 2.437                   |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Bottom Side   | 0        | Reduced    | 26140  | 1860        | 19.73               | 21.00               | 1.340                  | 0.02             | 1.700                   | 2.277                   |
|          | LTE Band 25 | 20M      | QPSK       | 1       | 0         | Bottom Side   | 0        | Reduced    | 26340  | 1880        | 20.03               | 21.00               | 1.250                  | 0.09             | 1.810                   | 2.263                   |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 50        | Bottom Side   | 0        | Reduced    | 26590  | 1905        | 20.11               | 21.00               | 1.227                  | 0.01             | 1.880                   | 2.308                   |
|          | LTE Band 25 | 20M      | QPSK       | 50      | 50        | Bottom Side   | 0        | Reduced    | 26140  | 1860        | 19.71               | 21.00               | 1.346                  | 0.04             | 1.790                   | 2.409                   |
| 70       | LTE Band 25 | 20M      | QPSK       | 50      | 50        | Bottom Side   | 0        | Reduced    | 26340  | 1880        | 19.64               | 21.00               | 1.368                  | 0.02             | 1.930                   | <b>2.640</b>            |
|          | LTE Band 25 | 20M      | QPSK       | 100     | 0         | Bottom Side   | 0        | Reduced    | 26590  | 1905        | 20.00               | 21.00               | 1.259                  | 0.03             | 1.950                   | 2.455                   |



# FCC SAR Test Report

Report No. : FA932901-02

| Plot No. | Band       | BW (MHz) | Modulation | RB Size | RB Offset | Test Position | Gap (mm) | Power Mode | Ch.   | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Power Drift (dB) | Measured 10g SAR (W/kg) | Reported 10g SAR (W/kg) |
|----------|------------|----------|------------|---------|-----------|---------------|----------|------------|-------|-------------|---------------------|---------------------|------------------------|------------------|-------------------------|-------------------------|
|          | LTE Band 7 | 20M      | QPSK       | 1       | 0         | Front         | 0        | Reduced    | 21350 | 2560        | 18.79               | 20.00               | 1.321                  | 0.05             | 1.820                   | 2.405                   |
|          | LTE Band 7 | 20M      | QPSK       | 1       | 0         | Front         | 0        | Reduced    | 20850 | 2510        | 18.68               | 20.00               | 1.355                  | 0.06             | 1.750                   | 2.372                   |
|          | LTE Band 7 | 20M      | QPSK       | 1       | 0         | Front         | 0        | Reduced    | 21100 | 2535        | 18.64               | 20.00               | 1.368                  | 0.01             | 1.810                   | 2.476                   |
|          | LTE Band 7 | 20M      | QPSK       | 50      | 0         | Front         | 0        | Reduced    | 21350 | 2560        | 18.64               | 20.00               | 1.368                  | 0.03             | 1.880                   | 2.571                   |
|          | LTE Band 7 | 20M      | QPSK       | 50      | 0         | Front         | 0        | Reduced    | 20850 | 2510        | 18.63               | 20.00               | 1.371                  | 0.08             | 1.830                   | 2.509                   |
|          | LTE Band 7 | 20M      | QPSK       | 50      | 0         | Front         | 0        | Reduced    | 21100 | 2535        | 18.64               | 20.00               | 1.368                  | 0.06             | 1.880                   | 2.571                   |
|          | LTE Band 7 | 20M      | QPSK       | 100     | 0         | Front         | 0        | Reduced    | 21350 | 2560        | 18.66               | 20.00               | 1.361                  | -0.16            | 1.860                   | 2.532                   |
|          | LTE Band 7 | 20M      | QPSK       | 1       | 0         | Back          | 0        | Reduced    | 21350 | 2560        | 18.79               | 20.00               | 1.321                  | -0.06            | 1.980                   | 2.616                   |
|          | LTE Band 7 | 20M      | QPSK       | 1       | 0         | Back          | 0        | Reduced    | 20850 | 2510        | 18.68               | 20.00               | 1.355                  | 0.09             | 1.840                   | 2.494                   |
|          | LTE Band 7 | 20M      | QPSK       | 1       | 0         | Back          | 0        | Reduced    | 21100 | 2535        | 18.64               | 20.00               | 1.368                  | 0.07             | 1.960                   | 2.681                   |
|          | LTE Band 7 | 20M      | QPSK       | 50      | 0         | Back          | 0        | Reduced    | 21350 | 2560        | 18.64               | 20.00               | 1.368                  | 0.05             | 2.070                   | 2.831                   |
|          | LTE Band 7 | 20M      | QPSK       | 50      | 0         | Back          | 0        | Reduced    | 20850 | 2510        | 18.63               | 20.00               | 1.371                  | 0.01             | 1.920                   | 2.632                   |
|          | LTE Band 7 | 20M      | QPSK       | 50      | 0         | Back          | 0        | Reduced    | 21100 | 2535        | 18.64               | 20.00               | 1.368                  | 0.03             | 2.030                   | 2.776                   |
|          | LTE Band 7 | 20M      | QPSK       | 100     | 0         | Back          | 0        | Reduced    | 21350 | 2560        | 18.66               | 20.00               | 1.361                  | 0.01             | 2.060                   | 2.805                   |
|          | LTE Band 7 | 20M      | QPSK       | 1       | 0         | Bottom Side   | 0        | Reduced    | 21350 | 2560        | 18.79               | 20.00               | 1.321                  | -0.05            | 2.140                   | 2.828                   |
|          | LTE Band 7 | 20M      | QPSK       | 1       | 0         | Bottom Side   | 0        | Reduced    | 20850 | 2510        | 18.68               | 20.00               | 1.355                  | 0.07             | 2.430                   | 3.293                   |
|          | LTE Band 7 | 20M      | QPSK       | 1       | 0         | Bottom Side   | 0        | Reduced    | 21100 | 2535        | 18.64               | 20.00               | 1.368                  | 0.04             | 2.340                   | 3.200                   |
|          | LTE Band 7 | 20M      | QPSK       | 50      | 0         | Bottom Side   | 0        | Reduced    | 21350 | 2560        | 18.64               | 20.00               | 1.368                  | 0.03             | 2.160                   | 2.954                   |
| 71       | LTE Band 7 | 20M      | QPSK       | 50      | 0         | Bottom Side   | 0        | Reduced    | 20850 | 2510        | 18.63               | 20.00               | 1.371                  | -0.06            | 2.500                   | 3.427                   |
|          | LTE Band 7 | 20M      | QPSK       | 50      | 0         | Bottom Side   | 0        | Reduced    | 21100 | 2535        | 18.64               | 20.00               | 1.368                  | -0.07            | 2.340                   | 3.200                   |
|          | LTE Band 7 | 20M      | QPSK       | 100     | 0         | Bottom Side   | 0        | Reduced    | 21350 | 2560        | 18.66               | 20.00               | 1.361                  | -0.04            | 2.120                   | 2.886                   |