



**KDB 865664 D01 SAR Measurement 100MHz to 6GHz  
FCC 47 CFR part 2 (2.1093)**

**SAR EVALUATION REPORT**

*For*

**Sony**

**FCC ID: PY7PM-0800**

**Report Number UL-SAR-RP10295122J06A V4.0  
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*Prepared for*

**SONY MOBILE COMMUNICATIONS INC.  
NYA VATTENTORNET MOBILVÄGEN 10  
LUND 22188  
SWEDEN**

*Prepared by*

**UL VERIFICATION SERVICES LTD  
PAVILION A, ASHWOOD PARK, ASHWOOD WAY  
BASINGSTOKE, HAMPSHIRE, RG23 8BG, UK  
TEL: +44 (0) 1256 312000  
FAX: +44 (0) 1256 312001**



## REVISION HISTORY

| Rev. | Issue Date   | Revisions                                                                                                                                                                                                                                                                                  | Revised By   |
|------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| --   | 27 June 2014 | Initial Issue                                                                                                                                                                                                                                                                              | --           |
| 1    | 30 June 2014 | Made the following changes:<br><ol style="list-style-type: none"> <li>1. Typo error corrected in section 6.6, page 14</li> <li>2. Typo error corrected in section 7.75, page 61</li> <li>3. Missing information of the dielectrics parameters added in Appendix 6</li> </ol>               | Naseer Mirza |
| 2    | 03 July 2014 | Made the following changes<br><ol style="list-style-type: none"> <li>1. Replaced UMTS FDD 2Head table with retest measurements, page 69</li> <li>2. SAR distribution scan was updated with retest graphics</li> <li>3. System performance check was updated with new test table</li> </ol> | Naseer Mirza |
| 3    | 01 Aug 2014  | Made the following changes:<br><ol style="list-style-type: none"> <li>1. In section 1, The EUT is a GSM/WCDMA/LTE Phone + Bluetooth, DTS/UNII a/b/g/n/ac + NFC &amp; ANT+</li> <li>2. Description sentence removed in section 6.2</li> </ol>                                               | Naseer Mirza |
|      |              |                                                                                                                                                                                                                                                                                            |              |
|      |              |                                                                                                                                                                                                                                                                                            |              |

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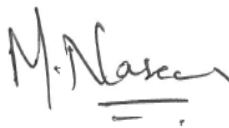
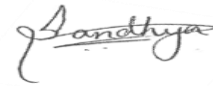
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**1. Attestation of Test Results**

|                                 |                                                                                |                 |            |            |
|---------------------------------|--------------------------------------------------------------------------------|-----------------|------------|------------|
| Applicant Name:                 | Sony Mobile Communications Inc                                                 |                 |            |            |
| Application Purpose             | <input checked="" type="checkbox"/> Original Grant                             |                 |            |            |
| DUT Description                 | The EUT is a GSM/WCDMA/LTE Phone + Bluetooth, DTS/UNII a/b/g/n/ac + NFC & ANT+ |                 |            |            |
| Test Device is                  | An identical prototype                                                         |                 |            |            |
| Device category                 | Portable                                                                       |                 |            |            |
| Exposure Category               | General Population/Uncontrolled Exposure (1g SAR limit: 1.6 W/kg)              |                 |            |            |
| Date Tested                     | 27 May 2014 to 02 July 2014                                                    |                 |            |            |
| The highest reported SAR values | RF Exposure Conditions                                                         | Equipment Class |            |            |
|                                 |                                                                                | Licensed        | DTS        | UNII       |
|                                 | Head                                                                           | 0.885 W/kg      | 0.659 W/kg | 0.555 W/kg |
|                                 | Body-worn Accessory                                                            | 1.316 W/kg      | 0.114 W/kg | 0.266 W/kg |
|                                 | Wireless Router (Hotspot)                                                      | 1.501 W/kg      | 0.114 W/kg | 0.266 W/kg |
|                                 | Simultaneous Transmission                                                      | 1.544 W/kg      | 1.544 W/kg | 1.535 W/kg |
| Applicable Standards            | FCC 47 CFR part 2 (2.1093)<br>KDB publication<br>IEEE Std 1528-2013            |                 |            |            |
| Test Results                    | Pass                                                                           |                 |            |            |

UL Verification Services Ltd. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties are in accordance with the above standard and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

**Note:** The results documented in this report apply only to the tested sample(s), under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Ltd. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Ltd. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by UKAS. This report is written to support regulatory compliance of the applicable standards stated above.

|                                                                                     |                                                                                      |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Approved & Released By:                                                             | Prepared By:                                                                         |
|  |  |
| Naseer Mirza<br>Project Lead<br>UL Verification Services Ltd.                       | Sandhya Menon<br>Laboratory Engineer<br>UL Verification Services Ltd.                |

## 2. Test Specification, Methods and Procedures

### 2.1. Test Specification

|                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reference:</b>                                                                                                                                                                                                                                                                               | KDB 865664 D01 SAR Measurement 100 Mhz to 6 GHz v01r03                                                                                                                                                                                               |
| <b>Title:</b>                                                                                                                                                                                                                                                                                   | SAR Measurement Requirements for 100 MHz to 6 GHz                                                                                                                                                                                                    |
| <b>Purpose of Test:</b>                                                                                                                                                                                                                                                                         | Field probes, tissue dielectric properties, SAR scans, measurement accuracy and variability of the measured results are discussed. The field probe and SAR scan requirements are derived from criteria considered in draft standard IEEE P1528-2011. |
| The Equipment Under Test complied with the Specific Absorption Rate for general population/uncontrolled exposure limit of 1.6 W/kg as specified in FCC 47 CFR part 2 (2.1093) and ANSI C95.1-1992 and has been tested in accordance with the reference documents in section 2.2 of this report. |                                                                                                                                                                                                                                                      |

### 2.2. Methods and Procedures Reference Documentation

The methods and procedures used were as detailed in:

#### IEEE 1528: 2013

IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques

Thomas Schmid, Oliver Egger and Neils Kuster, "Automated E-field scanning system for dosimetric assessments", IEEE Transaction on microwave theory and techniques, Vol. 44, pp. 105-113, January 1996.

Neils Kuster, Ralph Kastle and Thomas Schmid, "Dosimetric evaluation of mobile communications equipment with known precision", IEICE Transactions of communications, Vol. E80-B, No.5, pp. 645-652, May 1997.

#### FCC KDB Publication:

KDB 248227 D01 SAR measurements for 802.11a/b/g v01r02

KDB 447498 D01 General RF Exposure Guidance v05r02

KDB 648474 D04 SAR Handsets SAR v01r02

KDB 941225 D01 SAR test for 3G devices v02

KDB 941225 D03 SAR Test Reduction GSM GPRS EDGE v01

KDB 941225 D05 SAR for LTE Devices v02r03

KDB 941225 D06 Hotspot Mode SAR v01r01

KDB 865664 D01 SAR measurement 100 MHz to 6 GHz v01r03

KDB 865664 D02 SAR Reporting v01r01

### 2.3. Definition of Measurement Equipment

The measurement equipment used complied with the requirements of the standards referenced in the methods & procedures section above. Appendix 1 contains a list of the test equipment used.

### **3. Facilities and Accreditation**

The test sites and measurement facilities used to collect data are located at

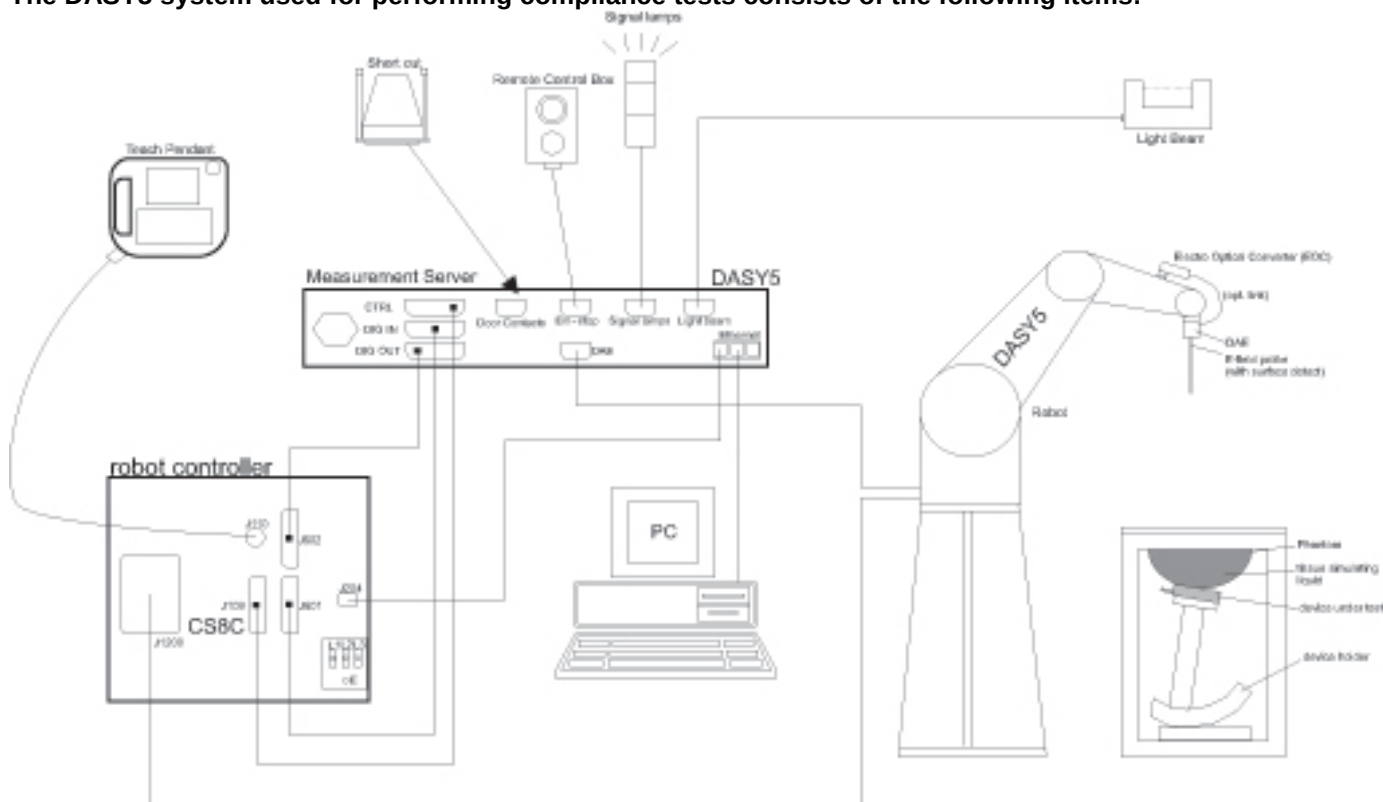
| Pavilion A, Ashwood Park, Ashwood Way, Basingstoke, Hampshire, RG23 8BG UK | Facility Type                  |
|----------------------------------------------------------------------------|--------------------------------|
| SAR Lab 56                                                                 | Controlled Environment Chamber |
| SAR Lab 57                                                                 | Controlled Environment Chamber |
| SAR Lab 58                                                                 | Controlled Environment Chamber |
| SAR Lab 59                                                                 | Controlled Environment Chamber |
| SAR Lab 60                                                                 | Controlled Environment Chamber |
| SAR Lab 61                                                                 | Controlled Environment Chamber |

UL Verification Services Ltd, is accredited by UKAS (United Kingdom Accreditation Service), Laboratory UKAS Code 0644.

## 4. SAR Measurement System & Test Equipment

### 4.1. SAR Measurement System

The DASY5 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 DASY 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.

### 4.2. Test Equipment

The measuring equipment used to perform the tests documented in this report has been calibrated in accordance with the manufacturers' recommendations, and is traceable to recognized national standards. [Appendix 1](#) of the report details the equipment used.

## 5. Measurement Uncertainty

No measurement or test can ever be perfect and the imperfections give rise to error of measurement in the results. Consequently, the result of a measurement is only an approximation to the value of the measurand (the specific quantity subject to measurement) and is only complete when accompanied by a statement of the uncertainty of the approximation.

The expression of uncertainty of a measurement result allows realistic comparison of results with reference values and limits given in specifications and standards.

The uncertainty of the result may need to be taken into account when interpreting the measurement results.

The reported expanded uncertainties below are based on a standard uncertainty multiplied by an appropriate coverage factor, such that a confidence level of approximately 95% is maintained. For the purposes of this document “approximately” is interpreted as meaning “effectively” or “for most practical purposes”.

| Test Name                                                                                                                   | Confidence Level | Calculated Uncertainty |
|-----------------------------------------------------------------------------------------------------------------------------|------------------|------------------------|
| Specific Absorption Rate-GSM 850 / UMTS FDD 5 / LTE Band 5 / LTE Band 13 / LTE Band 17 Head Configuration 1g                | 95%              | ±18.77%                |
| Specific Absorption Rate-GSM / GPRS / EDGE 850 / UMTS FDD 5 / LTE Band 5 / LTE Band 13 / LTE Band 17 Body Configurations 1g | 95%              | ±18.36%                |
| Specific Absorption Rate-UMTS FDD 4 / LTE Band 4 Head Configuration 1g                                                      | 95%              | ±18.45%                |
| Specific Absorption Rate-UMTS FDD 4 / LTE Band 4 Body Configuration 1g                                                      | 95%              | ±18.45%                |
| Specific Absorption Rate-PCS 1900 / UMTS FDD 2/ LTE Band 2 Head Configuration 1g                                            | 95%              | ±18.88%                |
| Specific Absorption Rate-GSM / GPRS / EDGE 1900 / UMTS FDD 2 / LTE Band 2 Body Configuration 1g                             | 95%              | ±18.26%                |
| Specific Absorption Rate- LTE Band 7 / Wi-Fi 2450 MHz Head Configuration 1g                                                 | 95%              | ±18.13%                |
| Specific Absorption Rate-LTE Band 7 / Wi-Fi 2450 MHz Body Configuration 1g                                                  | 95%              | ±18.35%                |
| Specific Absorption Rate-Wi-Fi 5GHz Head Configuration 1g                                                                   | 95%              | ±21.25%                |
| Specific Absorption Rate-Wi-Fi 5GHz Body Configuration 1g                                                                   | 95%              | ±19.90%                |

The methods used to calculate the above uncertainties are in line with those recommended within the various measurement specifications. Where measurement specifications do not include guidelines for the evaluation of measurement uncertainty, the published guidance of the appropriate accreditation body is followed.

See [Appendix 7](#) for all uncertainty tables.

## 6. Equipment Under Test (EUT)

### 6.1. Identification of Equipment Under Test (EUT)

|                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Serial Number/<br/>IMEI Number:</b> | <p><b>Cellular Radiated Samples:</b></p> <p>CB5A1Z7PBG; 004402452705407 - used to perform GSM850 SAR measurements only.</p> <p>CB5A1Z7PR3; 004402452705308 - used to perform PCS1900 SAR measurements only.</p> <p>CB5A1Z7PAQ; 004402452705365 - used to perform UMTS FDD 2, UMTS FDD 4 Head and UMTS FDD 5 SAR measurements only.</p> <p>CB5A1Z7PPA; 004402452705332 - used to perform UMTS FDD 4 Body SAR measurements only.</p> <p>CB5A1Z7PAR; 004402452705357 - used to perform LTE Band 4 SAR measurements only.</p> <p>CB5A1Z7PQU; 004402452705339 - used to perform LTE Band 2, LTE Band 7 Body and LTE Band 13 Head SAR measurements only.</p> <p>CB5A1Z7PGU; 004402452705324 - used to perform LTE Band 5, LTE Band 7 Head, LTE Band 13 Body, LTE Band 17 SAR measurements only.</p> <p><b>Cellular Conducted Sample:</b></p> <p>CB5A1Z7PGM; 004402452706124 - used to perform Cellular Conducted power measurements</p> <p>CB5A1Z7PRF; 004402452706140 - used to perform Cellular Conducted power measurements</p> <p>CB5A1Z7PGT; 004402452706108 - used to perform Cellular Conducted power measurements for UMTS FDD 2, 4 Hotspot Mode only.</p> <p>CB5A1Z6Z3P; 004402452704053 - used to perform Cellular Conducted power measurements for PCS1900 Hotspot Mode.</p> <p><b>WLAN Radiated Samples:</b></p> <p>CB5A1Z7PJV; 004402452705423 - used to perform WLAN 2.4GHz and Bluetooth SAR measurements only.</p> <p>CB5A1Z7PB4; 004402452704723 - used to perform WLAN 5GHz Head measurement only</p> <p>CB5A1Z7PPD; 004402452705282 - used to perform WLAN 5GHz Body measurement only</p> <p><b>WLAN Conducted Sample:</b></p> <p>CB5A1Z7PHB; 004402452706116 - used to perform WLAN Conducted power measurements.</p> |
| <b>Hardware Version Number:</b>        | <p>Cellular Sample: A;</p> <p>WLAN Sample: A</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Software Version Number:</b>        | <p>Cellular Sample: ATPV:1283-9868 ;</p> <p>WLAN Sample: 0_25_3_16_A</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Country of Manufacture:</b>         | <p>China</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Date of Receipt:</b>                | <p>09 June 2014</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

## 6.2. Further Description of EUT

The EUT supports GSM 850/1900MHz bands, WCDMA FDD bands 2/4/5, LTE FDD bands 2/4/5/7/13/17 bands. It also supports Dual Transfer Mode Class 11 (DTM ~Voice +Data), GPRS service with multi-slots class 33, EGPRS service with multi-slots class 33, HSPA with HSDPA (Category 24) and HSUPA (Category 6) features are also supported. It has MP3, camera, FM radio, USB memory, GPS receiver, NFC, Mobile High-Definition Link (MHL), Bluetooth (EDR and Bluetooth 4.0), WLAN (802.11 a/b/g/n/ac), Antenna Tuner and Wi-Fi hotspot functions with 'Auto RF Power Back-Off' (PCS1900, UMTS FDD 2/4, LTE Band 2/4/7) mode capabilities.

## 6.3. Modifications Incorporated in the EUT

There were no modification during the course of testing the device

## 6.4. Accessories

The following accessories were supplied with the EUT during testing:

|                                |                       |                                  |                        |
|--------------------------------|-----------------------|----------------------------------|------------------------|
| <b>Description:</b>            | Memory Card           | Personal Hands-Free Kit (PHF)    | Dummy Battery          |
| <b>Brand Name:</b>             | None Stated (Generic) | Sony                             | None Stated            |
| <b>Model Name or Number:</b>   | None Stated           | MH410c                           | None Stated            |
| <b>Serial Number:</b>          | None Stated           | None Stated                      | None Stated            |
| <b>Cable Length and Type:</b>  | Not Applicable        | ~1.2 m                           | ~0.5m                  |
| <b>Country of Manufacture:</b> | China                 | None Stated                      | None Stated            |
| <b>Connected to Port</b>       | Micro SD Slot         | 3.5mm Audio jack and custom type | Unique to Manufacturer |

### Note(s):

The Dummy Battery was only used to perform conducted power measurements.

## 6.5. Support Equipment

The following support equipment was used to exercise the EUT during testing:

| <b>Description:</b>    | <b>Brand Name:</b> | <b>Model Name or Number:</b> | <b>Serial Number:</b> | <b>Cable Length and Type:</b> | <b>Connected to Port</b>     |
|------------------------|--------------------|------------------------------|-----------------------|-------------------------------|------------------------------|
| Communication Test Set | Agilent            | 8960 Series 10 (E5515C)      | GB46311280            | ~4.0m Utiflex Cable           | RF (Input / Output) Air Link |
| Communication Test Set | Agilent            | 8960 Series 10 (E5515E)      | GB46200666            | ~4.0m Utiflex Cable           | RF (Input / Output) Air Link |
| Communication Test Set | Anritsu            | MT8820C                      | 6200938937            | ~4.0m Utiflex Cable           | RF (Input / Output) Air Link |
| Communication Test Set | CMU200             | 1100.0008K02                 | 119317                | ~4.0m Utiflex Cable           | RF (Input / Output) Air Link |
| Communication Test Set | CMW500             | 1201.0002K50                 | 145922                | ~4.0m Utiflex Cable           | RF (Input / Output) Air Link |
| Communication Test Set | CMW500             | 1201.0002K50                 | 146526                | ~4.0m Utiflex Cable           | RF (Input / Output) Air Link |
| Communication Test Set | CMW500             | 1201.0002K50                 | 145921                | ~4.0m Utiflex Cable           | RF (Input / Output) Air Link |

## 6.6.Additional Information Related to Testing

|                                                   |                                                      |                                                                                                                                                             |                                                           |
|---------------------------------------------------|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Equipment Category                                | 2G GSM PCS                                           | TDMA 850/ 1900                                                                                                                                              | Voice<br>DTM (Voice + Data)<br>GPRS (Data)<br>EDGE (Data) |
|                                                   | 3G UMTS Band                                         | FDD 2 / 4 / 5                                                                                                                                               | RMC12.2<br>HSDPA Cat 24<br>HSPA Data Cat 6                |
|                                                   | 4G LTE Band                                          | FDD 2 / 4 / 5 / 7 / 13 / 17                                                                                                                                 | Data                                                      |
|                                                   | Wi-Fi Band                                           | (2.4 / 5.0) GHz                                                                                                                                             | Data 802.11a/b/g/n/ac                                     |
| Type of Unit                                      | Portable Transceiver                                 |                                                                                                                                                             |                                                           |
| Intended Operating Environment:                   | Within GSM, UMTS, LTE , Wi-Fi and Bluetooth Coverage |                                                                                                                                                             |                                                           |
| Transmitter Maximum Output Power Characteristics: | GSM850                                               | Communication Test Set was configured to allow the EUT to transmit at a maximum power using Power Control Level (PCL) setting of 5.                         |                                                           |
|                                                   | PCS1900                                              | Communication Test Set was configured to allow the EUT to transmit at a maximum power using Power Control Level (PCL) setting of 0.                         |                                                           |
|                                                   | UMTS FDD 2                                           | Communication Test Set configured to allow to EUT to transmit at a maximum power as per KDB 941225 D01.                                                     |                                                           |
|                                                   | UMTS FDD 4                                           | Communication Test Set configured to allow to EUT to transmit at a maximum power as per KDB 941225 D01.                                                     |                                                           |
|                                                   | UMTS FDD 5                                           | Communication Test Set configured to allow to EUT to transmit at a maximum power as per KDB 941225 D01.                                                     |                                                           |
|                                                   | LTE Band 2                                           | Communication Test Set configured to allow to EUT to transmit at a maximum power as per KDB 941225 D05.                                                     |                                                           |
|                                                   | LTE Band 4                                           | Communication Test Set configured to allow to EUT to transmit at a maximum power as per KDB 941225 D05.                                                     |                                                           |
|                                                   | LTE Band 5                                           | Communication Test Set configured to allow to EUT to transmit at a maximum power as per KDB 941225 D05.                                                     |                                                           |
|                                                   | LTE Band 7                                           | Communication Test Set configured to allow to EUT to transmit at a maximum power as per KDB 941225 D05.                                                     |                                                           |
|                                                   | LTE Band 13                                          | Communication Test Set configured to allow to EUT to transmit at a maximum power as per KDB 941225 D05.                                                     |                                                           |
|                                                   | LTE Band 17                                          | Communication Test Set configured to allow to EUT to transmit at a maximum power as per KDB 941225 D05.                                                     |                                                           |
|                                                   | 2.4 GHz Wi-Fi 802.11b/g/n                            | Test Software was used to configure the EUT to transmit at a maximum measured power of up to 13.4Bm.                                                        |                                                           |
|                                                   | 5.0 GHz Wi-Fi 802.11a                                | Test Software was used to configure the EUT to transmit at a maximum measured power of up to 16.5 dBm.                                                      |                                                           |
|                                                   | 5.0 GHz Wi-Fi 802.11n (HT20 / HT40)                  | Test Software was used to configure the EUT to transmit at a maximum measured power of up to 16.7 dBm for HT20 and 14.6 dBm for HT40.                       |                                                           |
|                                                   | 5.0 GHz Wi-Fi 802.11ac (VHT20 / VHT40 / VHT80)       | Test Software was used to configure the EUT to transmit at a maximum measured power of up to 16.8 dBm for VHT20, 14.6 dBm for VHT40 and 14.6 dBm for VHT80. |                                                           |

**Additional Information Related to Testing (Continued):**

|                                     |                                          |                    |
|-------------------------------------|------------------------------------------|--------------------|
| <b>Transmitter Frequency Range:</b> | GSM850                                   | (824 to 849) MHz   |
|                                     | PCS1900                                  | (1850 to 1910) MHz |
|                                     | UMTS FDD 2                               | (1852 to 1908) MHz |
|                                     | UMTS FDD 4                               | (1712 to 1753) MHz |
|                                     | UMTS FDD 5                               | (826 to 847) MHz   |
|                                     | LTE Band 2                               | (1850 to 1910) MHz |
|                                     | LTE Band 4                               | (1710 to 1755) MHz |
|                                     | LTE Band 5                               | (820 to 850) MHz   |
|                                     | LTE Band 7                               | (2505 to 2570) MHz |
|                                     | LTE Band 13                              | (775 to 790) MHz   |
|                                     | LTE Band 17                              | (705 to 715) MHz   |
|                                     | 2.4 GHz Wi-Fi 802.11b/g/n                | (2412 to 2462) MHz |
|                                     | 5.0 GHz Sub band 1<br>Wi-Fi 802.11a/n/ac | (5180 to 5240) MHz |
|                                     | 5.0 GHz Sub band 2<br>Wi-Fi 802.11a/n/ac | (5260 to 5320) MHz |
|                                     | 5.0 GHz Sub band 3<br>Wi-Fi 802.11a/n/ac | (5500 to 5700) MHz |
|                                     | 5.0 GHz Sub band 4<br>Wi-Fi 802.11a/n/ac | (5745 to 5825) MHz |

**Additional Information Related to Testing (Continued)**

| Transmitter Frequency Allocation of EUT When Under Test: | Bands       | Channel Number | Channel Description | Frequency (MHz) |
|----------------------------------------------------------|-------------|----------------|---------------------|-----------------|
|                                                          |             |                |                     |                 |
|                                                          | GSM850      | 128            | Low                 | 824.2           |
|                                                          |             | 190            | Middle              | 836.6           |
|                                                          |             | 251            | High                | 848.8           |
|                                                          | PCS1900     | 512            | Low                 | 1850.2          |
|                                                          |             | 661            | Middle              | 1880.0          |
|                                                          |             | 810            | High                | 1909.8          |
|                                                          | UMTS FDD 2  | 9262           | Low                 | 1852.4          |
|                                                          |             | 9400           | Middle              | 1880.0          |
|                                                          |             | 9538           | High                | 1907.6          |
|                                                          | UMTS FDD 4  | 1312           | Low                 | 1712.4          |
|                                                          |             | 1412           | Middle              | 1732.6          |
|                                                          |             | 1513           | High                | 1752.6          |
|                                                          | UMTS FDD 5  | 4132           | Low                 | 826.4           |
|                                                          |             | 4183           | Middle              | 836.6           |
|                                                          |             | 4233           | High                | 846.6           |
|                                                          | LTE Band 2  | 18700          | Low                 | 1860.0          |
|                                                          |             | 18900          | Middle              | 1880.0          |
|                                                          |             | 19100          | High                | 1900.0          |
|                                                          | LTE Band 4  | 20050          | Low                 | 1720.0          |
|                                                          |             | 20175          | Middle              | 1732.5          |
|                                                          |             | 20300          | High                | 1745.0          |
|                                                          | LTE Band 5  | 20450          | Low                 | 829.0           |
|                                                          |             | 20525          | Middle              | 836.5           |
|                                                          |             | 20625          | High                | 844.0           |
|                                                          | LTE Band 7  | 20850          | Low                 | 2510.0          |
|                                                          |             | 21100          | Middle              | 2535.0          |
|                                                          |             | 21350          | High                | 2560.0          |
|                                                          | LTE Band 13 | 23780          | Low                 | 709.0           |
|                                                          |             | 23790          | Middle              | 710.0           |
|                                                          |             | 23800          | High                | 711.0           |
|                                                          | LTE Band 17 | 24250          | Low                 | 842.0           |
|                                                          |             | 24300          | Middle              | 847.0           |
|                                                          |             | 24350          | High                | 852.0           |

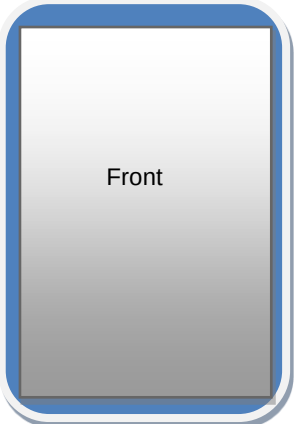
## Additional Information Related to Testing (Continued)

| Transmitter Frequency Allocation of EUT<br>When Under Test: | Band: 2.4 / 5.0 GHz Wi-Fi 802.11a/n/AC (HT20 / HT40/HT80)                                                                                                 |                   |               |                   |               |                   |               |        |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------|-------------------|---------------|-------------------|---------------|--------|
|                                                             | Rule                                                                                                                                                      | 20 MHz BW<br>Ch.# | Frq.<br>(MHz) | 40 MHz BW<br>Ch.# | Frq.<br>(MHz) | 80 MHz<br>BW Ch.# | Frq.<br>(MHz) |        |
|                                                             | 15.247                                                                                                                                                    | 1                 | 2412.0        |                   |               |                   |               |        |
|                                                             |                                                                                                                                                           | 6                 | 2436.0        |                   |               |                   |               |        |
|                                                             |                                                                                                                                                           | 11                | 2462.0        |                   |               |                   |               |        |
|                                                             | 5.2<br>U-NII-1                                                                                                                                            | 36                | 5180.0        | 38                | 5190.0        | 42                |               | 5210.0 |
|                                                             |                                                                                                                                                           | 40                | 5200.0        |                   |               |                   |               |        |
|                                                             |                                                                                                                                                           | 44                | 5220.0        | 46                | 5230.0        |                   |               |        |
|                                                             |                                                                                                                                                           | 48                | 5240.0        |                   |               |                   |               |        |
|                                                             | 5.3<br>U-NII-2A                                                                                                                                           | 52                | 5260.0        | 54                | 5270.0        | 58                |               | 5290.0 |
|                                                             |                                                                                                                                                           | 56                | 5280.0        |                   |               |                   |               |        |
|                                                             |                                                                                                                                                           | 60                | 5300.0        | 62                | 5310.0        |                   |               |        |
|                                                             |                                                                                                                                                           | 64                | 5320.0        |                   |               |                   |               |        |
|                                                             | 5.6<br>U-NII-2C                                                                                                                                           | 100               | 5500.0        | 102               | 5510.0        | 106               |               | 5530.0 |
|                                                             |                                                                                                                                                           | 104               | 5520.0        |                   |               |                   |               |        |
|                                                             |                                                                                                                                                           | 108               | 5540.0        | 110               | 5550.0        |                   |               |        |
|                                                             |                                                                                                                                                           | 112               | 5560.0        |                   |               |                   |               |        |
|                                                             |                                                                                                                                                           | 116               | 5580.0        | 118               | 5590.0        |                   |               |        |
|                                                             |                                                                                                                                                           | 120               | 5600.0        |                   |               | 122               | 5610.0        |        |
|                                                             |                                                                                                                                                           | 124               | 5620.0        | 126               | 5630.0        |                   |               |        |
|                                                             |                                                                                                                                                           | 128               | 5640.0        |                   |               |                   |               |        |
|                                                             |                                                                                                                                                           | 132               | 5660.0        | 134               | 5670.0        |                   |               |        |
|                                                             |                                                                                                                                                           | 136               | 5680.0        |                   |               |                   |               |        |
|                                                             |                                                                                                                                                           | 140               | 5700.0        |                   |               |                   |               |        |
|                                                             | 5.8<br>UNII-3                                                                                                                                             | 149               | 5745.0        | 151               | 5755.0        | 155               |               | 5775.0 |
|                                                             |                                                                                                                                                           | 153               | 5765.0        |                   |               |                   |               |        |
|                                                             |                                                                                                                                                           | 157               | 5785.0        | 159               | 5795.0        |                   |               |        |
|                                                             |                                                                                                                                                           | 161               | 5805.0        |                   |               |                   |               |        |
|                                                             |                                                                                                                                                           | 165               | 5825.0        |                   |               |                   |               |        |
| Modulation(s):                                              | GMSK (DTM / GSM / GPRS):<br>QPSK(UMTS / HSDPA/HSPA):<br>DBPSK, BPSK, CCK (Wi-Fi):<br>QPSK, 16QAM (LTE):                                                   |                   |               |                   |               | 217 Hz            |               |        |
|                                                             |                                                                                                                                                           |                   |               |                   |               | 0Hz               |               |        |
|                                                             |                                                                                                                                                           |                   |               |                   |               | 0 Hz              |               |        |
|                                                             |                                                                                                                                                           |                   |               |                   |               | 0 Hz              |               |        |
| Modulation Scheme (Crest Factor):                           | GMSK (DTM Class 9 2-Uplink):<br>GMSK (GPRS1900 4- Uplink):<br>DBPSK, BPSK, CCK (Wi-Fi802.11a/b/g/n/ac):<br>QPSK(UMTS/ FDD / HSDPA):<br>QPSK, 16QAM (LTE): |                   |               |                   |               | 4                 |               |        |
|                                                             |                                                                                                                                                           |                   |               |                   |               | 2                 |               |        |
|                                                             |                                                                                                                                                           |                   |               |                   |               | 1                 |               |        |
|                                                             |                                                                                                                                                           |                   |               |                   |               | 1                 |               |        |
|                                                             |                                                                                                                                                           |                   |               |                   |               | 1                 |               |        |
| Antenna Type:                                               | Internal integral                                                                                                                                         |                   |               |                   |               |                   |               |        |
| Antenna Length:                                             | As specified in <a href="#">Appendix 10</a>                                                                                                               |                   |               |                   |               |                   |               |        |
| Number of Antenna Positions:                                | WWAN ~ LTE / UMTS / GSM<br>WLAN/ BT<br>Felica/NFC<br>Sub/GPS                                                                                              |                   |               |                   |               | 1 fixed           |               |        |
|                                                             |                                                                                                                                                           |                   |               |                   |               | 1 fixed           |               |        |
|                                                             |                                                                                                                                                           |                   |               |                   |               | 1 fixed           |               |        |
|                                                             |                                                                                                                                                           |                   |               |                   |               | 1 fixed           |               |        |
| Power Supply Requirement:                                   | 4.2 V                                                                                                                                                     |                   |               |                   |               |                   |               |        |
| Battery Type(s):                                            | Embedded Li-ion                                                                                                                                           |                   |               |                   |               |                   |               |        |

**Additional Information Related to LTE Test parameter**

| # | Description                                                                                                                                                                                                                                                         | Parameter                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Identify the operating frequency range of each LTE transmission FCC band used by the device                                                                                                                                                                         | Band 2: frequency range – 1850 MHz– 1910 MHz<br>Band 4: frequency range – 1710 MHz– 1755 MHz<br>Band 5: frequency range-820 MHz-850 MHz<br>Band 7: frequency range-2505 MHz-2570 MHz<br>Band 13: frequency range – 704 to 711 MHz<br>Band 17: frequency range-705 MHz-715MHz                                                                                                                                                             |
| 2 | Identify the channel bandwidths used in each frequency band;<br>e.g.: 1.4, 3, 5, 10, 15, 20 MHz etc.                                                                                                                                                                | Channel Bandwidths used are:<br>B2 (1.4, 3, 5, 10, 15, 20) MHz<br>B4 (1.4, 3, 5, 10, 15, 20) MHz<br>B5 (1.4, 3, 5, 10) MHz<br>B7 (5, 10, 15, 20) MHz<br>B13 (5, 10) MHz<br>B17 (5, 10) MHz                                                                                                                                                                                                                                               |
| 3 | Identify the high, middle and low (L, M, H) channel numbers and frequencies tested in each LTE frequency band                                                                                                                                                       | B2 -20 MHz (H,M,L)= CH (19100,18900,18700); Freq (1900, 1880, 1860) MHz<br>B4 -20 MHz (H,M,L)= CH (20300, 20175, 20050); Freq (1745, 1732.5, 1720) MHz<br>B5 -10 MHz (H,M,L)= CH (20625, 20525, 20450); Freq (844, 836.5, 829) MHz<br>B7 -20 MHz (H,M,L)= CH (21350, 21100, 20850); Freq (2560, 2535, 2510) MHz<br>B13 -10MHz (M)= CH (23230); Freq (782) MHz<br>B17 -10 MHz (H,M,L)= CH (23800, 23790, 23780); Freq (711, 710, 709) MHz |
| 4 | Specify the UE category and uplink modulations used                                                                                                                                                                                                                 | The UE Category is 4 and the Uplink modulations used are QPSK, 16QAM.                                                                                                                                                                                                                                                                                                                                                                    |
| 5 | Descriptions of the LTE transmitter and antenna implementation & identify whether it is a standalone transmitter operating independently of other wireless transmitters in the device or sharing hardware components and/or antenna(s) with other transmitters etc. | This model has only one main antenna for LTE/UMTS/GSM bands (as pictured in Appendix 10).                                                                                                                                                                                                                                                                                                                                                |

**Additional Information Related to LTE Test parameter (Continued):**

| # | Description                                                                                                                                                                                                                                 | Parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6 | Identify the LTE Band Voice/data requirements in each operating mode and exposure condition with respect to head and body test configurations, antenna locations, handset flip-cover or slide positions, antenna diversity conditions, etc. | <p>The following exposure condition with respect to head and body test are required for both voice and data modes due to EUT functionality and antenna locations.</p> <ol style="list-style-type: none"> <li>1) Body-worn SAR is required at 15 mm separation distance</li> <li>2) Mobile Hot Spot Mode will be tested by positioning the smart phone with 10 mm separation distance.</li> <li>- Wireless Personal Hotspot mode with consideration for the Front Display of EUT, Back of EUT, Left Hand side of EUT, Right Hand side of EUT, Top Edge of EUT and Bottom Edge of EUT with respect to the antenna location. The test separation distance between the EUT edge and phantom flat surface for this mode will be 10mm as the dimensions of the device is &gt; 9cm x 5cm.</li> <li>3) Head SAR is required in LTE Data Mode (QPSK) as this model does not supports SVLTE operation.</li> </ol> <div style="text-align: center;"> <p>Top</p>  <p>Left hand side      Front      Right hand side</p> <p>Bottom</p> </div> |

**Additional Information Related to LTE Test parameter (Continued):**

| # | Description                                                                                                                                                                                                                                                                                                                                                                               | Parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7 | Identify if Maximum Power Reduction (MPR) is optional or mandatory, i.e. built-in by design: a) only mandatory MPR may be considered during SAR testing, when the maximum output power is permanently limited by the MPR implemented within the UE; and only for the applicable RB (resource block) configurations specified in LTE standards b) A-MPR (additional MPR) must be disabled. | The EUT incorporates MPR as per 36.101 as shown in the section 8. MPR cannot be disabled after the phone is manufactured, MPR is mandatory.<br>* Target MPR                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 8 | Include the maximum average conducted output power measured on the required test channels for each channel bandwidth and UL modulation used in each frequency band: a) using 1 RB allocated at the low edge, centered and high edge of a channel b) using 50% RB allocated at the low edge, centered and high edge of a channel c) using 100% RB allocation                               | This is included in the section 8.3 of this report.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 9 | Identify all other U.S. wireless operating modes (3G, Wi-Fi, WiMax, Bluetooth etc), device/exposure configurations (head and body, antenna and handset flip-cover or slide positions, antenna diversity conditions etc.) and frequency bands used for these modes                                                                                                                         | The following bands are supported for the exposure conditions<br>1) GSM (850/1900) and UMTS FDD (850, 1700, 1900)<br>- Exposure conditions: Head/Body worn SAR required for GSM / UMTS FDD and wireless personal hotspot. DTM is not supported.<br>2) Bluetooth 2.4GHz (Basic Rate & EDR)<br>- Exposure conditions: BT SAR is not required as per 10.3.1<br>3) Wi-Fi 2.4GHz<br>- Exposure conditions: Head/Body SAR required for wireless personal hotspot. No Power reduction is supported.<br>4) Wi-Fi 5 GHz<br>- Exposure conditions: Head/Body SAR required for wireless personal hotspot. No power reduction is supported, |

**Additional Information Related to LTE Test parameter (Continued):**

| #  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Parameter                                                                                                                                                                                                                                                                           |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10 | Include the maximum average conducted output power measured for the other wireless mode and frequency bands                                                                                                                                                                                                                                                                                                                                                                                      | This is included in the section 8 of this report.                                                                                                                                                                                                                                   |
| 11 | Identify the simultaneous transmission conditions for the voice and data configurations supported by all wireless modes, device configurations and frequency bands, for the head and body exposure conditions and device operating configurations (handset flip or cover positions, antenna diversity conditions etc.)                                                                                                                                                                           | Bluetooth average power measurement is below the rated threshold therefore Individual SAR will not be tested. Sim_Tx consideration will be based on the estimated SAR level. All simultaneous transmission combinations are identified and summarised in Section 9.4 of the report. |
| 12 | When power reduction is applied to certain wireless modes to satisfy SAR compliance for simultaneous transmission conditions, other equipment certification or operating requirements, include the maximum average conducted output power measured in each power reduction mode applicable to the simultaneous voice/data transmission configurations for such wireless configurations and frequency bands; and also include details of the power reduction implementation and measurement setup | Not applicable.                                                                                                                                                                                                                                                                     |
| 13 | Include descriptions of the test equipment, test software, built-in test firmware etc. required to support testing the device when power reduction is applied to one or more transmitters/antennas for simultaneous voice/data transmission                                                                                                                                                                                                                                                      | Anritsu MT8820C and R&S CMW500 communication simulator Communication tester which support LTE modes (Data) were used for testing.                                                                                                                                                   |
| 14 | When appropriate, include a SAR test plan proposal with respect to the above.                                                                                                                                                                                                                                                                                                                                                                                                                    | Not Applicable                                                                                                                                                                                                                                                                      |
| 15 | If applicable, include preliminary SAR test data and/or supporting information in laboratory testing inquiries to address specific issues and concerns or for requesting further test reduction considerations appropriate for the device; for example simultaneous transmission configurations.                                                                                                                                                                                                 | Not Applicable                                                                                                                                                                                                                                                                      |

### 6.6.1. Operating Modes

The EUT was tested in the following operating mode(s) unless otherwise stated:

- GSM850 Head and Body-Worn – DTM Class 9 – DTM (Voice + Data) allocated mode with Communication Test Set configured to allow the EUT to transmit at a maximum power using Power Control Level (PCL) setting of 5. Tested using 2 Uplink time slots with DTM multi class 9 (1 uplink for voice + 1 uplink for GPRS with CS1).
- GSM850 Hotspot Mode – DTM (Voice + Data) allocated mode with Communication Test Set configured to allow the EUT to transmit at a maximum power using Power Control Level (PCL) setting of 5. Tested using 2 Uplink time slots with DTM multi class 9 (1 uplink for voice + 1 uplink for GPRS with CS1).
- PCS1900 Head and Body-Worn – DTM (Voice + Data) allocated mode with Communication Test Set configured to allow the EUT to transmit at a maximum power using Power Control Level (PCL) setting of 5. Tested using 3 Uplink time slots with DTM multi class 11 (1 uplink for voice + 2 uplink for GPRS with CS1).
- PCS1900 Hotspot Mode – Data allocated mode with Communication Test Set configured to allow the EUT to transmit at a maximum power using Power Control Level (PCL) setting of 0. Tested using 4 Uplink time slots with CS1 for GPRS.

| GSM850:<br>Power Table Settings used for Test Set |                     | PCS1900:<br>Power Table Settings used for Test Set |                     |
|---------------------------------------------------|---------------------|----------------------------------------------------|---------------------|
| Power Control Level PCL                           | Nominal Power (dBm) | Power Control Level PCL                            | Nominal Power (dBm) |
| 0 ... 2                                           | 39                  | 22 ... 29                                          | Reserved            |
| 3                                                 | 37                  | 30                                                 | 33                  |
| 4                                                 | 35                  | 31                                                 | 32                  |
| 5                                                 | 33                  | 0                                                  | 30                  |
| 6                                                 | 31                  | 1                                                  | 28                  |
| 7                                                 | 29                  | 2                                                  | 26                  |
| 8                                                 | 27                  | 3                                                  | 24                  |
| 9                                                 | 25                  | 4                                                  | 22                  |
| 10                                                | 23                  | 5                                                  | 20                  |
| 11                                                | 21                  | 6                                                  | 18                  |
| 12                                                | 19                  | 7                                                  | 16                  |
| 13                                                | 17                  | 8                                                  | 14                  |
| 14                                                | 15                  | 9                                                  | 12                  |
| 15                                                | 13                  | 10                                                 | 10                  |
| 16                                                | 11                  | 11                                                 | 8                   |
| 17                                                | 9                   | 12                                                 | 6                   |
| 18                                                | 7                   | 13                                                 | 4                   |
| 19 ... 31                                         | 5                   | 14                                                 | 2                   |
|                                                   |                     | 15                                                 | 0                   |
|                                                   |                     | 16 ... 21                                          | Reserved            |

- UMTS FDD 2, 4, 5 RMC 12.2kbps allocated mode with Communication Test Set configured to all "1's" to allow the EUT to transmit at a maximum as per KDB 941225 D01.
- UMTS FDD 2, 4, 5 - RMC 12.2kbps + HSUPA with Test loop mode 1 and TPC bits configured to all "1's", Sub-test 5, AG Index set to 21 and E-TFCI set to 81 with Communication Test Set configured to allow to EUT to transmit at a maximum power as per KDB 941225 D01.
- UMTS FDD 2, 4, 5 - RMC 12.2kbps + HSDPA with Test loop mode 1 and TPC bits configured to all "1's", Sub-test 1 with Communication Test Set configured to allow to EUT to transmit at a maximum power as per KDB 941225 D01.
- UMTS FDD 2, 4, 5 - DC HSDPA (Cat 24) with Test loop mode 1 and TPC bits configured to all "1's", Sub-test 1 with Communication Test Set configured to allow to EUT to transmit at a maximum power as per KDB 941225 D01. (See Appendix 9 for detailed description)

**Operating Modes (Continued)**

- LTE Band 2, LTE Band 4 and LTE Band 7 data allocated mode at QPSK on 20MHz BW channels, using a Communication Test Set configured to allow to EUT to transmit at a maximum power as per KDB 941225 D05.
- LTE Band 5, LTE Band 13 and LTE Band 17 data allocated mode at QPSK on 20MHz BW channels, using a Communication Test Set configured to allow to EUT to transmit at a maximum power as per KDB 941225 D05.
- 2.4 GHz Wi-Fi 802.11b/g/n Data allocated mode using 'HyperTerminal' software to excise mode 'b', 'g' and 'n', with maximum power of up to 13.2 dBm for 'b' mode and 13.4 dBm for 'g' and 13.0 dBm for 'n' modes.
- 5.0 GHz Wi-Fi 802.11a/n Data allocated mode using 'HyperTerminal' software to excise mode 'a' and 'n', with maximum power of up to 16.5 dBm for 'a' mode and 16.7 dBm for 'n' modes.

**6.7.Nominal and Maximum Output power:****Power Back-Off Not Supported**

| Bands  | Speech (Voice Mode) |                      |
|--------|---------------------|----------------------|
|        | Target (dBm)        | Tolerance $\pm$ (dB) |
| GSM850 | 32.5                | -0.9~+0.6            |

**Power Back-Off Supported & Disabled**

| Bands   | Speech (Voice Mode) |                      |
|---------|---------------------|----------------------|
|         | Target (dBm)        | Tolerance $\pm$ (dB) |
| PCS1900 | 30.0                | -0.7~+0.7            |

**Power Back-Off Supported & Enabled**

| Bands   | Speech (Voice Mode) |                      |
|---------|---------------------|----------------------|
|         | Target (dBm)        | Tolerance $\pm$ (dB) |
| PCS1900 | 25.0                | -0.7~+0.7            |

**Power Back-Off Not Supported**

| Bands  | GPRS               |                      |              |                      |              |                      |              |                      |
|--------|--------------------|----------------------|--------------|----------------------|--------------|----------------------|--------------|----------------------|
|        | Tx Slot 1          |                      | Tx Slot 2    |                      | Tx Slot 3    |                      | Tx Slot 4    |                      |
|        | Target (dBm)       | Tolerance $\pm$ (dB) | Target (dBm) | Tolerance $\pm$ (dB) | Target (dBm) | Tolerance $\pm$ (dB) | Target (dBm) | Tolerance $\pm$ (dB) |
| GSM850 | 32.5               | -0.9~+0.6            | 31.0         | -1.5~+0.6            | 29.0         | -1.5~+0.6            | 28.0         | -1.5~+0.6            |
| Bands  | EDGE GMSK (MCS1-4) |                      |              |                      |              |                      |              |                      |
| GSM850 | 32.5               | -0.9~+0.6            | 31.0         | -1.5~+0.6            | 29.0         | -1.5~+0.6            | 28.0         | -1.5~+0.6            |
| Bands  | EDGE 8PSK (MCS5-9) |                      |              |                      |              |                      |              |                      |
| GSM850 | 27.0               | -1.5~+1.0            | 25.0         | -1.5~+1.0            | 24.0         | -1.5~+1.0            | 22.0         | -1.5~+1.0            |

**Power Back-Off Supported & Disabled**

| Bands   | GPRS               |                      |              |                      |              |                      |              |                      |
|---------|--------------------|----------------------|--------------|----------------------|--------------|----------------------|--------------|----------------------|
|         | Tx Slot 1          |                      | Tx Slot 2    |                      | Tx Slot 3    |                      | Tx Slot 4    |                      |
|         | Target (dBm)       | Tolerance $\pm$ (dB) | Target (dBm) | Tolerance $\pm$ (dB) | Target (dBm) | Tolerance $\pm$ (dB) | Target (dBm) | Tolerance $\pm$ (dB) |
| PCS1900 | 30.0               | -0.7~+0.7            | 28.0         | -1.5~+0.6            | 27.0         | -1.5~+0.6            | 26.0         | -1.5~+0.6            |
| Bands   | EDGE GMSK (MCS1-4) |                      |              |                      |              |                      |              |                      |
| PCS1900 | 30.0               | -0.7~+0.7            | 28.0         | -1.5~+0.6            | 27.0         | -1.5~+0.6            | 26.0         | -1.5~+0.6            |
| Bands   | EDGE 8PSK (MCS5-9) |                      |              |                      |              |                      |              |                      |
| PCS1900 | 26.0               | -1.5~+1.0            | 24.0         | -1.5~+1.0            | 23.0         | -1.5~+1.0            | 22.2         | -1.5~+1.0            |

**Power Back-Off Supported & Enabled**

| Bands   | GPRS               |                      |              |                      |              |                      |              |                      |
|---------|--------------------|----------------------|--------------|----------------------|--------------|----------------------|--------------|----------------------|
|         | Tx Slot 1          |                      | Tx Slot 2    |                      | Tx Slot 3    |                      | Tx Slot 4    |                      |
|         | Target (dBm)       | Tolerance $\pm$ (dB) | Target (dBm) | Tolerance $\pm$ (dB) | Target (dBm) | Tolerance $\pm$ (dB) | Target (dBm) | Tolerance $\pm$ (dB) |
| PCS1900 | 25.0               | -1.5~+1.0            | 23.0         | -1.5~+1.0            | 22.0         | -1.5~+1.0            | 21.0         | -1.5~+1.0            |
| Bands   | EDGE GMSK (MCS1-4) |                      |              |                      |              |                      |              |                      |
| PCS1900 | 25.0               | -1.5~+1.0            | 23.0         | -1.5~+1.0            | 22.0         | -1.5~+1.0            | 21.0         | -1.5~+1.0            |
| Bands   | EDGE 8PSK (MCS5-9) |                      |              |                      |              |                      |              |                      |
| PCS1900 | 24.5               | -1.5~+1.5            | 22.5         | -1.5~+1.5            | 21.5         | -1.5~+1.5            | 20.5         | -1.5~+1.5            |

**Nominal and Maximum Output power:****Power Back-Off Not Supported**

| Band                                           | CS           |                      | HS           |                      |
|------------------------------------------------|--------------|----------------------|--------------|----------------------|
|                                                | Target (dBm) | Tolerance $\pm$ (dB) | Target (dBm) | Tolerance $\pm$ (dB) |
| UMTS FDD 5                                     | 24.0         | -0.7~+0.5            | 24.0         | -0.7~+0.5            |
| <b>Power Back-Off Supported &amp; Disabled</b> |              |                      |              |                      |
| UMTS FDD 2                                     | 23.5         | -0.7~+0.5            | 23.5         | -0.7~+0.5            |
| UMTS FDD 4                                     | 23.5         | -0.7~+0.5            | 23.5         | -0.7~+0.5            |
| <b>Power Back-Off Supported &amp; Enabled</b>  |              |                      |              |                      |
| UMTS FDD 2                                     | 19.5         | -0.7~+0.5            | 19.5         | -0.7~+0.5            |
| UMTS FDD 4                                     | 22.0         | -0.7~+0.5            | 22.0         | -0.7~+0.5            |

**Power Back-Off Not Supported**

| Bands       | Target (dBm) |        |         |       |        |         |             | Tolerance<br>± (dB) |
|-------------|--------------|--------|---------|-------|--------|---------|-------------|---------------------|
|             | QPSK         |        |         | 16QAM |        |         |             |                     |
|             | 1RB          | 50% RB | 100% RB | 1RB   | 50% RB | 100% RB |             |                     |
|             | 1RB          | 50% RB | 100% RB | 1RB   | 50% RB | 100% RB |             |                     |
| LTE Band 5  | 23.0         | 22.0   | 22.0    | 22.0  | 21.0   | 21.0    | -1.0 ~ +1.0 |                     |
| LTE Band 13 | 23.0         | 22.0   | 22.0    | 22.0  | 21.0   | 21.0    | -1.0 ~ +1.0 |                     |
| LTE Band 17 | 23.0         | 22.0   | 22.0    | 22.0  | 21.0   | 21.0    | -1.0 ~ +1.0 |                     |

**Power Back-Off Supported & Disabled**

| Bands      |              |        |         |       |        |         |                     |
|------------|--------------|--------|---------|-------|--------|---------|---------------------|
|            | Target (dBm) |        |         |       |        |         | Tolerance<br>± (dB) |
|            | QPSK         |        |         | 16QAM |        |         |                     |
|            | 1RB          | 50% RB | 100% RB | 1RB   | 50% RB | 100% RB |                     |
| LTE Band 2 | 23.2         | 22.2   | 22.2    | 22.2  | 21.2   | 21.2    | -1.0 ~ +1.0         |
| LTE Band 4 | 23.3         | 22.3   | 22.3    | 22.3  | 21.3   | 21.3    | -1.0 ~ +1.0         |
| LTE Band 7 | 23.5         | 22.5   | 22.5    | 22.5  | 21.5   | 21.5    | -1.0 ~ +1.0         |

**Power Back-Off Supported & Enabled**

| Bands      |              |        |         |       |        |         |                     |
|------------|--------------|--------|---------|-------|--------|---------|---------------------|
|            | Target (dBm) |        |         |       |        |         | Tolerance<br>± (dB) |
|            | QPSK         |        |         | 16QAM |        |         |                     |
|            | 1RB          | 50% RB | 100% RB | 1RB   | 50% RB | 100% RB |                     |
| LTE Band 2 | 19.0         | 19.0   | 19.0    | 19.0  | 19.0   | 19.0    | -1.0 ~ +1.0         |
| LTE Band 4 | 21.0         | 21.0   | 21.0    | 21.0  | 21.0   | 21.0    | -1.0 ~ +1.0         |
| LTE Band 7 | 23.0         | 22.0   | 22.0    | 22.0  | 21.0   | 21.0    | -1.0 ~ +1.0         |

**Nominal and Maximum Output power (Continued):****Power Back-Off Not Supported**

|                                            | WLAN Modes      |         |                 |         |                 |         |
|--------------------------------------------|-----------------|---------|-----------------|---------|-----------------|---------|
|                                            | 2.4 GHz 802.11b |         | 2.4 GHz 802.11g |         | 2.4 GHz 802.11n |         |
|                                            | 1 Mbps          | 11 Mbps | 6 Mbps          | 54 Mbps | 6.5 Mbps        | 65 Mbps |
| Max Power {Target + Upper Tolerance} (dBm) | 13.5            | 13.5    | 13.4            | 13.4    | 13.4            | 13.4    |

**Power Back-Off Not Supported**

| 5.0 GHz 802.11a                            | 5.2 GHz 802.11a  |          | 5.3 GHz 802.11a  |          | 5.6 GHz 802.11a  |          | 5.8 GHz 802.11a  |          |
|--------------------------------------------|------------------|----------|------------------|----------|------------------|----------|------------------|----------|
|                                            | 6 Mbps           | 54 Mbps  | 6 Mbps           | 54 Mbps  | 6 Mbps           | 54 Mbps  | 6 Mbps           | 54 Mbps  |
| Max Power {Target + Upper Tolerance} (dBm) | 16.3             | 16.3     | 16.3             | 16.3     | 16.5             | 16.5     | 16.5             | 16.5     |
| 5.0 GHz 802.11n HT-20 / 11ac VHT-20        | 5.2 GHz 802.11n  |          | 5.3 GHz 802.11n  |          | 5.6 GHz 802.11n  |          | 5.8 GHz 802.11n  |          |
|                                            | 6.5 Mbps         | 65 Mbps  | 6.5 Mbps         | 65 Mbps  | 6.5 Mbps         | 65 Mbps  | 6.5 Mbps         | 65 Mbps  |
| Max Power {Target + Upper Tolerance} (dBm) | 16.3             | 13.3     | 16.3             | 13.3     | 16.6             | 13.7     | 16.6             | 13.7     |
| 5.0 GHz 802.11n HT-40 / 11ac VHT-40        | 5.2 GHz 802.11n  |          | 5.3 GHz 802.11n  |          | 5.6 GHz 802.11n  |          | 5.8 GHz 802.11n  |          |
|                                            | 13.5 Mbps        | 135 Mbps | 13.5 Mbps        | 135 Mbps | 13.5 Mbps        | 135 Mbps | 13.5 Mbps        | 135 Mbps |
| Max Power {Target + Upper Tolerance} (dBm) | 14.3             | 12.3     | 14.3             | 12.3     | 14.7             | 12.7     | 14.7             | 12.7     |
| 5.0 GHz 802.11ac VHT-80                    | 5.2 GHz 802.11ac |          | 5.3 GHz 802.11ac |          | 5.6 GHz 802.11ac |          | 5.8 GHz 802.11ac |          |
|                                            | 13.5 Mbps        | 135 Mbps | 13.5 Mbps        | 135 Mbps | 13.5 Mbps        | 135 Mbps | 13.5 Mbps        | 135 Mbps |
| Max Power {Target + Upper Tolerance} (dBm) | 14.2             | 12.2     | 14.2             | 12.2     | 14.5             | 12.6     | 14.5             | 12.6     |

| Band      |         | Max Power {Target (dBm) + Upper Tolerance (dBm)} |     |     |
|-----------|---------|--------------------------------------------------|-----|-----|
| Bluetooth | Channel | BR                                               | EDR | BLE |
|           | Low     | 7.9                                              | 5.9 | 2.4 |
|           | Mid     | 10.0                                             | 7.9 | 2.4 |
|           | High    | 7.9                                              | 4.9 | 2.4 |

**Note:**

- As per KDB865664 D02 SAR Reporting v01, 2.1.4(a), the nominal and maximum average source based rated power, declared by manufacturer are shown in the above tables.
- These are specified maximum allowed average power for all the wireless modes and frequencies bands supported.

**6.8. Simultaneous Transmission Conditions**

Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneous transmitting antenna.

| #  | Simultaneous transmission conditions |                                             |                   |                   |                 |           |
|----|--------------------------------------|---------------------------------------------|-------------------|-------------------|-----------------|-----------|
|    | WWAN                                 |                                             |                   | WLAN              |                 | WPAN      |
|    | LTE BAND Data                        | GSM Voice / Data / Dual Transfer Mode (DTM) | UMTS Voice / Data | Wi-Fi 802.11b/g/n | Wi-Fi 802.11a/n | Bluetooth |
| 1  | X                                    |                                             |                   | X                 |                 |           |
| 2  |                                      | X                                           |                   | X                 |                 |           |
| 3  |                                      |                                             | X                 | X                 |                 |           |
| 4  | X                                    |                                             |                   |                   | X               |           |
| 5  |                                      | X                                           |                   |                   | X               |           |
| 6  |                                      |                                             | X                 |                   | X               |           |
| 7  | X                                    |                                             |                   |                   |                 | X         |
| 8  |                                      | X                                           |                   |                   |                 | X         |
| 9  |                                      |                                             | X                 |                   |                 | X         |
| 10 |                                      |                                             |                   |                   | X               | X         |
| 11 | X                                    |                                             |                   |                   | X               | X         |
| 12 |                                      | X                                           |                   |                   | X               | X         |
| 13 |                                      |                                             | X                 |                   | X               | X         |

**Note:**

Based on the customer declaration, the following are the possible combination of the Simultaneous Transmission possibilities in the EUT:

1. WWAN + WLAN 2.4 GHz
2. WWAN + WLAN 5.0 GHz
3. WWAN + WPAN
4. WPAN + WLAN 5.0 GHz
5. WWAN + WLAN 5.0 GHz + WPAN

## **7. RF Exposure Conditions (Test Configurations)**

Refer to Appendix 10 "Antenna Locations and Separation Distances" for the specific details of the antenna-to-antenna and antenna-to-edge(s) distances.

### **7.1. Configuration and Peripherals**

The EUT was tested in the following configuration(s) unless otherwise stated:

- Standalone fully charged battery powered.
- Head, Hotspot Mode and Body-worn configurations were evaluated.
- The applied FCC body-worn Personal Hotspot orientations where the corresponding edge(s) closest to the user with the most conservative exposure condition were all evaluated at 10 mm from the body. For body-worn configuration indicated below the test position overlap with hotspot and the power back –off was not supported meaning hotspot mode was most conservative.
- GSM, DTM, GPRS and EDGE power measurement were all measured as per FCC pubs. 941225 D03. Although power reduction was allowed SAR test was performed on GPRS using GMSK. Test reduction was applied to EDGE using GMSK and 8PSK modulation scheme.

#### **Head Configuration**

- a) The EUT was placed in a normal operating position with the centre of the ear-piece aligned with the ear canal on the phantom.
- b) With the ear-piece touching the phantom the centre line of the EUT was aligned with an imaginary plane (X and Y axis) consisting of three lines connecting both ears and the mouth.
- c) For the cheek position the EUT was gradually moved towards the cheek until any point of the mouth-piece or keypad touched the cheek.
- d) For the tilted position the EUT was positioned as for the cheek position, and then the horizontal angle was increased by fifteen degrees (the phone keypad was moved away from the cheek by fifteen degrees).
- e) SAR measurements were evaluated at maximum power and the unit was operated for an appropriate period prior to the evaluation in order to minimise the drift.
- f) The device was keyed to operate continuously in the transmit mode for the duration of the test.
- g) The location of the maximum spatial SAR distribution (hotspot) was determined relative to the EUT and its antenna.
- h) The EUT was transmitting at full power throughout the duration of the test powered by a fully charged battery.

#### **Body Configuration**

- a) The EUT was placed in a normal operating position where the centre of EUT was aligned with the centre reference point on the flat section of the 'SAM' or 'Eli' phantom.
- b) With the EUT touching the phantom at an imaginary centre line. The EUT was aligned with a marked plane (X and Y axis) consisting of two lines.
- c) For the touch-safe position the EUT was gradually moved towards the flat section of the 'SAM' phantom until any point of the EUT touched the phantom.
- d) For position(s) greater than 0mm separation the EUT was positioned as per the touch-safe position, and then the vertical height was decreased/adjusted as required.
- e) SAR measurements were evaluated at maximum power and the unit was operated for an appropriate period prior to the evaluation in order to minimise the drift.
- f) The device was keyed to operate continuously in the transmit mode for the duration of the test.
- g) The location of the maximum spatial SAR distribution (hotspot) was determined relative to the EUT and its antenna.
- h) The EUT was transmitting at full power throughout the duration of the test powered by a fully charged battery.

## 7.2. Configuration Consideration

| Technology Antenna | Configuration | Antenna-to-User Separation | Position    | Antenna-to-Edge Separation | Evaluation Considered |
|--------------------|---------------|----------------------------|-------------|----------------------------|-----------------------|
| WWAN               | Head          | 0mm                        | Touch Left  | <25mm                      | Yes                   |
|                    |               |                            | Tilt Left   | <25mm                      | Yes                   |
|                    |               |                            | Touch Right | <25mm                      | Yes                   |
|                    |               |                            | Tilt Right  | <25mm                      | Yes                   |
|                    | Hotspot       | 10mm                       | Front       | <25mm                      | Yes                   |
|                    |               |                            | Back        | <25mm                      | Yes                   |
|                    |               |                            | Top Edge    | >25mm                      | No                    |
|                    |               |                            | Bottom Edge | <25mm                      | Yes                   |
|                    |               |                            | Right Edge  | <25mm                      | Yes                   |
|                    |               |                            | Left Edge   | <25mm                      | Yes                   |
|                    | Body          | 15mm                       | Front       | <25mm                      | Yes                   |
|                    |               |                            | Back        | <25mm                      | Yes                   |
| WLAN               | Head          | 0mm                        | Touch Left  | <25mm                      | Yes                   |
|                    |               |                            | Tilt Left   | <25mm                      | Yes                   |
|                    |               |                            | Touch Right | <25mm                      | Yes                   |
|                    |               |                            | Tilt Right  | <25mm                      | Yes                   |
|                    | Hotspot       | 10mm                       | Front       | <25mm                      | Yes                   |
|                    |               |                            | Back        | <25mm                      | Yes                   |
|                    |               |                            | Top Edge    | <25mm                      | Yes                   |
|                    |               |                            | Bottom Edge | >25mm                      | No                    |
|                    |               |                            | Right Edge  | >25mm                      | No                    |
|                    |               |                            | Left Edge   | <25mm                      | Yes                   |
|                    | Body          | 15mm                       | Front       | <25mm                      | Yes                   |
|                    |               |                            | Back        | <25mm                      | Yes                   |

**Note:**

1. Test distances are as per FCC KDB publication 447498 D01v05 for mobile handsets.
2. Bluetooth standalone SAR is excluded as the output power meets the exclusion threshold:

1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances*  $\leq 50$  mm are determined by:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f_{(\text{GHz})}}] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR,}^{16} \text{ where}$$

- $f_{(\text{GHz})}$  is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation<sup>17</sup>
- The result is rounded to one decimal place for comparison

” Taken from FCC KDB publication 447498 D01v05r02

## 7.3. SAR Test Exclusion Consideration

| Frequency Band | Configuration(s) |                  |                  |
|----------------|------------------|------------------|------------------|
|                | Head             | Hotspot Mode     | Body-worn        |
| GSM850         | No               | No               | No               |
| PCS1900        | No               | No               | No               |
| UMTS FDD 2     | No               | No               | No               |
| UMTS FDD 4     | No               | No               | No               |
| UMTS FDD 5     | No               | No               | No               |
| LTE Band 2     | No               | No               | No               |
| LTE Band 4     | No               | No               | No               |
| LTE Band 5     | No               | No               | No               |
| LTE Band 7     | No               | No               | No               |
| LTE Band 13    | No               | No               | No               |
| LTE Band 17    | No               | No               | No               |
| WLAN 2.4 GHz   | No               | No               | No               |
| WLAN 5.0 GHz   | No               | No               | No               |
| Bluetooth      | N/A              | Yes <sup>#</sup> | Yes <sup>#</sup> |

**Note:**

- As per KDB 447498 D01 General RF Exposure Guidance v05r02, The Frequency Bands with Rated Power including Upper tolerance, which qualify for **Standalone SAR Test Exclusion**, are as per the above table.

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] *$

$[\sqrt{f_{(\text{GHz})}}] \leq 3.0$  for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR, where

- $f_{(\text{GHz})}$  is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest *mW* and *mm* before calculation
- The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is  $\leq 50$  mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm is applied to determine SAR test exclusion.

Applying the above formula for *Bluetooth* Hotspot Mode we get:

- For 2450MHz,  $[(10)/10]*[\sqrt{2.45}] = 1.6 \leq 3.0$

Applying the above formula for *Bluetooth* Body-worn we get:

- For 2450MHz,  $[(10)/15]*[\sqrt{2.45}] = 1.1 \leq 3.0$

**# Although *Bluetooth* qualifies for Low Power Exemption, testing was performed on Hotspot Mode and Body-Worn to give the exact SAR levels.**

- The details for the **Maximum Rated Power** and tolerance(s) can be found in section 6.7.

**7.4. RF Output Average Power Measurement: 2G****7.4.1. GSM850****Power Back-Off NOT Supported****Voice Mode GSM (GMSK)**

| Channel Number | Frequency (MHZ) | Avg Burst Power (dBm) | Frame Power (dBm) |
|----------------|-----------------|-----------------------|-------------------|
| 128            | 824.2           | 32.8                  | 23.8              |
| 190            | 836.6           | 32.8                  | 23.8              |
| 251            | 848.8           | 32.8                  | 23.8              |

**GPRS (GMSK) – Coding Scheme: CS1**

| Channel Number | Frequency (MHZ) | Avg Burst Power (dBm) |         |         |         | Frame Power (dBm) |             |         |         |
|----------------|-----------------|-----------------------|---------|---------|---------|-------------------|-------------|---------|---------|
|                |                 | 1Uplink               | 2Uplink | 3Uplink | 4Uplink | 1Uplink           | 2Uplink     | 3Uplink | 4Uplink |
| 128            | 824.2           | 32.8                  | 31.0    | 28.8    | 27.7    | 23.8              | <b>25.0</b> | 24.5    | 24.7    |
| 190            | 836.6           | 32.7                  | 31.0    | 28.9    | 27.8    | 23.7              | <b>25.0</b> | 24.6    | 24.8    |
| 251            | 848.8           | 32.8                  | 30.9    | 28.9    | 27.8    | 23.8              | <b>24.9</b> | 24.6    | 24.8    |

**EDGE (GMSK) – Coding Scheme: MCS4**

|     |       |      |      |      |      |      |      |      |      |
|-----|-------|------|------|------|------|------|------|------|------|
| 128 | 824.2 | 32.7 | 30.9 | 28.8 | 27.8 | 23.7 | 24.9 | 24.5 | 24.8 |
| 190 | 836.6 | 32.7 | 31.0 | 28.8 | 27.8 | 23.7 | 25.0 | 24.5 | 24.8 |
| 251 | 848.8 | 32.7 | 30.9 | 28.8 | 27.7 | 23.7 | 24.9 | 24.5 | 24.7 |

**EDGE (8PSK) – Coding Scheme: MCS9**

|     |       |      |      |      |      |      |      |      |      |
|-----|-------|------|------|------|------|------|------|------|------|
| 128 | 824.2 | 27.6 | 25.5 | 24.6 | 22.5 | 18.6 | 19.5 | 20.3 | 19.5 |
| 190 | 836.6 | 27.7 | 25.5 | 24.6 | 22.5 | 18.7 | 19.5 | 20.3 | 19.5 |
| 251 | 848.8 | 27.6 | 25.5 | 24.6 | 22.6 | 18.6 | 19.5 | 20.3 | 19.6 |

**DTM - Voice Mode GSM (GMSK) + GPRS (GMSK) – Coding Scheme: CS1**

| Channel Number | Frequency (MHZ) | Avg Burst Power (dBm) |                  |                 |                  |                 |                  | Frame Power (dBm) |                  |                 |                  |                 |                  |
|----------------|-----------------|-----------------------|------------------|-----------------|------------------|-----------------|------------------|-------------------|------------------|-----------------|------------------|-----------------|------------------|
|                |                 | Class 5               |                  | Class 9         |                  | Class 11        |                  | Class 5           |                  | Class 9         |                  | Class 11        |                  |
|                |                 | GSM<br>1 Uplink       | GPRS<br>1 Uplink | GSM<br>1 Uplink | GPRS<br>1 Uplink | GSM<br>1 Uplink | GPRS<br>2 Uplink | GSM<br>1 Uplink   | GPRS<br>1 Uplink | GSM<br>1 Uplink | GPRS<br>1 Uplink | GSM<br>1 Uplink | GPRS<br>2 Uplink |
| 128            | 824.2           | 31.3                  | 31.2             | 31.4            | 31.3             | 29.1            | 29.0             | 25.3              | 25.2             | <b>25.4</b>     | <b>25.3</b>      | 24.8            | 24.7             |
| 190            | 836.6           | 31.4                  | 31.3             | 31.4            | 31.3             | 29.2            | 29.1             | 25.4              | 25.3             | <b>25.4</b>     | <b>25.3</b>      | 24.9            | 24.8             |
| 251            | 848.8           | 31.2                  | 31.1             | 31.3            | 31.2             | 29.3            | 29.2             | 25.2              | 25.1             | <b>25.3</b>     | <b>25.2</b>      | 25.0            | 24.9             |

**DTM - Voice Mode GSM (GMSK) + EDGE (GMSK) – Coding Scheme: MCS4**

|     |       |      |      |      |      |      |      |      |      |      |      |      |      |
|-----|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 128 | 824.2 | 31.4 | 31.3 | 31.3 | 31.2 | 29.1 | 29.0 | 25.4 | 25.3 | 25.3 | 25.2 | 24.8 | 24.7 |
| 190 | 836.6 | 31.4 | 31.3 | 31.3 | 31.2 | 29.2 | 29.1 | 25.4 | 25.3 | 25.3 | 25.2 | 24.9 | 24.8 |
| 251 | 848.8 | 31.2 | 31.1 | 31.2 | 31.1 | 29.2 | 29.1 | 25.2 | 25.1 | 25.2 | 25.1 | 24.9 | 24.8 |

**DTM - Voice Mode GSM (GMSK) + EDGE (8PSK) – Coding Scheme: MCS9**

|     |       |      |      |      |      |      |      |      |      |      |      |      |      |
|-----|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 128 | 824.2 | 31.2 | 25.4 | 31.2 | 25.4 | 24.6 | 24.6 | 19.4 | 25.2 | 19.4 | 25.2 | 20.3 | 20.3 |
| 190 | 836.6 | 31.3 | 25.5 | 31.3 | 25.4 | 24.6 | 24.5 | 19.5 | 25.3 | 19.4 | 25.3 | 20.2 | 20.3 |
| 251 | 848.8 | 31.1 | 25.5 | 31.2 | 25.5 | 24.5 | 24.6 | 19.5 | 25.1 | 19.5 | 25.2 | 20.3 | 20.2 |

**GSM850 (Continued)****Note:****Scale factor for uplink time slot:**

1. 1 Uplink: time slot ratio = 8:1 =>  $10 \cdot \log(8/1) = 9.03 \text{ dB}$
2. 2 Uplink: time slot ratio = 8:2 =>  $10 \cdot \log(8/2) = 6.02 \text{ dB}$
3. 3 Uplink: time slot ratio = 8:3 =>  $10 \cdot \log(8/3) = 4.26 \text{ dB}$
4. 4 Uplink: time slot ratio = 8:4 =>  $10 \cdot \log(8/4) = 3.01 \text{ dB}$

**Conclusions:**

The worst-case configuration and mode for SAR testing is determined to be as follows:

- For Head SAR Testing, GSM and DTM should be evaluated; therefore the EUT was set in **DTM Multi-slot class 9** due its highest Frame Average Power (dBm)
- For Hotspot Mode SAR Testing, GPRS and DTM should be evaluated; therefore the EUT was set in **GPRS 2 Tx** due its highest Frame Average Power (dBm)
- For Body worn SAR Testing, GSM and DTM should be evaluated, therefore the EUT was set in **DTM Multi-slot class 9** due its highest Frame Average Power (dBm)

**7.4.2.PCS1900****Power Back-Off Supported & Disabled****Voice Mode GSM (GMSK)**

| Channel Number | Frequency (MHZ) | Avg Burst Power (dBm) | Frame Power (dBm) |
|----------------|-----------------|-----------------------|-------------------|
| 512            | 1850.2          | 30.6                  | 21.6              |
| 661            | 1880.0          | 30.4                  | 21.4              |
| 810            | 1909.8          | 30.4                  | 21.4              |

**GPRS (GMSK) – Coding Scheme: CS1**

| Channel Number | Frequency (MHZ) | Avg Burst Power (dBm) |         |         |         | Frame Power (dBm) |         |         |         |
|----------------|-----------------|-----------------------|---------|---------|---------|-------------------|---------|---------|---------|
|                |                 | 1Uplink               | 2Uplink | 3Uplink | 4Uplink | 1Uplink           | 2Uplink | 3Uplink | 4Uplink |
| 512            | 1850.2          | 30.5                  | 28.1    | 26.8    | 25.8    | 21.5              | 22.1    | 22.5    | 22.8    |
| 661            | 1880.0          | 30.3                  | 28.0    | 26.8    | 25.9    | 21.3              | 22.0    | 22.5    | 22.9    |
| 810            | 1909.8          | 30.4                  | 28.0    | 26.8    | 25.8    | 21.4              | 22.0    | 22.5    | 22.8    |

**EDGE (GMSK) – Coding Scheme: MCS4**

|     |        |      |      |      |      |      |      |      |      |
|-----|--------|------|------|------|------|------|------|------|------|
| 512 | 1850.2 | 30.5 | 28.2 | 26.8 | 25.8 | 21.5 | 22.2 | 22.5 | 22.8 |
| 661 | 1880.0 | 30.4 | 28.1 | 26.8 | 25.8 | 21.4 | 22.1 | 22.5 | 22.8 |
| 810 | 1909.8 | 30.4 | 28.1 | 26.8 | 25.8 | 21.4 | 22.1 | 22.5 | 22.8 |

**EDGE (8PSK) – Coding Scheme: MCS9**

|     |        |      |      |      |      |      |      |      |      |
|-----|--------|------|------|------|------|------|------|------|------|
| 512 | 1850.2 | 26.8 | 24.9 | 23.8 | 22.9 | 17.8 | 18.9 | 19.5 | 19.9 |
| 661 | 1880.0 | 26.8 | 24.9 | 23.8 | 23.0 | 17.8 | 18.9 | 19.5 | 20.0 |
| 810 | 1909.8 | 26.8 | 24.9 | 23.8 | 23.0 | 17.8 | 18.9 | 19.5 | 20.0 |

**DTM - Voice Mode GSM (GMSK) + GPRS (GMSK) – Coding Scheme: CS1**

| Channel Number | Frequency (MHZ) | Avg Burst Power (dBm) |                     |                    |                     |                    |                     | Frame Power (dBm)  |                     |                    |                     |                    |                     |
|----------------|-----------------|-----------------------|---------------------|--------------------|---------------------|--------------------|---------------------|--------------------|---------------------|--------------------|---------------------|--------------------|---------------------|
|                |                 | Class 5               |                     | Class 9            |                     | Class 11           |                     | Class 5            |                     | Class 9            |                     | Class 11           |                     |
|                |                 | GSM<br>1<br>Uplink    | GPRS<br>1<br>Uplink | GSM<br>1<br>Uplink | GPRS<br>1<br>Uplink | GSM<br>1<br>Uplink | GPRS<br>2<br>Uplink | GSM<br>1<br>Uplink | GPRS<br>1<br>Uplink | GSM<br>1<br>Uplink | GPRS<br>1<br>Uplink | GSM<br>1<br>Uplink | GPRS<br>2<br>Uplink |
| 512            | 1850.2          | 28.2                  | 28.2                | 28.2               | 28.2                | 26.9               | 26.8                | 22.2               | 22.2                | 22.2               | 22.2                | 22.6               | 22.5                |
| 661            | 1880.0          | 28.2                  | 28.1                | 28.1               | 28.1                | 26.9               | 26.8                | 22.2               | 22.1                | 22.1               | 22.1                | 22.6               | 22.5                |
| 810            | 1909.8          | 28.2                  | 28.1                | 28.2               | 28.1                | 26.9               | 26.8                | 22.2               | 22.1                | 22.2               | 22.1                | 22.6               | 22.5                |

**DTM - Voice Mode GSM (GMSK) + EDGE (GMSK) – Coding Scheme: MCS4**

|     |        |      |      |      |      |      |      |      |      |      |      |      |      |
|-----|--------|------|------|------|------|------|------|------|------|------|------|------|------|
| 512 | 1850.2 | 28.1 | 28.1 | 28.1 | 28.1 | 26.9 | 26.8 | 22.1 | 22.1 | 22.1 | 22.1 | 22.6 | 22.5 |
| 661 | 1880.0 | 28.1 | 28.0 | 28.1 | 28.0 | 26.9 | 26.8 | 22.1 | 22.0 | 22.1 | 22.0 | 22.6 | 22.5 |
| 810 | 1909.8 | 28.1 | 28.0 | 28.1 | 28.0 | 26.9 | 26.8 | 22.1 | 22.0 | 22.1 | 22.0 | 22.6 | 22.5 |

**DTM - Voice Mode GSM (GMSK) + EDGE (8PSK) – Coding Scheme: MCS9**

|     |        |      |      |      |      |      |      |      |      |      |      |      |      |
|-----|--------|------|------|------|------|------|------|------|------|------|------|------|------|
| 512 | 1850.2 | 28.1 | 24.8 | 28.2 | 24.8 | 23.7 | 23.7 | 22.1 | 18.8 | 22.2 | 18.8 | 19.4 | 19.4 |
| 661 | 1880.0 | 28.1 | 24.9 | 28.1 | 24.8 | 23.8 | 23.7 | 22.1 | 18.9 | 22.1 | 18.8 | 19.5 | 19.4 |
| 810 | 1909.8 | 28.1 | 24.9 | 28.1 | 24.8 | 23.8 | 23.7 | 22.1 | 18.9 | 22.1 | 18.8 | 19.5 | 19.4 |

**7.4.3.PCS1900****Power Back-Off Supported & Enabled****Voice Mode GSM (GMSK)**

| Channel Number | Frequency (MHZ) | Avg Burst Power (dBm) | Frame Power (dBm) |
|----------------|-----------------|-----------------------|-------------------|
| 512            | 1850.2          | 26.0                  | 17.0              |
| 661            | 1880.0          | 26.0                  | 17.0              |
| 810            | 1909.8          | 26.0                  | 17.0              |

**GPRS (GMSK) – Coding Scheme: CS1**

| Channel Number | Frequency (MHZ) | Avg Burst Power (dBm) |         |         |         | Frame Power (dBm) |         |         |         |
|----------------|-----------------|-----------------------|---------|---------|---------|-------------------|---------|---------|---------|
|                |                 | 1Uplink               | 2Uplink | 3Uplink | 4Uplink | 1Uplink           | 2Uplink | 3Uplink | 4Uplink |
| 512            | 1850.2          | 26.0                  | 23.4    | 22.2    | 21.2    | 17.0              | 17.4    | 17.9    | 18.2    |
| 661            | 1880.0          | 26.0                  | 23.5    | 22.2    | 21.3    | 17.0              | 17.5    | 17.9    | 18.3    |
| 810            | 1909.8          | 26.1                  | 23.5    | 22.3    | 21.4    | 17.1              | 17.5    | 18.0    | 18.4    |

**EDGE (GMSK) – Coding Scheme: MCS4**

|     |       |      |      |      |      |      |      |      |      |
|-----|-------|------|------|------|------|------|------|------|------|
| 512 | 880.2 | 25.9 | 23.2 | 22.1 | 21.2 | 16.9 | 17.2 | 17.8 | 18.2 |
| 661 | 897.4 | 25.9 | 23.4 | 22.1 | 21.3 | 16.9 | 17.4 | 17.8 | 18.3 |
| 810 | 914.8 | 26.0 | 23.4 | 22.2 | 21.3 | 17.0 | 17.4 | 17.9 | 18.3 |

**EDGE (8PSK) – Coding Scheme: MCS9**

|     |        |      |      |      |      |      |      |      |      |
|-----|--------|------|------|------|------|------|------|------|------|
| 512 | 1850.2 | 25.1 | 22.8 | 21.3 | 20.2 | 16.1 | 16.8 | 17.0 | 17.2 |
| 661 | 1880.0 | 25.2 | 22.9 | 21.3 | 20.3 | 16.2 | 16.9 | 17.0 | 17.3 |
| 810 | 1909.8 | 25.2 | 22.9 | 21.3 | 20.4 | 16.2 | 16.9 | 17.0 | 17.4 |

**DTM - Voice Mode GSM (GMSK) + GPRS (GMSK) – Coding Scheme: CS1**

| Channel Number | Frequency (MHZ) | Avg Burst Power (dBm) |               |              |               |              |               | Frame Power (dBm) |               |              |               |              |               |
|----------------|-----------------|-----------------------|---------------|--------------|---------------|--------------|---------------|-------------------|---------------|--------------|---------------|--------------|---------------|
|                |                 | Class 5               |               | Class 9      |               | Class 11     |               | Class 5           |               | Class 9      |               | Class 11     |               |
|                |                 | GSM 1 Uplink          | GPRS 1 Uplink | GSM 1 Uplink | GPRS 1 Uplink | GSM 1 Uplink | GPRS 2 Uplink | GSM 1 Uplink      | GPRS 1 Uplink | GSM 1 Uplink | GPRS 1 Uplink | GSM 1 Uplink | GPRS 2 Uplink |
| 512            | 1850.2          | 23.2                  | 23.2          | 23.2         | 23.2          | 22.1         | 22.0          | 17.2              | 17.2          | 17.2         | 17.2          | 17.8         | 17.7          |
| 661            | 1880.0          | 23.3                  | 23.3          | 23.3         | 23.3          | 22.1         | 22.1          | 17.3              | 17.3          | 17.3         | 17.3          | 17.8         | 17.8          |
| 810            | 1909.8          | 23.3                  | 23.3          | 23.3         | 23.3          | 22.2         | 22.1          | 17.3              | 17.3          | 17.3         | 17.3          | 17.9         | 17.8          |

**DTM - Voice Mode GSM (GMSK) + EDGE (GMSK) – Coding Scheme: MCS4**

|     |        |      |      |      |      |      |      |      |      |      |      |      |      |
|-----|--------|------|------|------|------|------|------|------|------|------|------|------|------|
| 512 | 1850.2 | 23.2 | 23.1 | 23.1 | 23.1 | 22.0 | 22.0 | 17.2 | 17.1 | 17.1 | 17.1 | 17.7 | 17.7 |
| 661 | 1880.0 | 23.3 | 23.3 | 23.3 | 23.3 | 22.1 | 22.0 | 17.3 | 17.3 | 17.3 | 17.3 | 17.8 | 17.7 |
| 810 | 1909.8 | 23.3 | 23.3 | 23.3 | 23.3 | 22.2 | 22.1 | 17.3 | 17.3 | 17.3 | 17.3 | 17.9 | 17.8 |

**DTM - Voice Mode GSM (GMSK) + EDGE (8PSK) – Coding Scheme: MCS9**

|     |        |      |      |      |      |      |      |      |      |      |      |      |      |
|-----|--------|------|------|------|------|------|------|------|------|------|------|------|------|
| 512 | 1850.2 | 23.3 | 22.6 | 23.2 | 22.4 | 21.1 | 21.1 | 16.6 | 17.3 | 17.2 | 16.4 | 16.8 | 16.8 |
| 661 | 1880.0 | 23.5 | 22.7 | 23.3 | 22.5 | 21.2 | 21.1 | 16.7 | 17.5 | 17.3 | 16.5 | 16.9 | 16.8 |
| 810 | 1909.8 | 23.5 | 22.8 | 23.3 | 22.5 | 21.2 | 21.2 | 16.8 | 17.5 | 17.3 | 16.5 | 16.9 | 16.9 |

**PCS1900 (Continued):****Note:****Scale factor for uplink time slot:**

1. 1 Uplink: time slot ratio = 8:1 =>  $10 \cdot \log(8/1) = 9.03 \text{ dB}$
2. 2 Uplink: time slot ratio = 8:2 =>  $10 \cdot \log(8/2) = 6.02 \text{ dB}$
3. 3 Uplink: time slot ratio = 8:3 =>  $10 \cdot \log(8/3) = 4.26 \text{ dB}$
4. 4 Uplink: time slot ratio = 8:4 =>  $10 \cdot \log(8/4) = 3.01 \text{ dB}$

**Conclusions:**

The worst-case configuration and mode for SAR testing is determined to be as follows:

- For Head SAR Testing, GSM and DTM should be evaluated; therefore the EUT was set in **DTM Multi-slot class 11, Power Back-Off Disabled Mode** due its highest Frame Average Power (dBm)
- For Hotspot Mode SAR Testing, GSM and DTM should be evaluated, therefore the EUT was set in GPRS 4Tx, **Power Back-Off Enabled Mode** due its highest Frame Average Power (dBm)
- For Body-Worn SAR Testing, GPRS and DTM should be evaluated; therefore the EUT was set in **DTM Multi-slot class 11, Power Back-Off Disabled Mode** slots due its highest Frame Average Power (dBm)

## 7.5. RF Output Average Power Measurement: 3G

7.5.1. WCDMA Band 2, Band 4 and Band 5 on RMC / HSDPA / HSUPA modes  
Power Back-Off NOT Supported

| Modes           |              | HSDPA          |                |                |                | HSUPA          |                |                |                |                | WCDMA                   |
|-----------------|--------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-------------------------|
| Sets            |              | 1              | 2              | 3              | 4              | 1              | 2              | 3              | 4              | 5              | Voice / RMC<br>12.2kbps |
| Band            | Channel      | Power<br>[dBm] | Power<br>[dBm] | Power<br>[dBm] | Power<br>[dBm] | Power<br>[dBm] | Power<br>[dBm] | Power<br>[dBm] | Power<br>[dBm] | Power<br>[dBm] | Power [dBm]             |
| 850<br>(Band 5) | 4132<br>4357 | 24.3           | 24.3           | 23.9           | 23.8           | 23.4           | 22.5           | 23.1           | 22.5           | 24.2           | 24.3                    |
|                 | 4183<br>4408 | 24.3           | 24.3           | 23.8           | 23.8           | 24.0           | 22.7           | 23.7           | 22.6           | 24.2           | 24.3                    |
|                 | 4233<br>4458 | 24.2           | 24.2           | 23.8           | 23.8           | 24.1           | 22.1           | 23.8           | 22.2           | 24.2           | 24.2                    |

## Power Back-Off Supported &amp; Disabled

|                                       |              |      |      |      |      |      |      |      |      |      |      |
|---------------------------------------|--------------|------|------|------|------|------|------|------|------|------|------|
| 1900<br>(Band 2)                      | 9262<br>9662 | 23.2 | 23.2 | 23.3 | 23.3 | 22.8 | 21.6 | 22.5 | 21.5 | 23.3 | 23.7 |
|                                       | 9400<br>9800 | 23.3 | 23.3 | 23.3 | 23.3 | 23.1 | 21.8 | 22.8 | 21.6 | 23.3 | 23.8 |
|                                       | 9538<br>9938 | 23.1 | 23.1 | 23.1 | 23.1 | 23.0 | 21.9 | 22.7 | 21.7 | 23.2 | 23.5 |
| 1700<br>(Band 4)                      | 1312<br>1537 | 23.1 | 23.1 | 23.1 | 23.1 | 22.9 | 21.6 | 22.6 | 21.5 | 23.2 | 23.5 |
|                                       | 1412<br>1637 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 | 21.8 | 22.8 | 21.7 | 23.2 | 23.6 |
|                                       | 1513<br>1738 | 23.2 | 23.2 | 23.2 | 23.2 | 23.0 | 21.7 | 22.7 | 21.7 | 23.2 | 23.6 |
| $\beta_c$                             |              | 2    | 12   | 15   | 15   | 11   | 6    | 15   | 2    | 15   |      |
| $\beta_d$                             |              | 15   | 15   | 8    | 4    | 15   | 15   | 9    | 15   | 15   |      |
| $\Delta ACK, \Delta NACK, \Delta CQI$ |              | 8    | 8    | 8    | 8    | 8    | 8    | 8    | 8    | 8    |      |
| AGV                                   |              | -    | -    | -    | -    | 20   | 12   | 15   | 17   | 21   |      |

## 7.5.2. WCDMA Band 2, Band 4 and Band 5 on DC-HSDPA (Cat 24)

## Power Back-Off NOT Supported

| Modes           |              | DC HSDPA (Cat 24) |             |             |             | WCDMA                |
|-----------------|--------------|-------------------|-------------|-------------|-------------|----------------------|
| Sets            |              | 1                 | 2           | 3           | 4           | Voice / RMC 12.2kbps |
| Band            | Channel      | Power [dBm]       | Power [dBm] | Power [dBm] | Power [dBm] | Power [dBm]          |
| 850<br>(Band 5) | 4132<br>4357 | 21.2              | 21.5        | 21.4        | 21.6        | 24.3                 |
|                 | 4183<br>4408 | 21.3              | 21.5        | 21.4        | 21.5        | 24.3                 |
|                 | 4233<br>4458 | 21.2              | 21.4        | 21.4        | 21.5        | 24.2                 |

## Power Back-Off Supported &amp; Disabled

|                                       |              |      |      |      |      |      |
|---------------------------------------|--------------|------|------|------|------|------|
| 1900<br>(Band 2)                      | 9262<br>9662 | 20.8 | 21.2 | 21.1 | 20.8 | 23.7 |
|                                       | 9400<br>9800 | 21.0 | 21.3 | 21.2 | 21.2 | 23.8 |
|                                       | 9538<br>9938 | 20.9 | 20.0 | 21.0 | 20.9 | 23.5 |
| 1700<br>(Band 4)                      | 1312<br>1537 | 21.1 | 21.1 | 21.0 | 21.0 | 23.5 |
|                                       | 1412<br>1637 | 20.9 | 20.8 | 21.0 | 21.0 | 23.6 |
|                                       | 1513<br>1738 | 21.0 | 21.0 | 21.0 | 21.0 | 23.6 |
| $\beta_c$                             |              | 2    | 12   | 15   | 15   |      |
| $\beta_d$                             |              | 15   | 15   | 8    | 4    |      |
| $\Delta ACK, \Delta NACK, \Delta CQI$ |              | 8    | 8    | 8    | 8    |      |
| AGV                                   |              | -    | -    | -    | -    |      |

### 7.5.3. WCDMA Band 2 and Band 4 on RMC / HSDPA / HSUPA: Power Back-Off Supported & Enabled

| Modes            |              | HSDPA          |                |                |                | HSUPA          |                |                |                |                | WCDMA                   |
|------------------|--------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-------------------------|
| Sets             |              | 1              | 2              | 3              | 4              | 1              | 2              | 3              | 4              | 5              | Voice / RMC<br>12.2kbps |
| Band             | Channel      | Power<br>[dBm] | Power<br>[dBm] | Power<br>[dBm] | Power<br>[dBm] | Power<br>[dBm] | Power<br>[dBm] | Power<br>[dBm] | Power<br>[dBm] | Power<br>[dBm] | Power [dBm]             |
| 1900<br>(Band 2) | 9262<br>9662 | 18.6           | 18.7           | 18.7           | 18.7           | 18.5           | 17.4           | 18.3           | 17.3           | 18.7           | 19.3                    |
|                  | 9400<br>9800 | 18.8           | 18.7           | 18.8           | 18.8           | 18.9           | 17.6           | 18.7           | 17.5           | 18.7           | 19.3                    |
|                  | 9538<br>9938 | 18.6           | 18.5           | 18.6           | 18.6           | 18.3           | 17.3           | 18.1           | 17.2           | 18.6           | 19.1                    |
| 1700<br>(Band 4) | 1312<br>1537 | 21.3           | 21.2           | 21.3           | 21.3           | 21.2           | 20.8           | 21.0           | 20.7           | 21.3           | 21.7                    |
|                  | 1412<br>1637 | 21.3           | 21.3           | 21.3           | 21.4           | 21.2           | 20.7           | 21.0           | 20.7           | 21.3           | 21.8                    |
|                  | 1513<br>1738 | 21.4           | 21.4           | 21.4           | 21.4           | 21.3           | 20.8           | 21.1           | 20.7           | 21.3           | 21.8                    |

### Power Back-Off Supported & Enabled

| Modes                                 |              | DC HSDPA (Cat 24) |             |             |             | WCDMA                |
|---------------------------------------|--------------|-------------------|-------------|-------------|-------------|----------------------|
| Sets                                  |              | 1                 | 2           | 3           | 4           | Voice / RMC 12.2kbps |
| Band                                  | Channel      | Power [dBm]       | Power [dBm] | Power [dBm] | Power [dBm] | Power [dBm]          |
| 1900<br>(Band 2)                      | 9262<br>9662 | 18.2              | 18.3        | 18.2        | 18.2        | 19.3                 |
|                                       | 9400<br>9800 | 18.2              | 18.2        | 18.2        | 18.2        | 19.3                 |
|                                       | 9538<br>9938 | 18.3              | 18.1        | 18.2        | 18.2        | 19.1                 |
| 1700<br>(Band 4)                      | 1312<br>1537 | 19.8              | 19.7        | 19.8        | 19.7        | 21.7                 |
|                                       | 1412<br>1637 | 19.9              | 19.7        | 19.8        | 19.6        | 21.8                 |
|                                       | 1513<br>1738 | 20.0              | 19.9        | 19.9        | 19.7        | 21.8                 |
| $\beta_c$                             |              | 2                 | 12          | 15          | 15          |                      |
| $\beta_d$                             |              | 15                | 15          | 8           | 4           |                      |
| $\Delta ACK, \Delta NACK, \Delta CQI$ |              | 8                 | 8           | 8           | 8           |                      |
| AGV                                   |              | -                 | -           | -           | -           |                      |

Note: The measured power on HSDPA subsets did not follow the trend as per 3GPP specification. But, RMC is most conservative measured power than the HSDPA.

The module power levels were measured in both HSPA and 3G RMC 12.2kbps modes and compared to ensure the correct mode of operation had been established.

The following tables taken from FCC 3G SAR procedures (KDB 941225 D01 SAR test for 3G devices v02) below were applied using an wireless communications test set which supports 3G / HSDPA release 5 / HSUPA release 6.

### Sub-test Setup for Release 5 HSDPA

| Sub-test | $\beta_c$            | $\beta_d$            | $B_d$<br>(SF) | $\beta_{cl} \beta_d$ | $\beta_{hs}^{(1)}$ | SM (dB) <sup>(2)</sup> |
|----------|----------------------|----------------------|---------------|----------------------|--------------------|------------------------|
| 1        | 2/15                 | 15/15                | 64            | 2/15                 | 4/15               | 0.0                    |
| 2        | 12/15 <sup>(3)</sup> | 15/15 <sup>(3)</sup> | 64            | 12/15 <sup>(3)</sup> | 24/15              | 1.0                    |
| 3        | 15/15                | 8/15                 | 64            | 15/8                 | 30/15              | 1.5                    |
| 4        | 15/15                | 4/15                 | 64            | 15/4                 | 30/15              | 1.5                    |

Note 1:  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$

Note 2: CM = 1 for  $\beta_{cl} \beta_d = 12/15$ ,  $B_{hs}/\beta_c = 24/15$

Note 3: For subtest 2 the  $\beta_{cl} \beta_d$  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  $\beta_d = 15/15$

### Sub-test Setup for Release 6 HSUPA

| Sub-test | $\beta_c$            | $\beta_d$            | $B_d$<br>(SF) | $\beta_{cl} \beta_d$ | $\beta_{hs}^{(1)}$ | $B_{oc}$ | $B_{od}$                               | $B_{od}$<br>(SF) | $B_{od}$<br>(codes) | CM <sup>(2)</sup><br>(dB) | Power<br>Back-Off<br>(dB) | AG <sup>(4)</sup><br>)<br>Index | E-<br>TFCI |
|----------|----------------------|----------------------|---------------|----------------------|--------------------|----------|----------------------------------------|------------------|---------------------|---------------------------|---------------------------|---------------------------------|------------|
| 1        | 11/15 <sup>(3)</sup> | 15/15 <sup>(3)</sup> | 64            | 11/15 <sup>(3)</sup> | 22/15              | 209/225  | 1039/225                               | 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              | 31/15    | $B_{al1}$ : 47/15<br>$B_{al2}$ : 47/15 | 4                | 1                   | 2.0                       | 1.0                       | 15                              | 92         |
| 4        | 2/15                 | 15/15                | 64            | 2/15                 | 2/15               | 2/15     | 56/75                                  | 4                | 1                   | 3.0                       | 2.0                       | 17                              | 71         |
| 5        | 15/15 <sup>(4)</sup> | 15/15 <sup>(4)</sup> | 64            | 15/15 <sup>(4)</sup> | 24/15              | 24/15    | 134/15                                 | 4                | 1                   | 1.0                       | 0.0                       | 21                              | 81         |

Note 1:  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$

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

Note 3: For subtest 1 the  $\beta_{cl} \beta_d$  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: For subtest 5 the  $\beta_{cl} \beta_d$  ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 14/15$  and  $\beta_d = 15/15$ .

Note 5: Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Table 5.1g.

Note 6:  $B_{od}$  can not be set directly; it is set by Absolute Grant Value.

## 7.6. RF Output Average Power Measurement: LTE

## 7.6.1. LTE Band 2 (1900 MHz)

## Power Back-Off Supported &amp; Disabled

| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|--------|-------------|-----------|-----------------|----|----------------|------------------------|----------------------------|-------------------------------|-----------------------------|
|        |             |           |                 |    |                |                        | Frequency 1860.0 MHz (Low) | Frequency 1880.0 MHz (Middle) | Frequency 1900.0 MHz (High) |
| 20 MHz | QPSK        | 1         | Low             | 0  | (0)            | 23.0                   | 23.8                       | 23.8                          | 23.8                        |
|        |             | 1         | Mid             | 49 | (0)            | 23.0                   | 23.7                       | 23.8                          | 23.9                        |
|        |             | 1         | High            | 99 | (0)            | 23.0                   | 23.7                       | 23.9                          | 23.8                        |
|        |             | 50        | low             | 0  | (1)            | 22.0                   | 22.9                       | 22.9                          | 22.8                        |
|        |             | 50        | Mid             | 25 | (1)            | 22.0                   | 22.8                       | 22.9                          | 22.9                        |
|        |             | 50        | High            | 50 | (1)            | 22.0                   | 22.8                       | 22.9                          | 22.9                        |
|        |             | 100       | -               | 0  | (1)            | 22.0                   | 23.0                       | 22.9                          | 22.9                        |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 22.0                   | 23.0                       | 23.4                          | 22.8                        |
|        |             | 1         | Mid             | 49 | (1)            | 22.0                   | 22.9                       | 23.4                          | 22.8                        |
|        |             | 1         | High            | 99 | (1)            | 22.0                   | 22.9                       | 23.5                          | 22.8                        |
|        |             | 50        | low             | 0  | (2)            | 21.0                   | 22.0                       | 22.0                          | 21.8                        |
|        |             | 50        | Mid             | 25 | (2)            | 21.0                   | 22.0                       | 22.0                          | 21.9                        |
|        |             | 50        | High            | 50 | (2)            | 21.0                   | 22.0                       | 22.0                          | 21.9                        |
|        |             | 100       | -               | 0  | (2)            | 21.0                   | 22.1                       | 22.1                          | 21.9                        |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|        |             |           |                 |    |                |                        | Frequency 1857.5 MHz (Low) | Frequency 1880.0 MHz (Middle) | Frequency 1902.5 MHz (High) |
| 15 MHz | QPSK        | 1         | Low             | 0  | (0)            | 23.0                   | 23.9                       | 23.8                          | 23.8                        |
|        |             | 1         | Mid             | 37 | (0)            | 23.0                   | 23.9                       | 23.8                          | 23.7                        |
|        |             | 1         | High            | 74 | (0)            | 23.0                   | 23.9                       | 23.8                          | 23.7                        |
|        |             | 36        | low             | 0  | (1)            | 22.0                   | 22.9                       | 22.9                          | 22.9                        |
|        |             | 36        | Mid             | 19 | (1)            | 22.0                   | 23.0                       | 22.9                          | 22.9                        |
|        |             | 36        | High            | 39 | (1)            | 22.0                   | 22.9                       | 22.9                          | 22.8                        |
|        |             | 75        | -               | 0  | (1)            | 22.0                   | 23.0                       | 23.0                          | 23.0                        |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 22.0                   | 23.0                       | 22.9                          | 22.9                        |
|        |             | 1         | Mid             | 37 | (1)            | 22.0                   | 23.0                       | 22.9                          | 22.9                        |
|        |             | 1         | High            | 74 | (1)            | 22.0                   | 22.9                       | 22.9                          | 22.9                        |
|        |             | 36        | low             | 0  | (2)            | 21.0                   | 21.9                       | 21.9                          | 21.9                        |
|        |             | 36        | Mid             | 19 | (2)            | 21.0                   | 21.9                       | 21.9                          | 22.0                        |
|        |             | 36        | High            | 39 | (2)            | 21.0                   | 21.8                       | 21.9                          | 21.9                        |
|        |             | 75        | -               | 0  | (2)            | 21.0                   | 21.9                       | 21.9                          | 21.9                        |

**LTE Band 2 (1900 MHz)****Power Back-Off Supported & Disabled (Continued)**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|--------|-------------|-----------|-----------------|----|----------------|------------------------|----------------------------|-------------------------------|-----------------------------|
|        |             |           |                 |    |                |                        | Frequency 1855.0 MHz (Low) | Frequency 1880.0 MHz (Middle) | Frequency 1905.0 MHz (High) |
| 10 MHz | QPSK        | 1         | Low             | 0  | (0)            | 23.0                   | 23.8                       | 23.8                          | 23.8                        |
|        |             | 1         | Mid             | 24 | (0)            | 23.0                   | 23.8                       | 23.8                          | 23.9                        |
|        |             | 1         | High            | 49 | (0)            | 23.0                   | 23.8                       | 23.8                          | 23.8                        |
|        |             | 25        | Low             | 0  | (1)            | 22.0                   | 23.0                       | 22.9                          | 23.0                        |
|        |             | 25        | Mid             | 12 | (1)            | 22.0                   | 22.9                       | 22.9                          | 22.9                        |
|        |             | 25        | High            | 25 | (1)            | 22.0                   | 22.9                       | 22.9                          | 22.9                        |
|        |             | 50        | -               | 0  | (1)            | 22.0                   | 22.9                       | 22.9                          | 22.9                        |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 22.0                   | 23.0                       | 22.9                          | 22.8                        |
|        |             | 1         | mid             | 24 | (1)            | 22.0                   | 22.9                       | 22.9                          | 23.0                        |
|        |             | 1         | High            | 49 | (1)            | 22.0                   | 22.9                       | 22.8                          | 23.0                        |
|        |             | 25        | Low             | 0  | (2)            | 21.0                   | 22.0                       | 21.9                          | 21.9                        |
|        |             | 25        | Mid             | 12 | (2)            | 21.0                   | 21.9                       | 21.9                          | 21.9                        |
|        |             | 25        | High            | 25 | (2)            | 21.0                   | 21.9                       | 21.8                          | 21.9                        |
|        |             | 50        | -               | 0  | (2)            | 21.0                   | 21.9                       | 21.8                          | 21.9                        |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|        |             |           |                 |    |                |                        | Frequency 1852.5 MHz (Low) | Frequency 1880.0 MHz (Middle) | Frequency 1907.5 MHz (High) |
| 5 MHz  | QPSK        | 1         | Low             | 0  | (0)            | 23.0                   | 23.9                       | 23.8                          | 23.8                        |
|        |             | 1         | Mid             | 12 | (0)            | 23.0                   | 23.9                       | 23.7                          | 23.7                        |
|        |             | 1         | High            | 24 | (0)            | 23.0                   | 23.9                       | 23.8                          | 23.8                        |
|        |             | 12        | low             | 0  | (1)            | 22.0                   | 22.9                       | 22.9                          | 22.8                        |
|        |             | 12        | Mid             | 6  | (1)            | 22.0                   | 22.9                       | 22.8                          | 22.8                        |
|        |             | 12        | High            | 13 | (1)            | 22.0                   | 22.9                       | 22.9                          | 22.9                        |
|        |             | 25        | -               | 0  | (1)            | 22.0                   | 22.9                       | 22.9                          | 22.8                        |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 22.0                   | 23.0                       | 23.0                          | 23.0                        |
|        |             | 1         | Mid             | 12 | (1)            | 22.0                   | 22.8                       | 23.0                          | 22.9                        |
|        |             | 1         | High            | 24 | (1)            | 22.0                   | 22.9                       | 23.1                          | 23.0                        |
|        |             | 12        | low             | 0  | (2)            | 21.0                   | 21.9                       | 21.8                          | 21.9                        |
|        |             | 12        | Mid             | 6  | (2)            | 21.0                   | 21.8                       | 21.8                          | 21.9                        |
|        |             | 12        | High            | 13 | (2)            | 21.0                   | 21.9                       | 21.9                          | 21.8                        |
|        |             | 25        | -               | 0  | (2)            | 21.0                   | 21.9                       | 21.8                          | 21.9                        |

**LTE Band 2 (1900 MHz)****Power Back-Off Supported & Disabled (Continued)**

| Ch. BW  | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                             |                             |
|---------|-------------|-----------|-----------------|----|----------------|------------------------|----------------------------|-----------------------------|-----------------------------|
|         |             |           |                 |    |                |                        | Frequency 1851.5 MHz (Low) | Frequency 1880 MHz (Middle) | Frequency 1908.5 MHz (High) |
| 3 MHz   | QPSK        | 1         | Low             | 0  | (0)            | 23.0                   | 23.9                       | 23.8                        | 23.9                        |
|         |             | 1         | Mid             | 7  | (0)            | 23.0                   | 23.8                       | 23.7                        | 23.7                        |
|         |             | 1         | High            | 14 | (0)            | 23.0                   | 23.8                       | 23.9                        | 23.8                        |
|         |             | 8         | Low             | 0  | (1)            | 22.0                   | 22.9                       | 22.8                        | 22.8                        |
|         |             | 8         | Mid             | 4  | (1)            | 22.0                   | 22.9                       | 22.9                        | 22.8                        |
|         |             | 8         | High            | 7  | (1)            | 22.0                   | 22.9                       | 22.9                        | 22.9                        |
|         |             | 15        | -               | 0  | (1)            | 22.0                   | 22.9                       | 22.9                        | 22.9                        |
|         | 16QAM       | 1         | Low             | 0  | (1)            | 22.0                   | 23.0                       | 23.0                        | 22.9                        |
|         |             | 1         | Mid             | 7  | (1)            | 22.0                   | 22.8                       | 22.9                        | 22.9                        |
|         |             | 1         | High            | 14 | (1)            | 22.0                   | 22.9                       | 23.0                        | 22.9                        |
|         |             | 8         | Low             | 0  | (2)            | 21.0                   | 22.9                       | 21.8                        | 21.9                        |
|         |             | 8         | Mid             | 4  | (2)            | 21.0                   | 21.9                       | 21.9                        | 21.8                        |
|         |             | 8         | High            | 7  | (2)            | 21.0                   | 21.8                       | 21.9                        | 21.8                        |
|         |             | 15        | -               | 0  | (2)            | 21.0                   | 21.9                       | 21.9                        | 21.9                        |
| Ch. BW  | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                             |                             |
|         |             |           |                 |    |                |                        | Frequency 1850.7 MHz (Low) | Frequency 1880 MHz (Middle) | Frequency 1909.3 MHz (High) |
| 1.4 MHz | QPSK        | 1         | Low             | 0  | (0)            | 23.0                   | 23.9                       | 23.9                        | 23.9                        |
|         |             | 1         | Mid             | 3  | (0)            | 23.0                   | 23.9                       | 23.9                        | 23.8                        |
|         |             | 1         | High            | 5  | (0)            | 23.0                   | 24.0                       | 23.8                        | 23.9                        |
|         |             | 3         | Low             | 0  | (0)            | 23.0                   | 23.9                       | 23.8                        | 23.8                        |
|         |             | 3         | Mid             | 1  | (0)            | 23.0                   | 23.9                       | 23.8                        | 23.8                        |
|         |             | 3         | high            | 3  | (0)            | 23.0                   | 23.9                       | 23.8                        | 23.8                        |
|         |             | 6         | -               | 0  | (1)            | 22.0                   | 22.9                       | 22.8                        | 22.9                        |
|         | 16QAM       | 1         | Low             | 0  | (1)            | 22.0                   | 22.9                       | 22.8                        | 22.9                        |
|         |             | 1         | Mid             | 3  | (1)            | 22.0                   | 22.8                       | 22.9                        | 22.9                        |
|         |             | 1         | High            | 5  | (1)            | 22.0                   | 22.9                       | 23.0                        | 22.8                        |
|         |             | 3         | Low             | 0  | (1)            | 22.0                   | 22.8                       | 22.6                        | 22.9                        |
|         |             | 3         | Mid             | 1  | (1)            | 22.0                   | 22.6                       | 22.9                        | 22.8                        |
|         |             | 3         | high            | 3  | (1)            | 22.0                   | 22.7                       | 22.9                        | 22.8                        |
|         |             | 6         | -               | 0  | (2)            | 21.0                   | 21.9                       | 21.9                        | 21.9                        |

**7.6.2.LTE Band 2 (1900 MHz)****Power Back-Off Supported & Enabled**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|--------|-------------|-----------|-----------------|----|----------------|------------------------|----------------------------|-------------------------------|-----------------------------|
|        |             |           |                 |    |                |                        | Frequency 1860.0 MHz (Low) | Frequency 1880.0 MHz (Middle) | Frequency 1900.0 MHz (High) |
| 20 MHz | QPSK        | 1         | Low             | 0  | (0)            | 19.0                   | 19.6                       | 19.7                          | 19.6                        |
|        |             | 1         | Mid             | 49 | (0)            | 19.0                   | 19.6                       | 19.6                          | 19.6                        |
|        |             | 1         | High            | 99 | (0)            | 19.0                   | 19.7                       | 19.7                          | 19.7                        |
|        |             | 50        | low             | 0  | (0)            | 19.0                   | 19.7                       | 19.7                          | 19.6                        |
|        |             | 50        | Mid             | 25 | (0)            | 19.0                   | 19.7                       | 19.7                          | 19.6                        |
|        |             | 50        | High            | 50 | (0)            | 19.0                   | 19.7                       | 19.7                          | 19.6                        |
|        |             | 100       | -               | 0  | (1)            | 19.0                   | 19.7                       | 19.6                          | 19.6                        |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 19.0                   | 19.6                       | 20.1                          | 19.5                        |
|        |             | 1         | Mid             | 49 | (1)            | 19.0                   | 19.6                       | 20.0                          | 19.5                        |
|        |             | 1         | High            | 99 | (1)            | 19.0                   | 19.6                       | 20.0                          | 19.6                        |
|        |             | 50        | low             | 0  | (2)            | 19.0                   | 19.7                       | 19.7                          | 19.6                        |
|        |             | 50        | Mid             | 25 | (2)            | 19.0                   | 19.7                       | 19.6                          | 19.6                        |
|        |             | 50        | High            | 50 | (2)            | 19.0                   | 19.7                       | 19.7                          | 19.6                        |
|        |             | 100       | -               | 0  | (2)            | 19.0                   | 19.7                       | 19.7                          | 19.7                        |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|        |             |           |                 |    |                |                        | Frequency 1857.5 MHz (Low) | Frequency 1880.0 MHz (Middle) | Frequency 1902.5 MHz (High) |
| 15 MHz | QPSK        | 1         | Low             | 0  | (0)            | 19.0                   | 19.7                       | 19.6                          | 19.5                        |
|        |             | 1         | Mid             | 37 | (0)            | 19.0                   | 19.7                       | 19.6                          | 19.5                        |
|        |             | 1         | High            | 74 | (0)            | 19.0                   | 19.7                       | 19.6                          | 19.6                        |
|        |             | 36        | low             | 0  | (1)            | 19.0                   | 19.7                       | 19.7                          | 19.6                        |
|        |             | 36        | Mid             | 19 | (1)            | 19.0                   | 19.7                       | 19.6                          | 19.6                        |
|        |             | 36        | High            | 39 | (1)            | 19.0                   | 19.8                       | 19.6                          | 19.6                        |
|        |             | 75        | -               | 0  | (1)            | 19.0                   | 19.7                       | 19.7                          | 19.7                        |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 19.0                   | 19.7                       | 19.7                          | 19.7                        |
|        |             | 1         | Mid             | 37 | (1)            | 19.0                   | 19.7                       | 19.6                          | 19.6                        |
|        |             | 1         | High            | 74 | (1)            | 19.0                   | 19.8                       | 19.6                          | 19.7                        |
|        |             | 36        | low             | 0  | (2)            | 19.0                   | 19.7                       | 19.7                          | 19.6                        |
|        |             | 36        | Mid             | 19 | (2)            | 19.0                   | 19.7                       | 19.6                          | 19.6                        |
|        |             | 36        | High            | 39 | (2)            | 19.0                   | 19.7                       | 19.7                          | 19.7                        |
|        |             | 75        | -               | 0  | (2)            | 19.0                   | 19.7                       | 19.7                          | 19.6                        |

**LTE Band 2 (1900 MHz)****Power Back-Off Supported & Enabled (Continued)**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|--------|-------------|-----------|-----------------|----|----------------|------------------------|----------------------------|-------------------------------|-----------------------------|
|        |             |           |                 |    |                |                        | Frequency 1855.0 MHz (Low) | Frequency 1880.0 MHz (Middle) | Frequency 1905.0 MHz (High) |
| 10 MHz | QPSK        | 1         | Low             | 0  | (0)            | 19.0                   | 19.5                       | 19.6                          | 19.5                        |
|        |             | 1         | Mid             | 24 | (0)            | 19.0                   | 19.5                       | 19.4                          | 19.7                        |
|        |             | 1         | High            | 49 | (0)            | 19.0                   | 19.7                       | 19.6                          | 19.6                        |
|        |             | 25        | Low             | 0  | (1)            | 19.0                   | 19.6                       | 19.7                          | 19.6                        |
|        |             | 25        | Mid             | 12 | (1)            | 19.0                   | 19.6                       | 19.6                          | 19.6                        |
|        |             | 25        | High            | 25 | (1)            | 19.0                   | 19.6                       | 19.6                          | 19.6                        |
|        |             | 50        | -               | 0  | (1)            | 19.0                   | 19.6                       | 19.6                          | 19.6                        |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 19.0                   | 19.5                       | 19.7                          | 19.6                        |
|        |             | 1         | mid             | 24 | (1)            | 19.0                   | 19.7                       | 19.5                          | 19.7                        |
|        |             | 1         | High            | 49 | (1)            | 19.0                   | 19.7                       | 19.7                          | 19.6                        |
|        |             | 25        | Low             | 0  | (2)            | 19.0                   | 19.7                       | 19.6                          | 19.7                        |
|        |             | 25        | Mid             | 12 | (2)            | 19.0                   | 19.6                       | 19.7                          | 19.6                        |
|        |             | 25        | High            | 25 | (2)            | 19.0                   | 19.6                       | 19.7                          | 19.7                        |
|        |             | 50        | -               | 0  | (2)            | 19.0                   | 19.6                       | 19.7                          | 19.5                        |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|        |             |           |                 |    |                |                        | Frequency 1852.5 MHz (Low) | Frequency 1880.0 MHz (Middle) | Frequency 1907.5 MHz (High) |
| 5 MHz  | QPSK        | 1         | Low             | 0  | (0)            | 19.0                   | 19.7                       | 19.5                          | 19.6                        |
|        |             | 1         | Mid             | 12 | (0)            | 19.0                   | 19.7                       | 19.5                          | 19.6                        |
|        |             | 1         | High            | 24 | (0)            | 19.0                   | 19.7                       | 19.6                          | 19.7                        |
|        |             | 12        | low             | 0  | (1)            | 19.0                   | 19.7                       | 19.7                          | 19.6                        |
|        |             | 12        | Mid             | 6  | (1)            | 19.0                   | 19.7                       | 19.7                          | 19.6                        |
|        |             | 12        | High            | 13 | (1)            | 19.0                   | 19.7                       | 19.7                          | 19.7                        |
|        |             | 25        | -               | 0  | (1)            | 19.0                   | 19.8                       | 19.6                          | 19.7                        |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 19.0                   | 19.9                       | 19.8                          | 19.6                        |
|        |             | 1         | Mid             | 12 | (1)            | 19.0                   | 19.9                       | 19.7                          | 19.5                        |
|        |             | 1         | High            | 24 | (1)            | 19.0                   | 19.9                       | 19.8                          | 19.6                        |
|        |             | 12        | low             | 0  | (2)            | 19.0                   | 19.7                       | 19.7                          | 19.6                        |
|        |             | 12        | Mid             | 6  | (2)            | 19.0                   | 19.7                       | 19.7                          | 19.6                        |
|        |             | 12        | High            | 13 | (2)            | 19.0                   | 19.7                       | 19.7                          | 19.6                        |
|        |             | 25        | -               | 0  | (2)            | 19.0                   | 19.7                       | 19.7                          | 19.7                        |

**LTE Band 2 (1900 MHz)****Power Back-Off Supported & Enabled (Continued)**

| Ch. BW  | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                             |                             |
|---------|-------------|-----------|-----------------|----|----------------|------------------------|----------------------------|-----------------------------|-----------------------------|
|         |             |           |                 |    |                |                        | Frequency 1851.5 MHz (Low) | Frequency 1880 MHz (Middle) | Frequency 1908.5 MHz (High) |
| 3 MHz   | QPSK        | 1         | Low             | 0  | (0)            | 19.0                   | 19.8                       | 19.6                        | 19.6                        |
|         |             | 1         | Mid             | 7  | (0)            | 19.0                   | 19.7                       | 19.6                        | 19.6                        |
|         |             | 1         | High            | 14 | (0)            | 19.0                   | 19.8                       | 19.6                        | 19.6                        |
|         |             | 8         | Low             | 0  | (1)            | 19.0                   | 19.7                       | 19.6                        | 19.7                        |
|         |             | 8         | Mid             | 4  | (1)            | 19.0                   | 19.7                       | 19.6                        | 19.6                        |
|         |             | 8         | High            | 7  | (1)            | 19.0                   | 19.7                       | 19.6                        | 19.7                        |
|         |             | 15        | -               | 0  | (1)            | 19.0                   | 19.7                       | 19.7                        | 19.7                        |
|         | 16QAM       | 1         | Low             | 0  | (1)            | 19.0                   | 19.8                       | 19.6                        | 19.7                        |
|         |             | 1         | Mid             | 7  | (1)            | 19.0                   | 19.7                       | 19.6                        | 19.7                        |
|         |             | 1         | High            | 14 | (1)            | 19.0                   | 19.7                       | 19.6                        | 19.7                        |
|         |             | 8         | Low             | 0  | (2)            | 19.0                   | 19.7                       | 19.7                        | 19.7                        |
|         |             | 8         | Mid             | 4  | (2)            | 19.0                   | 19.7                       | 19.7                        | 19.7                        |
|         |             | 8         | High            | 7  | (2)            | 19.0                   | 19.7                       | 19.7                        | 19.7                        |
|         |             | 15        | -               | 0  | (2)            | 19.0                   | 19.7                       | 19.7                        | 19.7                        |
| Ch. BW  | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                             |                             |
|         |             |           |                 |    |                |                        | Frequency 1850.7 MHz (Low) | Frequency 1880 MHz (Middle) | Frequency 1909.3 MHz (High) |
| 1.4 MHz | QPSK        | 1         | Low             | 0  | (0)            | 19.0                   | 19.8                       | 19.7                        | 19.7                        |
|         |             | 1         | Mid             | 3  | (0)            | 19.0                   | 19.7                       | 19.6                        | 19.6                        |
|         |             | 1         | High            | 5  | (0)            | 19.0                   | 19.8                       | 19.7                        | 19.8                        |
|         |             | 3         | Low             | 0  | (0)            | 19.0                   | 19.7                       | 19.6                        | 19.7                        |
|         |             | 3         | Mid             | 1  | (0)            | 19.0                   | 19.7                       | 19.7                        | 19.6                        |
|         |             | 3         | high            | 3  | (0)            | 19.0                   | 19.8                       | 19.7                        | 19.6                        |
|         |             | 6         | -               | 0  | (1)            | 19.0                   | 19.8                       | 19.7                        | 19.7                        |
|         | 16QAM       | 1         | Low             | 0  | (1)            | 19.0                   | 19.7                       | 19.7                        | 19.7                        |
|         |             | 1         | Mid             | 3  | (1)            | 19.0                   | 19.7                       | 19.6                        | 19.6                        |
|         |             | 1         | High            | 5  | (1)            | 19.0                   | 19.8                       | 19.6                        | 19.7                        |
|         |             | 3         | Low             | 0  | (1)            | 19.0                   | 19.7                       | 19.7                        | 19.6                        |
|         |             | 3         | Mid             | 1  | (1)            | 19.0                   | 19.7                       | 19.6                        | 19.6                        |
|         |             | 3         | high            | 3  | (1)            | 19.0                   | 19.7                       | 19.7                        | 19.7                        |
|         |             | 6         | -               | 0  | (2)            | 19.0                   | 19.7                       | 19.7                        | 19.6                        |

**7.6.3. LTE Band 4 (1700 MHz)****Power Back-Off Supported & Disabled**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|--------|-------------|-----------|-----------------|----|----------------|------------------------|----------------------------|-------------------------------|-----------------------------|
|        |             |           |                 |    |                |                        | Frequency 1720.0 MHz (Low) | Frequency 1732.5 MHz (Middle) | Frequency 1745.0 MHz (High) |
| 20 MHz | QPSK        | 1         | Low             | 0  | (0)            | 23.0                   | 23.8                       | 24.0                          | 23.9                        |
|        |             | 1         | Mid             | 49 | (0)            | 23.0                   | 23.9                       | 24.0                          | 23.9                        |
|        |             | 1         | High            | 99 | (0)            | 23.0                   | 24.0                       | 24.0                          | 23.9                        |
|        |             | 50        | low             | 0  | (1)            | 22.0                   | 23.0                       | 23.0                          | 23.0                        |
|        |             | 50        | Mid             | 25 | (1)            | 22.0                   | 23.0                       | 23.0                          | 22.9                        |
|        |             | 50        | High            | 50 | (1)            | 22.0                   | 23.0                       | 23.0                          | 23.0                        |
|        |             | 100       | -               | 0  | (1)            | 22.0                   | 23.0                       | 23.1                          | 22.9                        |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 22.0                   | 22.8                       | 23.3                          | 22.8                        |
|        |             | 1         | Mid             | 49 | (1)            | 22.0                   | 22.8                       | 23.3                          | 22.8                        |
|        |             | 1         | High            | 99 | (1)            | 22.0                   | 22.9                       | 23.3                          | 22.9                        |
|        |             | 50        | low             | 0  | (2)            | 21.0                   | 21.9                       | 21.9                          | 21.9                        |
|        |             | 50        | Mid             | 25 | (2)            | 21.0                   | 21.9                       | 21.9                          | 21.8                        |
|        |             | 50        | High            | 50 | (2)            | 21.0                   | 22.0                       | 21.9                          | 21.9                        |
|        |             | 100       | -               | 0  | (2)            | 21.0                   | 22.0                       | 22.0                          | 21.9                        |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|        |             |           |                 |    |                |                        | Frequency 1717.5 MHz (Low) | Frequency 1732.5 MHz (Middle) | Frequency 1747.5 MHz (High) |
| 15 MHz | QPSK        | 1         | Low             | 0  | (0)            | 23.0                   | 23.9                       | 24.0                          | 23.9                        |
|        |             | 1         | Mid             | 37 | (1)            | 23.0                   | 24.0                       | 24.0                          | 23.8                        |
|        |             | 1         | High            | 74 | (1)            | 23.0                   | 24.0                       | 23.9                          | 23.8                        |
|        |             | 36        | low             | 0  | (1)            | 22.0                   | 23.0                       | 23.1                          | 23.0                        |
|        |             | 36        | Mid             | 19 | (1)            | 22.0                   | 23.0                       | 23.0                          | 23.0                        |
|        |             | 36        | High            | 39 | (1)            | 22.0                   | 23.0                       | 23.0                          | 23.0                        |
|        |             | 75        | -               | 0  | (1)            | 22.0                   | 23.1                       | 23.1                          | 23.0                        |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 22.0                   | 22.9                       | 23.0                          | 23.1                        |
|        |             | 1         | Mid             | 37 | (2)            | 22.0                   | 23.0                       | 23.0                          | 23.0                        |
|        |             | 1         | High            | 74 | (2)            | 22.0                   | 23.0                       | 23.0                          | 23.0                        |
|        |             | 36        | low             | 0  | (2)            | 21.0                   | 22.0                       | 22.0                          | 22.0                        |
|        |             | 36        | Mid             | 19 | (2)            | 21.0                   | 22.0                       | 22.0                          | 21.9                        |
|        |             | 36        | High            | 39 | (0)            | 21.0                   | 22.0                       | 22.0                          | 22.0                        |
|        |             | 75        | -               | 0  | (0)            | 21.0                   | 22.0                       | 22.0                          | 22.0                        |

**LTE Band 4 (1700 MHz)****Power Back-Off Supported & Disabled (Continued)**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|--------|-------------|-----------|-----------------|----|----------------|------------------------|----------------------------|-------------------------------|-----------------------------|
|        |             |           |                 |    |                |                        | Frequency 1715.0 MHz (Low) | Frequency 1732.5 MHz (Middle) | Frequency 1750 MHz (High)   |
| 10 MHz | QPSK        | 1         | Low             | 0  | (0)            | 23.0                   | 23.9                       | 23.9                          | 23.8                        |
|        |             | 1         | Mid             | 24 | (0)            | 23.0                   | 24.0                       | 23.9                          | 23.8                        |
|        |             | 1         | High            | 49 | (0)            | 23.0                   | 24.0                       | 23.9                          | 23.8                        |
|        |             | 25        | Low             | 0  | (1)            | 22.0                   | 23.0                       | 23.0                          | 22.9                        |
|        |             | 25        | Mid             | 12 | (1)            | 22.0                   | 23.0                       | 23.0                          | 22.9                        |
|        |             | 25        | High            | 25 | (1)            | 22.0                   | 22.9                       | 23.0                          | 22.9                        |
|        |             | 50        | -               | 0  | (1)            | 22.0                   | 23.0                       | 23.0                          | 22.9                        |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 22.0                   | 22.9                       | 22.9                          | 23.0                        |
|        |             | 1         | mid             | 24 | (1)            | 22.0                   | 23.0                       | 22.9                          | 23.0                        |
|        |             | 1         | High            | 49 | (1)            | 22.0                   | 23.0                       | 22.8                          | 22.9                        |
|        |             | 25        | Low             | 0  | (2)            | 21.0                   | 21.9                       | 22.0                          | 21.9                        |
|        |             | 25        | Mid             | 12 | (2)            | 21.0                   | 21.9                       | 22.0                          | 21.9                        |
|        |             | 25        | High            | 25 | (2)            | 21.0                   | 22.0                       | 22.0                          | 21.8                        |
|        |             | 50        | -               | 0  | (2)            | 21.0                   | 21.9                       | 22.0                          | 21.9                        |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|        |             |           |                 |    |                |                        | Frequency 1712.5 MHz (Low) | Frequency 1732.5 MHz (Middle) | Frequency 1752.5 MHz (High) |
| 5 MHz  | QPSK        | 1         | Low             | 0  | (0)            | 23.0                   | 23.9                       | 23.9                          | 23.9                        |
|        |             | 1         | Mid             | 12 | (1)            | 23.0                   | 23.9                       | 23.8                          | 23.8                        |
|        |             | 1         | High            | 24 | (1)            | 23.0                   | 23.9                       | 23.9                          | 23.8                        |
|        |             | 12        | low             | 0  | (1)            | 22.0                   | 23.0                       | 23.0                          | 22.9                        |
|        |             | 12        | Mid             | 6  | (1)            | 22.0                   | 23.0                       | 23.0                          | 22.8                        |
|        |             | 12        | High            | 13 | (1)            | 22.0                   | 23.0                       | 23.0                          | 22.8                        |
|        |             | 25        | -               | 0  | (1)            | 22.0                   | 23.0                       | 23.0                          | 22.9                        |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 22.0                   | 22.8                       | 23.2                          | 23.1                        |
|        |             | 1         | Mid             | 12 | (2)            | 22.0                   | 22.8                       | 23.1                          | 22.9                        |
|        |             | 1         | High            | 24 | (2)            | 22.0                   | 22.8                       | 23.2                          | 23.0                        |
|        |             | 12        | low             | 0  | (2)            | 21.0                   | 21.9                       | 21.9                          | 21.9                        |
|        |             | 12        | Mid             | 6  | (2)            | 21.0                   | 21.9                       | 21.9                          | 21.9                        |
|        |             | 12        | High            | 13 | (0)            | 21.0                   | 21.9                       | 21.9                          | 21.9                        |
|        |             | 25        | -               | 0  | (0)            | 21.0                   | 22.0                       | 22.0                          | 21.8                        |

**LTE Band 4 (1700 MHz)****Power Back-Off Supported & Disabled (Continued)**

| Ch. BW  | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|---------|-------------|-----------|-----------------|----|----------------|------------------------|----------------------------|-------------------------------|-----------------------------|
|         |             |           |                 |    |                |                        | Frequency 1711.5 MHz (Low) | Frequency 1732.5 MHz (Middle) | Frequency 1753.5 MHz (High) |
| 3 MHz   | QPSK        | 1         | Low             | 0  | (0)            | 23.0                   | 24.0                       | 24.0                          | 23.8                        |
|         |             | 1         | Mid             | 7  | (0)            | 23.0                   | 24.0                       | 23.9                          | 23.7                        |
|         |             | 1         | High            | 14 | (0)            | 23.0                   | 24.0                       | 24.0                          | 23.8                        |
|         |             | 8         | Low             | 0  | (1)            | 22.0                   | 22.9                       | 23.0                          | 22.9                        |
|         |             | 8         | Mid             | 4  | (1)            | 22.0                   | 23.0                       | 23.0                          | 22.9                        |
|         |             | 8         | High            | 7  | (1)            | 22.0                   | 23.0                       | 23.0                          | 22.9                        |
|         |             | 15        | -               | 0  | (1)            | 22.0                   | 23.0                       | 23.0                          | 22.9                        |
|         | 16QAM       | 1         | Low             | 0  | (1)            | 22.0                   | 23.0                       | 23.0                          | 22.8                        |
|         |             | 1         | Mid             | 7  | (1)            | 22.0                   | 23.0                       | 23.0                          | 22.8                        |
|         |             | 1         | High            | 14 | (1)            | 22.0                   | 23.1                       | 23.0                          | 22.8                        |
|         |             | 8         | Low             | 0  | (2)            | 21.0                   | 21.9                       | 21.9                          | 21.8                        |
|         |             | 8         | Mid             | 4  | (2)            | 21.0                   | 22.0                       | 21.9                          | 21.8                        |
|         |             | 8         | High            | 7  | (2)            | 21.0                   | 21.9                       | 22.0                          | 21.9                        |
|         |             | 15        | -               | 0  | (2)            | 21.0                   | 22.0                       | 22.0                          | 21.9                        |
| Ch. BW  | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|         |             |           |                 |    |                |                        | Frequency 1710.7 MHz (Low) | Frequency 1732.5 MHz (Middle) | Frequency 1754.3 MHz (High) |
| 1.4 MHz | QPSK        | 1         | Low             | 0  | 1              | 23.0                   | 23.9                       | 24.0                          | 24.0                        |
|         |             | 1         | Mid             | 3  | 1              | 23.0                   | 23.9                       | 23.9                          | 23.9                        |
|         |             | 1         | High            | 5  | 1              | 23.0                   | 23.9                       | 24.1                          | 23.9                        |
|         |             | 3         | Low             | 0  | 3              | 23.0                   | 23.9                       | 24.0                          | 23.9                        |
|         |             | 3         | Mid             | 1  | 3              | 23.0                   | 23.9                       | 24.0                          | 23.8                        |
|         |             | 3         | high            | 3  | 3              | 23.0                   | 23.9                       | 24.0                          | 23.9                        |
|         |             | 6         | -               | 0  | 6              | 22.0                   | 22.9                       | 23.0                          | 23.0                        |
|         | 16QAM       | 1         | Low             | 0  | 1              | 22.0                   | 22.8                       | 23.0                          | 22.8                        |
|         |             | 1         | Mid             | 3  | 1              | 22.0                   | 23.0                       | 23.0                          | 22.8                        |
|         |             | 1         | High            | 5  | 1              | 22.0                   | 23.0                       | 23.0                          | 23.0                        |
|         |             | 3         | Low             | 0  | 3              | 22.0                   | 22.8                       | 23.0                          | 22.8                        |
|         |             | 3         | Mid             | 1  | 3              | 22.0                   | 22.9                       | 22.7                          | 22.8                        |
|         |             | 3         | high            | 3  | 3              | 22.0                   | 22.8                       | 22.7                          | 22.8                        |
|         |             | 6         | -               | 0  | 6              | 21.0                   | 21.9                       | 22.1                          | 21.9                        |

**7.6.4.LTE Band 4 (1700 MHz)****Power Back-Off Supported & Enabled**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|--------|-------------|-----------|-----------------|----|----------------|------------------------|----------------------------|-------------------------------|-----------------------------|
|        |             |           |                 |    |                |                        | Frequency 1720.0 MHz (Low) | Frequency 1732.5 MHz (Middle) | Frequency 1745.0 MHz (High) |
| 20 MHz | QPSK        | 1         | Low             | 0  | (0)            | 21.0                   | 21.7                       | 21.8                          | 21.7                        |
|        |             | 1         | Mid             | 49 | (0)            | 21.0                   | 21.8                       | 21.8                          | 21.7                        |
|        |             | 1         | High            | 99 | (0)            | 21.0                   | 21.8                       | 21.8                          | 21.7                        |
|        |             | 50        | low             | 0  | (1)            | 21.0                   | 21.8                       | 21.8                          | 21.7                        |
|        |             | 50        | Mid             | 25 | (1)            | 21.0                   | 21.8                       | 21.8                          | 21.7                        |
|        |             | 50        | High            | 50 | (1)            | 21.0                   | 21.8                       | 21.7                          | 21.7                        |
|        |             | 100       | -               | 0  | (1)            | 21.0                   | 21.8                       | 21.8                          | 21.8                        |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 21.0                   | 22.0                       | 21.8                          | 21.8                        |
|        |             | 1         | Mid             | 49 | (1)            | 21.0                   | 22.0                       | 21.8                          | 21.7                        |
|        |             | 1         | High            | 99 | (1)            | 21.0                   | 22.0                       | 21.8                          | 21.8                        |
|        |             | 50        | low             | 0  | (2)            | 21.0                   | 21.8                       | 21.8                          | 21.8                        |
|        |             | 50        | Mid             | 25 | (2)            | 21.0                   | 21.8                       | 21.8                          | 21.8                        |
|        |             | 50        | High            | 50 | (2)            | 21.0                   | 21.8                       | 21.8                          | 21.8                        |
|        |             | 100       | -               | 0  | (2)            | 21.0                   | 21.8                       | 21.8                          | 21.8                        |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|        |             |           |                 |    |                |                        | Frequency 1717.5 MHz (Low) | Frequency 1732.5 MHz (Middle) | Frequency 1747.5 MHz (High) |
| 15 MHz | QPSK        | 1         | Low             | 0  | (0)            | 21.0                   | 21.7                       | 22.0                          | 21.9                        |
|        |             | 1         | Mid             | 37 | (1)            | 21.0                   | 21.7                       | 21.9                          | 21.9                        |
|        |             | 1         | High            | 74 | (1)            | 21.0                   | 21.8                       | 22.0                          | 21.9                        |
|        |             | 36        | low             | 0  | (1)            | 21.0                   | 21.9                       | 21.9                          | 21.9                        |
|        |             | 36        | Mid             | 19 | (1)            | 21.0                   | 21.9                       | 21.9                          | 21.9                        |
|        |             | 36        | High            | 39 | (1)            | 21.0                   | 21.8                       | 21.9                          | 21.9                        |
|        |             | 75        | -               | 0  | (1)            | 21.0                   | 21.9                       | 21.9                          | 21.9                        |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 21.0                   | 22.1                       | 22.0                          | 21.9                        |
|        |             | 1         | Mid             | 37 | (2)            | 21.0                   | 22.0                       | 22.0                          | 21.9                        |
|        |             | 1         | High            | 74 | (2)            | 21.0                   | 22.0                       | 21.9                          | 21.9                        |
|        |             | 36        | low             | 0  | (2)            | 21.0                   | 21.9                       | 22.0                          | 21.9                        |
|        |             | 36        | Mid             | 19 | (2)            | 21.0                   | 21.9                       | 22.0                          | 21.9                        |
|        |             | 36        | High            | 39 | (0)            | 21.0                   | 21.9                       | 22.0                          | 21.9                        |
|        |             | 75        | -               | 0  | (0)            | 21.0                   | 22.0                       | 22.0                          | 21.9                        |

**LTE Band 4 (1700 MHz)****Power Back-Off Supported & Enabled (Continued)**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|--------|-------------|-----------|-----------------|----|----------------|------------------------|----------------------------|-------------------------------|-----------------------------|
|        |             |           |                 |    |                |                        | Frequency 1715.0 MHz (Low) | Frequency 1732.5 MHz (Middle) | Frequency 1750 MHz (High)   |
| 10 MHz | QPSK        | 1         | Low             | 0  | (0)            | 21.0                   | 21.6                       | 21.9                          | 21.6                        |
|        |             | 1         | Mid             | 24 | (0)            | 21.0                   | 21.7                       | 22.0                          | 21.6                        |
|        |             | 1         | High            | 49 | (0)            | 21.0                   | 21.8                       | 21.9                          | 21.8                        |
|        |             | 25        | Low             | 0  | (1)            | 21.0                   | 21.9                       | 21.8                          | 21.8                        |
|        |             | 25        | Mid             | 12 | (1)            | 21.0                   | 21.7                       | 21.9                          | 21.7                        |
|        |             | 25        | High            | 25 | (1)            | 21.0                   | 21.9                       | 21.9                          | 21.8                        |
|        |             | 50        | -               | 0  | (1)            | 21.0                   | 21.9                       | 21.9                          | 21.8                        |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 21.0                   | 21.7                       | 21.9                          | 21.7                        |
|        |             | 1         | mid             | 24 | (1)            | 21.0                   | 21.7                       | 21.9                          | 21.7                        |
|        |             | 1         | High            | 49 | (1)            | 21.0                   | 22.0                       | 21.9                          | 21.7                        |
|        |             | 25        | Low             | 0  | (2)            | 21.0                   | 21.9                       | 21.9                          | 21.8                        |
|        |             | 25        | Mid             | 12 | (2)            | 21.0                   | 21.8                       | 21.9                          | 21.8                        |
|        |             | 25        | High            | 25 | (2)            | 21.0                   | 21.8                       | 21.9                          | 21.8                        |
|        |             | 50        | -               | 0  | (2)            | 21.0                   | 21.7                       | 21.9                          | 21.8                        |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|        |             |           |                 |    |                |                        | Frequency 1712.5 MHz (Low) | Frequency 1732.5 MHz (Middle) | Frequency 1752.5 MHz (High) |
| 5 MHz  | QPSK        | 1         | Low             | 0  | (0)            | 21.0                   | 21.7                       | 21.9                          | 21.8                        |
|        |             | 1         | Mid             | 12 | (1)            | 21.0                   | 21.8                       | 21.9                          | 21.8                        |
|        |             | 1         | High            | 24 | (1)            | 21.0                   | 21.7                       | 21.9                          | 21.8                        |
|        |             | 12        | low             | 0  | (1)            | 21.0                   | 21.9                       | 21.9                          | 21.8                        |
|        |             | 12        | Mid             | 6  | (1)            | 21.0                   | 21.8                       | 21.9                          | 21.7                        |
|        |             | 12        | High            | 13 | (1)            | 21.0                   | 21.8                       | 21.9                          | 21.8                        |
|        |             | 25        | -               | 0  | (1)            | 21.0                   | 21.7                       | 21.9                          | 21.8                        |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 21.0                   | 22.0                       | 21.9                          | 21.7                        |
|        |             | 1         | Mid             | 12 | (2)            | 21.0                   | 22.0                       | 21.9                          | 21.7                        |
|        |             | 1         | High            | 24 | (2)            | 21.0                   | 22.0                       | 21.9                          | 21.8                        |
|        |             | 12        | low             | 0  | (2)            | 21.0                   | 22.0                       | 21.9                          | 21.7                        |
|        |             | 12        | Mid             | 6  | (2)            | 21.0                   | 21.9                       | 21.9                          | 21.8                        |
|        |             | 12        | High            | 13 | (0)            | 21.0                   | 21.9                       | 21.9                          | 21.8                        |
|        |             | 25        | -               | 0  | (0)            | 21.0                   | 21.9                       | 21.9                          | 21.7                        |

**LTE Band 4 (1700 MHz)****Power Back-Off Supported & Enabled (Continued)**

| Ch. BW  | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|---------|-------------|-----------|-----------------|----|----------------|------------------------|----------------------------|-------------------------------|-----------------------------|
|         |             |           |                 |    |                |                        | Frequency 1711.5 MHz (Low) | Frequency 1732.5 MHz (Middle) | Frequency 1753.5 MHz (High) |
| 3 MHz   | QPSK        | 1         | Low             | 0  | (0)            | 21.0                   | 21.6                       | 21.9                          | 21.8                        |
|         |             | 1         | Mid             | 7  | (0)            | 21.0                   | 21.7                       | 21.9                          | 21.8                        |
|         |             | 1         | High            | 14 | (0)            | 21.0                   | 21.7                       | 21.9                          | 21.8                        |
|         |             | 8         | Low             | 0  | (1)            | 21.0                   | 21.8                       | 21.9                          | 21.8                        |
|         |             | 8         | Mid             | 4  | (1)            | 21.0                   | 21.8                       | 21.9                          | 21.8                        |
|         |             | 8         | High            | 7  | (1)            | 21.0                   | 21.9                       | 21.9                          | 21.8                        |
|         |             | 15        | -               | 0  | (1)            | 21.0                   | 21.9                       | 21.9                          | 21.8                        |
|         | 16QAM       | 1         | Low             | 0  | (1)            | 21.0                   | 22.2                       | 21.9                          | 21.8                        |
|         |             | 1         | Mid             | 7  | (1)            | 21.0                   | 21.9                       | 21.9                          | 21.8                        |
|         |             | 1         | High            | 14 | (1)            | 21.0                   | 22.0                       | 21.9                          | 21.8                        |
|         |             | 8         | Low             | 0  | (2)            | 21.0                   | 21.9                       | 21.9                          | 21.8                        |
|         |             | 8         | Mid             | 4  | (2)            | 21.0                   | 22.0                       | 21.9                          | 21.8                        |
|         |             | 8         | High            | 7  | (2)            | 21.0                   | 22.0                       | 21.9                          | 21.8                        |
|         |             | 15        | -               | 0  | (2)            | 21.0                   | 21.9                       | 21.9                          | 21.8                        |
| Ch. BW  | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|         |             |           |                 |    |                |                        | Frequency 1710.7 MHz (Low) | Frequency 1732.5 MHz (Middle) | Frequency 1754.3 MHz (High) |
| 1.4 MHz | QPSK        | 1         | Low             | 0  | 1              | 21.0                   | 21.7                       | 22.0                          | 21.9                        |
|         |             | 1         | Mid             | 3  | 1              | 21.0                   | 21.6                       | 21.9                          | 21.8                        |
|         |             | 1         | High            | 5  | 1              | 21.0                   | 21.7                       | 22.0                          | 21.8                        |
|         |             | 3         | Low             | 0  | 3              | 21.0                   | 21.8                       | 21.9                          | 21.8                        |
|         |             | 3         | Mid             | 1  | 3              | 21.0                   | 21.8                       | 22.0                          | 21.8                        |
|         |             | 3         | high            | 3  | 3              | 21.0                   | 21.8                       | 21.9                          | 21.8                        |
|         |             | 6         | -               | 0  | 6              | 21.0                   | 21.8                       | 22.0                          | 21.8                        |
|         | 16QAM       | 1         | Low             | 0  | 1              | 21.0                   | 21.8                       | 22.0                          | 21.8                        |
|         |             | 1         | Mid             | 3  | 1              | 21.0                   | 21.8                       | 21.9                          | 21.8                        |
|         |             | 1         | High            | 5  | 1              | 21.0                   | 22.0                       | 21.9                          | 21.8                        |
|         |             | 3         | Low             | 0  | 3              | 21.0                   | 21.6                       | 21.9                          | 21.8                        |
|         |             | 3         | Mid             | 1  | 3              | 21.0                   | 21.7                       | 22.0                          | 21.8                        |
|         |             | 3         | high            | 3  | 3              | 21.0                   | 21.9                       | 21.9                          | 21.8                        |
|         |             | 6         | -               | 0  | 6              | 21.0                   | 21.9                       | 21.9                          | 21.8                        |

**7.6.5.LTE Band 5 (850 MHz)****Power Back-Off NOT Supported**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm). |                              |                            |
|--------|-------------|-----------|-----------------|----|----------------|------------------------|---------------------------|------------------------------|----------------------------|
|        |             |           |                 |    |                |                        | Frequency 829.0 MHz (Low) | Frequency 836.5 MHz (Middle) | Frequency 844.0 MHz (High) |
| 10 MHz | QPSK        | 1         | Low             | 0  | (0)            | 23.0                   | 23.2                      | 23.2                         | 23.2                       |
|        |             | 1         | Mid             | 24 | (0)            | 23.0                   | 23.2                      | 23.2                         | 23.2                       |
|        |             | 1         | High            | 49 | (0)            | 23.0                   | 23.2                      | 23.2                         | 23.2                       |
|        |             | 25        | Low             | 0  | (1)            | 22.0                   | 22.4                      | 22.4                         | 22.4                       |
|        |             | 25        | Mid             | 12 | (1)            | 22.0                   | 22.4                      | 22.4                         | 22.4                       |
|        |             | 25        | High            | 25 | (1)            | 22.0                   | 22.4                      | 22.4                         | 22.4                       |
|        |             | 50        | -               | 0  | (1)            | 22.0                   | 22.4                      | 22.4                         | 22.4                       |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 22.0                   | 22.4                      | 22.5                         | 22.4                       |
|        |             | 1         | mid             | 24 | (1)            | 22.0                   | 22.4                      | 22.4                         | 22.4                       |
|        |             | 1         | High            | 49 | (1)            | 22.0                   | 22.4                      | 22.4                         | 22.4                       |
|        |             | 25        | Low             | 0  | (2)            | 21.0                   | 21.4                      | 21.4                         | 21.4                       |
|        |             | 25        | Mid             | 12 | (2)            | 21.0                   | 21.3                      | 21.3                         | 21.3                       |
|        |             | 25        | High            | 25 | (2)            | 21.0                   | 21.4                      | 21.3                         | 21.4                       |
|        |             | 50        | -               | 0  | (2)            | 21.0                   | 21.3                      | 21.3                         | 21.3                       |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm). |                              |                            |
|        |             |           |                 |    |                |                        | Frequency 826.5 MHz (Low) | Frequency 836.5 MHz (Middle) | Frequency 846.5 MHz (High) |
| 5 MHz  | QPSK        | 1         | Low             | 0  | (0)            | 23.0                   | 23.2                      | 23.2                         | 23.2                       |
|        |             | 1         | Mid             | 12 | (0)            | 23.0                   | 23.2                      | 23.3                         | 23.2                       |
|        |             | 1         | High            | 24 | (0)            | 23.0                   | 23.2                      | 23.3                         | 23.3                       |
|        |             | 12        | low             | 0  | (1)            | 22.0                   | 22.3                      | 22.4                         | 22.3                       |
|        |             | 12        | Mid             | 6  | (1)            | 22.0                   | 22.4                      | 22.3                         | 22.4                       |
|        |             | 12        | High            | 13 | (1)            | 22.0                   | 22.4                      | 22.4                         | 22.4                       |
|        |             | 25        | -               | 0  | (1)            | 22.0                   | 22.3                      | 22.3                         | 22.3                       |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 22.0                   | 22.2                      | 22.2                         | 22.2                       |
|        |             | 1         | Mid             | 12 | (1)            | 22.0                   | 22.2                      | 22.2                         | 22.3                       |
|        |             | 1         | High            | 24 | (1)            | 22.0                   | 22.3                      | 22.3                         | 22.3                       |
|        |             | 12        | low             | 0  | (2)            | 21.0                   | 21.3                      | 21.3                         | 21.3                       |
|        |             | 12        | Mid             | 6  | (2)            | 21.0                   | 21.3                      | 21.2                         | 21.2                       |
|        |             | 12        | High            | 13 | (2)            | 21.0                   | 21.3                      | 21.3                         | 21.3                       |
|        |             | 25        | -               | 0  | (2)            | 21.0                   | 21.4                      | 21.4                         | 21.4                       |

**LTE Band 5 (850 MHz)****Power Back-Off NOT Supported (Continued):**

| Ch. BW  | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm). |                              |                            |
|---------|-------------|-----------|-----------------|----|----------------|------------------------|---------------------------|------------------------------|----------------------------|
|         |             |           |                 |    |                |                        | Frequency 825.5 MHz (Low) | Frequency 836.5 MHz (Middle) | Frequency 847.5 MHz (High) |
| 3 MHz   | QPSK        | 1         | Low             | 0  | (0)            | 23.0                   | 23.3                      | 23.3                         | 23.3                       |
|         |             | 1         | Mid             | 7  | (0)            | 23.0                   | 23.2                      | 23.2                         | 23.2                       |
|         |             | 1         | High            | 14 | (0)            | 23.0                   | 23.3                      | 23.3                         | 23.3                       |
|         |             | 8         | Low             | 0  | (1)            | 22.0                   | 22.4                      | 22.4                         | 22.4                       |
|         |             | 8         | Mid             | 4  | (1)            | 22.0                   | 22.4                      | 22.4                         | 22.4                       |
|         |             | 8         | High            | 7  | (1)            | 22.0                   | 22.4                      | 22.4                         | 22.4                       |
|         |             | 15        | -               | 0  | (1)            | 22.0                   | 22.4                      | 22.4                         | 22.4                       |
|         | 16QAM       | 1         | Low             | 0  | (1)            | 22.0                   | 22.5                      | 22.5                         | 22.5                       |
|         |             | 1         | Mid             | 7  | (1)            | 22.0                   | 22.4                      | 22.4                         | 22.4                       |
|         |             | 1         | High            | 14 | (1)            | 22.0                   | 22.5                      | 22.5                         | 22.5                       |
|         |             | 8         | Low             | 0  | (2)            | 21.0                   | 21.4                      | 21.4                         | 21.4                       |
|         |             | 8         | Mid             | 4  | (2)            | 21.0                   | 21.4                      | 21.4                         | 21.4                       |
|         |             | 8         | High            | 7  | (2)            | 21.0                   | 21.4                      | 21.4                         | 21.4                       |
|         |             | 15        | -               | 0  | (2)            | 21.0                   | 21.4                      | 21.4                         | 21.4                       |
| Ch. BW  | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm). |                              |                            |
|         |             |           |                 |    |                |                        | Frequency 824.7 MHz (Low) | Frequency 836.5 MHz (Middle) | Frequency 848.3 MHz (High) |
| 1.4 MHz | QPSK        | 1         | Low             | 0  | (0)            | 23.0                   | 23.4                      | 23.4                         | 23.4                       |
|         |             | 1         | Mid             | 3  | (0)            | 23.0                   | 23.3                      | 23.3                         | 23.3                       |
|         |             | 1         | High            | 5  | (0)            | 23.0                   | 23.4                      | 23.4                         | 23.4                       |
|         |             | 3         | Low             | 0  | (0)            | 22.0                   | 23.3                      | 23.3                         | 23.3                       |
|         |             | 3         | Mid             | 1  | (0)            | 22.0                   | 23.3                      | 23.3                         | 23.3                       |
|         |             | 3         | high            | 3  | (0)            | 22.0                   | 23.4                      | 23.4                         | 23.4                       |
|         |             | 6         | -               | 0  | (1)            | 22.0                   | 22.4                      | 22.4                         | 22.4                       |
|         | 16QAM       | 1         | Low             | 0  | (1)            | 22.0                   | 22.7                      | 22.5                         | 22.6                       |
|         |             | 1         | Mid             | 3  | (1)            | 22.0                   | 22.8                      | 22.5                         | 22.6                       |
|         |             | 1         | High            | 5  | (1)            | 22.0                   | 22.8                      | 22.6                         | 22.5                       |
|         |             | 3         | Low             | 0  | (1)            | 21.0                   | 22.3                      | 22.3                         | 22.2                       |
|         |             | 3         | Mid             | 1  | (1)            | 21.0                   | 22.3                      | 22.3                         | 22.2                       |
|         |             | 3         | high            | 3  | (1)            | 21.0                   | 22.3                      | 22.2                         | 22.2                       |
|         |             | 6         | -               | 0  | (2)            | 21.0                   | 21.4                      | 21.5                         | 21.4                       |

**7.6.6.LTE Band 7 (2600 MHz)****Power Back-Off Supported & Disabled**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|--------|-------------|-----------|-----------------|----|----------------|------------------------|----------------------------|-------------------------------|-----------------------------|
|        |             |           |                 |    |                |                        | Frequency 2510.0 MHz (Low) | Frequency 2535.0 MHz (Middle) | Frequency 2560.0 MHz (High) |
| 20 MHz | QPSK        | 1         | Low             | 0  | (0)            | 23.0                   | 23.7                       | 23.9                          | 24.0                        |
|        |             | 1         | Mid             | 49 | (0)            | 23.0                   | 23.9                       | 23.8                          | 24.1                        |
|        |             | 1         | High            | 99 | (0)            | 23.0                   | 23.8                       | 23.8                          | <b>24.4</b>                 |
|        |             | 50        | low             | 0  | (1)            | 22.0                   | 22.9                       | 22.9                          | 23.3                        |
|        |             | 50        | Mid             | 25 | (1)            | 22.0                   | 23.0                       | 23.0                          | 23.1                        |
|        |             | 50        | High            | 50 | (1)            | 22.0                   | 23.0                       | 22.9                          | <b>23.3</b>                 |
|        |             | 100       | -               | 0  | (1)            | 22.0                   | 22.9                       | 23.0                          | 23.2                        |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 22.0                   | 22.7                       | 22.9                          | 22.9                        |
|        |             | 1         | Mid             | 49 | (1)            | 22.0                   | 23.2                       | 22.7                          | 22.9                        |
|        |             | 1         | High            | 99 | (1)            | 22.0                   | 23.2                       | 22.8                          | 23.1                        |
|        |             | 50        | low             | 0  | (2)            | 21.0                   | 21.9                       | 21.9                          | 22.1                        |
|        |             | 50        | Mid             | 25 | (2)            | 21.0                   | 21.9                       | 21.9                          | 21.9                        |
|        |             | 50        | High            | 50 | (2)            | 21.0                   | 21.9                       | 21.9                          | 22.0                        |
|        |             | 100       | -               | 0  | (2)            | 21.0                   | 21.9                       | 21.9                          | 22.0                        |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|        |             |           |                 |    |                |                        | Frequency 2507.5 MHz (Low) | Frequency 2535.0 MHz (Middle) | Frequency 2562.5 MHz (High) |
| 15 MHz | QPSK        | 1         | Low             | 0  | (0)            | 23.0                   | 23.9                       | 23.8                          | 23.9                        |
|        |             | 1         | Mid             | 37 | (1)            | 23.0                   | 23.9                       | 23.8                          | 23.8                        |
|        |             | 1         | High            | 74 | (1)            | 23.0                   | 23.9                       | 23.9                          | 23.9                        |
|        |             | 36        | low             | 0  | (1)            | 22.0                   | 22.9                       | 23.1                          | 23.2                        |
|        |             | 36        | Mid             | 19 | (1)            | 22.0                   | 22.9                       | 23.0                          | 23.0                        |
|        |             | 36        | High            | 39 | (1)            | 22.0                   | 22.9                       | 23.0                          | 23.2                        |
|        |             | 75        | -               | 0  | (1)            | 22.0                   | 22.8                       | 23.0                          | 23.1                        |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 22.0                   | 22.9                       | 22.9                          | 23.1                        |
|        |             | 1         | Mid             | 37 | (2)            | 22.0                   | 22.9                       | 22.8                          | 23.0                        |
|        |             | 1         | High            | 74 | (2)            | 22.0                   | 23.0                       | 22.9                          | 23.2                        |
|        |             | 36        | low             | 0  | (2)            | 21.0                   | 22.0                       | 22.0                          | 22.0                        |
|        |             | 36        | Mid             | 19 | (2)            | 21.0                   | 21.9                       | 21.9                          | 22.0                        |
|        |             | 36        | High            | 39 | (0)            | 21.0                   | 21.9                       | 21.9                          | 22.0                        |
|        |             | 75        | -               | 0  | (0)            | 21.0                   | 21.9                       | 21.9                          | 22.0                        |

**LTE Band 7 (2600 MHz)****Power Back-Off Supported & Disabled (Continued):**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|--------|-------------|-----------|-----------------|----|----------------|------------------------|----------------------------|-------------------------------|-----------------------------|
|        |             |           |                 |    |                |                        | Frequency 2505.0 MHz (Low) | Frequency 2535.0 MHz (Middle) | Frequency 2565.0 MHz (High) |
| 10 MHz | QPSK        | 1         | Low             | 0  | (0)            | 23.0                   | 23.9                       | 23.9                          | 24.0                        |
|        |             | 1         | Mid             | 24 | (0)            | 23.0                   | 23.8                       | 23.8                          | 24.0                        |
|        |             | 1         | High            | 49 | (0)            | 23.0                   | 23.9                       | 23.9                          | 24.3                        |
|        |             | 25        | Low             | 0  | (1)            | 22.0                   | 22.9                       | 23.0                          | 23.1                        |
|        |             | 25        | Mid             | 12 | (1)            | 22.0                   | 22.9                       | 22.9                          | 23.2                        |
|        |             | 25        | High            | 25 | (1)            | 22.0                   | 22.9                       | 23.0                          | 23.2                        |
|        |             | 50        | -               | 0  | (1)            | 22.0                   | 22.9                       | 23.0                          | 23.1                        |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 22.0                   | 22.9                       | 22.9                          | 23.0                        |
|        |             | 1         | mid             | 24 | (1)            | 22.0                   | 23.0                       | 22.9                          | 23.0                        |
|        |             | 1         | High            | 49 | (1)            | 22.0                   | 22.8                       | 22.9                          | 23.1                        |
|        |             | 25        | Low             | 0  | (2)            | 21.0                   | 21.9                       | 22.0                          | 22.1                        |
|        |             | 25        | Mid             | 12 | (2)            | 21.0                   | 22.0                       | 21.8                          | 22.2                        |
|        |             | 25        | High            | 25 | (2)            | 21.0                   | 21.9                       | 22.0                          | 22.1                        |
|        |             | 50        | -               | 0  | (2)            | 21.0                   | 21.9                       | 22.0                          | 22.1                        |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|        |             |           |                 |    |                |                        | Frequency 2510.0 MHz (Low) | Frequency 2535.0 MHz (Middle) | Frequency 2567.5 MHz (High) |
| 5 MHz  | QPSK        | 1         | Low             | 0  | (0)            | 23.0                   | 23.9                       | 23.8                          | 24.1                        |
|        |             | 1         | Mid             | 12 | (1)            | 23.0                   | 23.9                       | 23.7                          | 24.1                        |
|        |             | 1         | High            | 24 | (1)            | 23.0                   | 23.9                       | 23.7                          | 24.1                        |
|        |             | 12        | low             | 0  | (1)            | 22.0                   | 22.9                       | 22.9                          | 23.1                        |
|        |             | 12        | Mid             | 6  | (1)            | 22.0                   | 22.8                       | 22.8                          | 23.1                        |
|        |             | 12        | High            | 13 | (1)            | 22.0                   | 23.0                       | 22.8                          | 23.2                        |
|        |             | 25        | -               | 0  | (1)            | 22.0                   | 22.8                       | 22.8                          | 23.2                        |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 22.0                   | 22.9                       | 22.9                          | 23.3                        |
|        |             | 1         | Mid             | 12 | (2)            | 22.0                   | 22.7                       | 23.0                          | 23.2                        |
|        |             | 1         | High            | 24 | (2)            | 22.0                   | 22.8                       | 23.0                          | 23.2                        |
|        |             | 12        | low             | 0  | (2)            | 21.0                   | 21.8                       | 21.8                          | 22.1                        |
|        |             | 12        | Mid             | 6  | (2)            | 21.0                   | 21.8                       | 21.8                          | 22.1                        |
|        |             | 12        | High            | 13 | (0)            | 21.0                   | 21.9                       | 21.7                          | 22.1                        |
|        |             | 25        | -               | 0  | (0)            | 21.0                   | 21.9                       | 21.8                          | 22.1                        |

**7.6.7.LTE Band 7 (2600 MHz)****Power Back-Off Supported & Enabled**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|--------|-------------|-----------|-----------------|----|----------------|------------------------|----------------------------|-------------------------------|-----------------------------|
|        |             |           |                 |    |                |                        | Frequency 2510.0 MHz (Low) | Frequency 2535.0 MHz (Middle) | Frequency 2560.0 MHz (High) |
| 20 MHz | QPSK        | 1         | Low             | 0  | (0)            | 23.0                   | 23.4                       | 23.5                          | 23.8                        |
|        |             | 1         | Mid             | 49 | (0)            | 23.0                   | 23.4                       | 23.5                          | 23.8                        |
|        |             | 1         | High            | 99 | (0)            | 23.0                   | 23.4                       | 23.6                          | 23.8                        |
|        |             | 50        | low             | 0  | (1)            | 22.0                   | 22.5                       | 22.6                          | 22.9                        |
|        |             | 50        | Mid             | 25 | (1)            | 22.0                   | 22.5                       | 22.6                          | 22.8                        |
|        |             | 50        | High            | 50 | (1)            | 22.0                   | 22.5                       | 22.7                          | 22.8                        |
|        |             | 100       | -               | 0  | (1)            | 22.0                   | 22.5                       | 22.7                          | 22.8                        |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 22.0                   | 22.4                       | 22.9                          | 22.7                        |
|        |             | 1         | Mid             | 49 | (1)            | 22.0                   | 22.4                       | 22.9                          | 22.7                        |
|        |             | 1         | High            | 99 | (1)            | 22.0                   | 22.4                       | 23.0                          | 22.7                        |
|        |             | 50        | low             | 0  | (2)            | 21.0                   | 21.5                       | 21.6                          | 21.9                        |
|        |             | 50        | Mid             | 25 | (2)            | 21.0                   | 21.4                       | 21.6                          | 21.7                        |
|        |             | 50        | High            | 50 | (2)            | 21.0                   | 21.4                       | 21.7                          | 21.7                        |
|        |             | 100       | -               | 0  | (2)            | 21.0                   | 21.6                       | 21.6                          | 21.7                        |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|        |             |           |                 |    |                |                        | Frequency 2507.5 MHz (Low) | Frequency 2535.0 MHz (Middle) | Frequency 2562.5 MHz (High) |
| 15 MHz | QPSK        | 1         | Low             | 0  | (0)            | 23.0                   | 23.5                       | 23.5                          | 23.6                        |
|        |             | 1         | Mid             | 37 | (1)            | 23.0                   | 23.6                       | 23.5                          | 23.6                        |
|        |             | 1         | High            | 74 | (1)            | 23.0                   | 23.5                       | 23.7                          | 23.6                        |
|        |             | 36        | low             | 0  | (1)            | 22.0                   | 22.6                       | 22.6                          | 22.8                        |
|        |             | 36        | Mid             | 19 | (1)            | 22.0                   | 22.5                       | 22.6                          | 22.7                        |
|        |             | 36        | High            | 39 | (1)            | 22.0                   | 22.5                       | 22.8                          | 22.7                        |
|        |             | 75        | -               | 0  | (1)            | 22.0                   | 22.5                       | 22.7                          | 22.7                        |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 22.0                   | 22.5                       | 22.6                          | 22.7                        |
|        |             | 1         | Mid             | 37 | (2)            | 22.0                   | 22.6                       | 22.5                          | 22.7                        |
|        |             | 1         | High            | 74 | (2)            | 22.0                   | 22.6                       | 22.6                          | 22.7                        |
|        |             | 36        | low             | 0  | (2)            | 21.0                   | 21.5                       | 21.6                          | 21.6                        |
|        |             | 36        | Mid             | 19 | (2)            | 21.0                   | 21.5                       | 21.6                          | 21.7                        |
|        |             | 36        | High            | 39 | (0)            | 21.0                   | 21.5                       | 21.8                          | 21.7                        |
|        |             | 75        | -               | 0  | (0)            | 21.0                   | 21.8                       | 21.6                          | 21.7                        |

**LTE Band 7 (2600 MHz)****Power Back-Off Supported & Enabled (Continued):**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|--------|-------------|-----------|-----------------|----|----------------|------------------------|----------------------------|-------------------------------|-----------------------------|
|        |             |           |                 |    |                |                        | Frequency 2505.0 MHz (Low) | Frequency 2535.0 MHz (Middle) | Frequency 2565.0 MHz (High) |
| 10 MHz | QPSK        | 1         | Low             | 0  | (0)            | 23.0                   | 23.5                       | 23.5                          | 23.6                        |
|        |             | 1         | Mid             | 24 | (0)            | 23.0                   | 23.5                       | 23.6                          | 23.6                        |
|        |             | 1         | High            | 49 | (0)            | 23.0                   | 23.4                       | 23.8                          | 23.7                        |
|        |             | 25        | Low             | 0  | (1)            | 22.0                   | 22.5                       | 22.6                          | 22.8                        |
|        |             | 25        | Mid             | 12 | (1)            | 22.0                   | 22.6                       | 22.6                          | 22.8                        |
|        |             | 25        | High            | 25 | (1)            | 22.0                   | 22.5                       | 22.6                          | 22.8                        |
|        |             | 50        | -               | 0  | (1)            | 22.0                   | 22.6                       | 22.6                          | 22.9                        |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 22.0                   | 22.6                       | 22.6                          | 22.8                        |
|        |             | 1         | mid             | 24 | (1)            | 22.0                   | 22.5                       | 22.6                          | 22.7                        |
|        |             | 1         | High            | 49 | (1)            | 22.0                   | 22.5                       | 22.8                          | 22.7                        |
|        |             | 25        | Low             | 0  | (2)            | 21.0                   | 21.5                       | 21.6                          | 21.8                        |
|        |             | 25        | Mid             | 12 | (2)            | 21.0                   | 21.6                       | 21.7                          | 21.7                        |
|        |             | 25        | High            | 25 | (2)            | 21.0                   | 21.6                       | 21.6                          | 21.8                        |
|        |             | 50        | -               | 0  | (2)            | 21.0                   | 21.6                       | 21.6                          | 21.8                        |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm).  |                               |                             |
|        |             |           |                 |    |                |                        | Frequency 2510.0 MHz (Low) | Frequency 2535.0 MHz (Middle) | Frequency 2567.5 MHz (High) |
| 5 MHz  | QPSK        | 1         | Low             | 0  | (0)            | 23.0                   | 23.5                       | 23.4                          | 23.7                        |
|        |             | 1         | Mid             | 12 | (1)            | 23.0                   | 23.5                       | 23.4                          | 23.7                        |
|        |             | 1         | High            | 24 | (1)            | 23.0                   | 23.6                       | 23.5                          | 23.7                        |
|        |             | 12        | low             | 0  | (1)            | 22.0                   | 22.5                       | 22.7                          | 22.8                        |
|        |             | 12        | Mid             | 6  | (1)            | 22.0                   | 22.5                       | 22.6                          | 22.8                        |
|        |             | 12        | High            | 13 | (1)            | 22.0                   | 22.6                       | 22.6                          | 22.8                        |
|        |             | 25        | -               | 0  | (1)            | 22.0                   | 22.5                       | 22.6                          | 22.8                        |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 22.0                   | 22.6                       | 22.6                          | 22.6                        |
|        |             | 1         | Mid             | 12 | (2)            | 22.0                   | 22.7                       | 22.7                          | 22.7                        |
|        |             | 1         | High            | 24 | (2)            | 22.0                   | 22.7                       | 22.8                          | 22.7                        |
|        |             | 12        | low             | 0  | (2)            | 21.0                   | 21.4                       | 21.7                          | 21.7                        |
|        |             | 12        | Mid             | 6  | (2)            | 21.0                   | 21.4                       | 21.6                          | 21.7                        |
|        |             | 12        | High            | 13 | (0)            | 21.0                   | 21.5                       | 21.6                          | 21.7                        |
|        |             | 25        | -               | 0  | (0)            | 21.0                   | 21.4                       | 21.6                          | 21.8                        |

**7.6.8.LTE Band 13 (750 MHz)****Power Back-Off NOT Supported**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm). |                              |                            |
|--------|-------------|-----------|-----------------|----|----------------|------------------------|---------------------------|------------------------------|----------------------------|
|        |             |           |                 |    |                |                        | Band Edge                 | Frequency 782.0 MHz (Middle) | Band Edge                  |
| 10 MHz | QPSK        | 1         | Low             | 0  | (0)            | 23.0                   | Not Supported             | 23.3                         | Not Supported              |
|        |             | 1         | Mid             | 24 | (0)            | 23.0                   |                           | 23.4                         |                            |
|        |             | 1         | High            | 49 | (0)            | 23.0                   |                           | 23.4                         |                            |
|        |             | 25        | Low             | 0  | (1)            | 22.0                   |                           | 22.5                         |                            |
|        |             | 25        | Mid             | 12 | (1)            | 22.0                   |                           | 22.5                         |                            |
|        |             | 25        | High            | 25 | (1)            | 22.0                   |                           | 22.5                         |                            |
|        |             | 50        | -               | 0  | (1)            | 22.0                   |                           | 22.5                         |                            |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 22.0                   |                           | 22.4                         |                            |
|        |             | 1         | mid             | 24 | (1)            | 22.0                   |                           | 22.4                         |                            |
|        |             | 1         | High            | 49 | (1)            | 22.0                   |                           | 22.5                         |                            |
|        |             | 25        | Low             | 0  | (2)            | 21.0                   |                           | 21.4                         |                            |
|        |             | 25        | Mid             | 12 | (2)            | 21.0                   |                           | 21.5                         |                            |
|        |             | 25        | High            | 25 | (2)            | 21.0                   |                           | 21.5                         |                            |
|        |             | 50        | -               | 0  | (2)            | 21.0                   |                           | 21.4                         |                            |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm). |                              |                            |
|        |             |           |                 |    |                |                        | Frequency 779.5 MHz (Low) | Frequency 782.0 MHz (Middle) | Frequency 784.5 MHz (High) |
| 5 MHz  | QPSK        | 1         | Low             | 0  | (0)            | 23.0                   | Not Supported             | 23.4                         | Not Supported              |
|        |             | 1         | Mid             | 12 | (0)            | 23.0                   |                           | 23.4                         |                            |
|        |             | 1         | High            | 24 | (0)            | 23.0                   |                           | 23.4                         |                            |
|        |             | 12        | low             | 0  | (1)            | 22.0                   |                           | 22.5                         |                            |
|        |             | 12        | Mid             | 6  | (1)            | 22.0                   |                           | 22.5                         |                            |
|        |             | 12        | High            | 13 | (1)            | 22.0                   |                           | 22.5                         |                            |
|        |             | 25        | -               | 0  | (1)            | 22.0                   |                           | 22.5                         |                            |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 22.0                   |                           | 22.4                         |                            |
|        |             | 1         | Mid             | 12 | (1)            | 22.0                   |                           | 22.4                         |                            |
|        |             | 1         | High            | 24 | (1)            | 22.0                   |                           | 22.4                         |                            |
|        |             | 12        | low             | 0  | (2)            | 21.0                   |                           | 21.4                         |                            |
|        |             | 12        | Mid             | 6  | (2)            | 21.0                   |                           | 21.5                         |                            |
|        |             | 12        | High            | 13 | (2)            | 21.0                   |                           | 21.4                         |                            |
|        |             | 25        | -               | 0  | (2)            | 21.0                   |                           | 21.6                         |                            |

**7.6.9.LTE Band 17 (700 MHz)****Power Back-Off NOT Supported**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm). |                              |                            |
|--------|-------------|-----------|-----------------|----|----------------|------------------------|---------------------------|------------------------------|----------------------------|
|        |             |           |                 |    |                |                        | Frequency 709.0 MHz (Low) | Frequency 710.0 MHz (Middle) | Frequency 711.0 MHz (High) |
| 10 MHz | QPSK        | 1         | Low             | 0  | (0)            | 23.0                   | 23.4                      | 23.3                         | 23.2                       |
|        |             | 1         | Mid             | 24 | (0)            | 23.0                   | 23.3                      | 23.2                         | 23.2                       |
|        |             | 1         | High            | 49 | (0)            | 23.0                   | 23.4                      | 23.3                         | 23.3                       |
|        |             | 25        | Low             | 0  | (1)            | 22.0                   | 22.4                      | 22.3                         | 22.4                       |
|        |             | 25        | Mid             | 12 | (1)            | 22.0                   | 22.4                      | 22.4                         | 22.4                       |
|        |             | 25        | High            | 25 | (1)            | 22.0                   | 22.5                      | 22.4                         | 22.4                       |
|        |             | 50        | -               | 0  | (1)            | 22.0                   | 22.3                      | 22.4                         | 22.5                       |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 22.0                   | 22.3                      | 22.4                         | 22.5                       |
|        |             | 1         | mid             | 24 | (1)            | 22.0                   | 22.2                      | 22.3                         | 22.4                       |
|        |             | 1         | High            | 49 | (1)            | 22.0                   | 22.3                      | 22.5                         | 22.5                       |
|        |             | 25        | Low             | 0  | (2)            | 21.0                   | 21.4                      | 21.3                         | 21.4                       |
|        |             | 25        | Mid             | 12 | (2)            | 21.0                   | 21.4                      | 21.3                         | 21.4                       |
|        |             | 25        | High            | 25 | (2)            | 21.0                   | 21.5                      | 21.4                         | 21.4                       |
|        |             | 50        | -               | 0  | (2)            | 21.0                   | 21.3                      | 21.3                         | 21.4                       |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | Power Back-Off | Actual Max Power (dBm) | Measured Avg Power (dBm). |                              |                            |
|        |             |           |                 |    |                |                        | Frequency 706.5 MHz (Low) | Frequency 710.0 MHz (Middle) | Frequency 713.5 MHz (High) |
| 5 MHz  | QPSK        | 1         | Low             | 0  | (0)            | 23.0                   | Not Supported             | 23.3                         | Not Supported              |
|        |             | 1         | Mid             | 12 | (0)            | 23.0                   |                           | 23.3                         |                            |
|        |             | 1         | High            | 24 | (0)            | 23.0                   |                           | 23.4                         |                            |
|        |             | 12        | low             | 0  | (1)            | 22.0                   |                           | 22.4                         |                            |
|        |             | 12        | Mid             | 6  | (1)            | 22.0                   |                           | 22.4                         |                            |
|        |             | 12        | High            | 13 | (1)            | 22.0                   |                           | 22.4                         |                            |
|        |             | 25        | -               | 0  | (1)            | 22.0                   |                           | 22.4                         |                            |
|        | 16QAM       | 1         | Low             | 0  | (1)            | 22.0                   |                           | 22.2                         |                            |
|        |             | 1         | Mid             | 12 | (1)            | 22.0                   |                           | 22.2                         |                            |
|        |             | 1         | High            | 24 | (1)            | 22.0                   |                           | 22.3                         |                            |
|        |             | 12        | low             | 0  | (2)            | 21.0                   |                           | 21.3                         |                            |
|        |             | 12        | Mid             | 6  | (2)            | 21.0                   |                           | 21.3                         |                            |
|        |             | 12        | High            | 13 | (2)            | 21.0                   |                           | 21.3                         |                            |
|        |             | 25        | -               | 0  | (2)            | 21.0                   |                           | 21.5                         |                            |

**7.7.RF Output Average Power Measurement: Wi-Fi****7.7.1.Wi-Fi 802.11b/g/n (2.4 GHz)  
Power Back-Off NOT Supported**

|                |                 | Avg Power (dBm) |                 |
|----------------|-----------------|-----------------|-----------------|
| Channel Number | Frequency (MHZ) | (1Mbps)         | Operating Mode  |
| 1              | 2412.0          | 12.8            | 802.11b         |
| 6              | 2437.0          | 12.8            |                 |
| 11             | 2462.0          | 13.2            |                 |
| Channel Number | Frequency (MHZ) | (6Mbps)         | Operating Mode  |
| 1              | 2412.0          | 12.9            | 802.11g         |
| 6              | 2437.0          | 13.4            |                 |
| 11             | 2462.0          | 13.1            |                 |
| Channel Number | Frequency (MHZ) | (6.5Mbps)       | Operating Mode  |
| 1              | 2412.0          | 12.8            | 802.11n<br>HT20 |
| 6              | 2437.0          | 12.6            |                 |
| 11             | 2462.0          | 13.0            |                 |

**7.7.2.Wi-Fi802.11a/n/ac (5.0 GHz) –Sub Band 1 (5.2 GHz UNII)****Power Back-Off NOT Supported**

|                |                 | Avg Power (dBm) |                 |
|----------------|-----------------|-----------------|-----------------|
| Channel Number | Frequency (MHZ) | 6 Mbps          | Operating Mode  |
| 36             | 5180.0          | 15.9            | 802.11a         |
| 40             | 5200.0          | 15.8            |                 |
| 44             | 5220.0          | 16.1            |                 |
| 48             | 5240.0          | 16.3            |                 |
| Channel Number | Frequency (MHZ) | 6.5 Mbps        | Operating Mode  |
| 36             | 5180.0          | 15.8            | 802.11n, HT20   |
| 40             | 5200.0          | 16.0            |                 |
| 44             | 5220.0          | 15.9            |                 |
| 48             | 5240.0          | 16.0            |                 |
| Channel Number | Frequency (MHZ) | 6.5 Mbps        | Operating Mode  |
| 36             | 5180.0          | 15.7            | 802.11ac, VHT20 |
| 40             | 5200.0          | 16.0            |                 |
| 44             | 5220.0          | 15.9            |                 |
| 48             | 5240.0          | 16.0            |                 |
| Channel Number | Frequency (MHZ) | 13.5 Mbps       | Operating Mode  |
| 38             | 5190.0          | 13.7            | 802.11n, HT40   |
| 46             | 5230.0          | 14.1            |                 |
| Channel Number | Frequency (MHZ) | 13.5 Mbps       | Operating Mode  |
| 38             | 5190.0          | 14.0            | 802.11ac, VHT40 |
| 46             | 5230.0          | 14.0            |                 |
| Channel Number | Frequency (MHZ) | 29.3 Mbps       | Operating Mode  |
| 42             | 5210.0          | 13.9            | 802.11ac, VHT80 |

**7.7.3.Wi-Fi802.11a/n/ac (5.0 GHz) –Sub Band 2 (5.3 GHz UNII)****Power Back-Off NOT Supported**

|                |                 | Avg Power (dBm) |                 |
|----------------|-----------------|-----------------|-----------------|
| Channel Number | Frequency (MHZ) | 6 Mbps          | Operating Mode  |
| 52             | 5260.0          | 16.1            | 802.11a         |
| 56             | 5280.0          | 16.0            |                 |
| 60             | 5300.0          | 15.9            |                 |
| 64             | 5320.0          | 16.3            |                 |
| Channel Number | Frequency (MHZ) | 6.5 Mbps        | Operating Mode  |
| 52             | 5260.0          | 16.0            | 802.11n, HT20   |
| 56             | 5280.0          | 15.8            |                 |
| 60             | 5300.0          | 16.1            |                 |
| 64             | 5320.0          | 16.1            |                 |
| Channel Number | Frequency (MHZ) | 6.5 Mbps        | Operating Mode  |
| 52             | 5260.0          | 16.2            | 802.11ac, VHT20 |
| 56             | 5280.0          | 16.1            |                 |
| 60             | 5300.0          | 16.0            |                 |
| 64             | 5320.0          | 16.3            |                 |
| Channel Number | Frequency (MHZ) | 13.5 Mbps       | Operating Mode  |
| 54             | 5270.0          | 13.9            | 802.11n, HT40   |
| 62             | 5310.0          | 14.1            |                 |
| Channel Number | Frequency (MHZ) | 13.5 Mbps       | Operating Mode  |
| 54             | 5270.0          | 14.0            | 802.11ac, VHT40 |
| 62             | 5310.0          | 14.0            |                 |
| Channel Number | Frequency (MHZ) | 29.3 Mbps       | Operating Mode  |
| 58             | 5290.0          | 14.0            | 802.11ac, VHT80 |

**7.7.4.Wi-Fi802.11a/n/ac (5.0 GHz) –Sub Band 3 (5.5 GHz UNII)****Power Back-Off NOT Supported**

|                |                 | Avg Power (dBm) |                 |
|----------------|-----------------|-----------------|-----------------|
| Channel Number | Frequency (MHZ) | 6 Mbps          | Operating Mode  |
| 100            | 5500.0          | 16.5            | 802.11a         |
| 104            | 5520.0          | 16.4            |                 |
| 108            | 5540.0          | 16.4            |                 |
| 112            | 5560.0          | 16.6            |                 |
| 116            | 5580.0          | 16.3            |                 |
| 132            | 5660.0          | 16.4            |                 |
| 136            | 5680.0          | 16.3            |                 |
| 140            | 5700.0          | 16.6            |                 |
| Channel Number | Frequency (MHZ) | 6.5 Mbps        | Operating Mode  |
| 100            | 5500.0          | 16.1            | 802.11n, HT20   |
| 104            | 5520.0          | 16.7            |                 |
| 108            | 5540.0          | 16.5            |                 |
| 112            | 5560.0          | 16.3            |                 |
| 116            | 5580.0          | 16.7            |                 |
| 132            | 5660.0          | 16.5            |                 |
| 136            | 5680.0          | 16.3            |                 |
| 140            | 5700.0          | 16.4            |                 |
| Channel Number | Frequency (MHZ) | 6.5 Mbps        | Operating Mode  |
| 100            | 5500.0          | 16.6            | 802.11ac, VHT20 |
| 104            | 5520.0          | 16.4            |                 |
| 108            | 5540.0          | 16.7            |                 |
| 112            | 5560.0          | 16.2            |                 |
| 116            | 5580.0          | 16.8            |                 |
| 132            | 5660.0          | 16.4            |                 |
| 136            | 5680.0          | 16.5            |                 |
| 140            | 5700.0          | 16.4            |                 |

**Wi-Fi802.11a/n/ac (5.0 GHz) –Sub Band 3 (5.5 GHz UNII)**  
**Power Back-Off NOT Supported (Continued)**

| Channel Number | Frequency (MHZ) | 13.5 Mbps | 135 Mbps | Operating Mode  |
|----------------|-----------------|-----------|----------|-----------------|
| 102            | 5510.0          | 14.6      | 14.9     | 802.11n, HT40   |
| 110            | 5550.0          | 14.6      | 15.1     |                 |
| 134            | 5670.0          | 14.5      | 14.9     |                 |
| Channel Number | Frequency (MHZ) | 13.5 Mbps | 180 Mbps | Operating Mode  |
| 102            | 5510.0          | 14.6      | 15.1     | 802.11ac, VHT40 |
| 110            | 5550.0          | 14.5      | 15.0     |                 |
| 134            | 5670.0          | 14.4      | 14.9     |                 |
| Channel Number | Frequency (MHZ) | 29.3 Mbps | 390 Mbps | Operating Mode  |
| 106            | 5530.0          | 14.3      | 14.8     | 802.11ac, VHT80 |

**7.7.5.Wi-Fi802.11a/n/ac (5.0 GHz) –Sub Band 4 (5.8 GHzUNII)****Power Back-Off NOT Supported**

|                |                 | Avg Power (dBm) |                 |
|----------------|-----------------|-----------------|-----------------|
| Channel Number | Frequency (MHZ) | 6 Mbps          | Operating Mode  |
| 149            | 5745.0          | 16.1            | 802.11a         |
| 153            | 5765.0          | 16.0            |                 |
| 157            | 5785.0          | 15.9            |                 |
| 161            | 5805.0          | 16.2            |                 |
| 165            | 5825.0          | 16.2            |                 |
| Channel Number | Frequency (MHZ) | 6.5 Mbps        | Operating Mode  |
| 149            | 5745.0          | 16.3            | 802.11n, HT20   |
| 153            | 5765.0          | 16.1            |                 |
| 157            | 5785.0          | 16.1            |                 |
| 161            | 5805.0          | 16.1            |                 |
| 165            | 5825.0          | 16.0            |                 |
| Channel Number | Frequency (MHZ) | 6.5 Mbps        | Operating Mode  |
| 149            | 5745.0          | 15.9            | 802.11ac, VHT20 |
| 153            | 5765.0          | 16.0            |                 |
| 157            | 5785.0          | 16.3            |                 |
| 161            | 5805.0          | 16.5            |                 |
| 165            | 5825.0          | 16.2            |                 |
| Channel Number | Frequency (MHZ) | 13.5 Mbps       | Operating Mode  |
| 151            | 5755.0          | 14.2            | 802.11n, HT40   |
| 159            | 5795.0          | 14.0            |                 |
| Channel Number | Frequency (MHZ) | 13.5 Mbps       | Operating Mode  |
| 151            | 5755.0          | 14.1            | 802.11ac, VHT40 |
| 159            | 5795.0          | 14.1            |                 |
| Channel Number | Frequency (MHZ) | 29.3 Mbps       | Operating Mode  |
| 155            | 5775.0          | 14.1            | 802.11ac, VHT80 |

**7.8.RF Output Average Power Measurement: Bluetooth****7.8.1. Bluetooth (2.4 GHz)  
Power Back-Off NOT Supported**

|                |                 | Avg Power (dBm) |                |
|----------------|-----------------|-----------------|----------------|
| Channel Number | Frequency (MHZ) | (1Mbps)         | Operating Mode |
| 0              | 2402.0          | 6.1             | BR             |
| 39             | 2441.0          | 9.3             |                |
| 78             | 2480.0          | 6.5             |                |
| Channel Number | Frequency (MHZ) | (2Mbps)         | Operating Mode |
| 0              | 2402.0          | 4.2             | EDR            |
| 39             | 2441.0          | 6.3             |                |
| 78             | 2480.0          | 3.1             |                |
| Channel Number | Frequency (MHZ) | (3Mbps)         | Operating Mode |
| 0              | 2402.0          | 4.2             | EDR            |
| 39             | 2441.0          | 6.3             |                |
| 78             | 2480.0          | 3.1             |                |
| Channel Number | Frequency (MHZ) | BLE (Mbps)      | Operating Mode |
| 0              | 2402.0          | 2.3             | BLE            |
| 39             | 2441.0          | 2.3             |                |
| 78             | 2480.0          | 2.4             |                |

## **8. System Check and Dielectric Parameters**

See [Appendix 5](#) and [Appendix 6](#) for tables and measurements.

## **9. Measurements, Examinations and Derived Results**

### **9.1. General Comments**

This section contains test results only.

Measurement uncertainties are evaluated in accordance with current best practice. Our reported expanded uncertainties are based on standard uncertainties, which are multiplied by an appropriate coverage factor to provide a statistical confidence level of approximately 95%. Please refer to section 5 for details of measurement uncertainties.

Prior to testing the FCC was contacted for LTE Release 10 SAR evaluations on the EUT and testing was performed as per KDB 941225 after their confirmation.

Prior to testing the FCC was contacted for Antenna Tuner SAR evaluations and testing was performed as per FCC response.

**9.2. Specific Absorption Rate - Test Results****For All SAR measurement in this report the 1g-SAR limit tested to is 1.6 W/Kg****9.2.1. GSM 850 - Head - Power Back-Off Not Supported****Max Reported SAR = 0.360 (W/kg)**

|                    |                      |              |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|--------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| GMSK (DTM Class 9) | 0                    | Touch Left   | 190         | 836.6      | N/A           | N/A       | 31.6          | 31.3  | 0.178                  | 0.191               | 1       | 1        |
| GMSK (DTM Class 9) | 0                    | Tilt Left    | 190         | 836.6      | N/A           | N/A       | 31.6          | 31.3  | 0.117                  | 0.125               | 1       | 2        |
| GMSK (DTM Class 9) | 0                    | Touch Right  | 190         | 836.6      | N/A           | N/A       | 31.6          | 31.3  | 0.194                  | 0.208               | 1       | 3        |
| GMSK (DTM Class 9) | 0                    | Tilt Right   | 190         | 836.6      | N/A           | N/A       | 31.6          | 31.3  | 0.172                  | 0.184               | 1       | 4        |
| GMSK (DTM Class 9) | 0                    | Touch Right  | 128         | 824.2      | N/A           | N/A       | 31.6          | 31.3  | 0.284                  | 0.304               | 1       | 5        |
| GMSK (DTM Class 9) | 0                    | Touch Right  | 251         | 848.8      | N/A           | N/A       | 31.6          | 31.2  | 0.328                  | 0.360               | 1       | 6        |

**Note(s):**

1. DTM Multi-slot Class 9 - Tested using 2 Uplink time slots (with 1 time slots set as CS1 for GPRS and 1 time slot set for voice).

**9.2.2. GSM 850 Hotspot Mode - Power Back-Off Not Supported****Max Reported SAR = 0.631 (W/kg)**

|                    |                      |                 |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|-----------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position    | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| GMSK (DTM Class 9) | 10                   | Front           | 190         | 836.6      | N/A           | N/A       | 31.6          | 31.3  | 0.479                  | 0.513               | 1       | 7        |
| GMSK (DTM Class 9) | 10                   | Back            | 190         | 836.6      | N/A           | N/A       | 31.6          | 31.3  | 0.509                  | 0.545               | 1       | 8        |
| GMSK (DTM Class 9) | 10                   | Left Hand Side  | 190         | 836.6      | N/A           | N/A       | 31.6          | 31.3  | 0.342                  | 0.366               | 1       | 9        |
| GMSK (DTM Class 9) | 10                   | Right Hand Side | 190         | 836.6      | N/A           | N/A       | 31.6          | 31.3  | 0.588                  | 0.630               | 1       | 10       |
| GMSK (DTM Class 9) | 10                   | Bottom          | 190         | 836.6      | N/A           | N/A       | 31.6          | 31.3  | 0.154                  | 0.165               | 1       | 11       |
| GMSK (DTM Class 9) | 10                   | Right Hand Side | 128         | 824.2      | N/A           | N/A       | 31.6          | 31.3  | 0.589                  | 0.631               | 1       | 12       |
| GMSK (DTM Class 9) | 10                   | Right Hand Side | 251         | 848.8      | N/A           | N/A       | 31.6          | 31.2  | 0.525                  | 0.576               | 1       | 13       |

**Note(s):**

1. DTM Multi-slot Class 9 - Tested using 2 Uplink time slots (with 1 time slots set as CS1 for GPRS and 1 time slot set for voice).

\*KDB 941225 D03 - SAR is not required for GPRS and EDGE technology when the maximum average output power is lower than that measured on the corresponding DTM channels.

**9.2.3. GSM 850 - Body-Worn - Power Back-Off Not Supported****Max Reported SAR = 0.490 (W/kg)**

|                    |                      |              |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|--------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| GMSK (DTM Class 9) | 15                   | Front        | 190         | 836.6      | N/A           | N/A       | 31.6          | 31.3  | 0.421                  | 0.451               | 1       | 14       |
| GMSK (DTM Class 9) | 15                   | Back         | 190         | 836.6      | N/A           | N/A       | 31.6          | 31.3  | 0.427                  | 0.458               | 1       | 15       |
| GMSK (DTM Class 9) | 15                   | Back         | 128         | 824.2      | N/A           | N/A       | 31.6          | 31.3  | 0.457                  | 0.490               | 1       | 16       |
| GMSK (DTM Class 9) | 15                   | Back         | 251         | 848.8      | N/A           | N/A       | 31.6          | 31.2  | 0.410                  | 0.450               | 1       | 17       |

**Note(s):**

1. DTM Multi-slot Class 9 - Tested using 2 Uplink time slots (with 1 time slots set as CS1 for GPRS and 1 time slot set for voice).

\*As per 648474 D04 Handsets SAR v01r02, "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". Hence, Body worn configurations were not evaluated with PHF attached.

**9.2.4. PCS 1900 - Head - Power Back-Off Supported and Disabled****Max Reported SAR = 0.762 (W/kg)**

|                     |                      |              |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|---------------------|----------------------|--------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation  | Separation Dist (mm) | EUT Position | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| GMSK (DTM Class 11) | 0                    | Touch Left   | 661         | 1880.0     | N/A           | N/A       | 27.6          | 26.8  | 0.391                  | 0.470               | 1       | 18       |
| GMSK (DTM Class 11) | 0                    | Tilt Left    | 661         | 1880.0     | N/A           | N/A       | 27.6          | 26.8  | 0.151                  | 0.182               | 1       | 19       |
| GMSK (DTM Class 11) | 0                    | Touch Right  | 661         | 1880.0     | N/A           | N/A       | 27.6          | 26.8  | 0.578                  | 0.695               | 1       | 20       |
| GMSK (DTM Class 11) | 0                    | Tilt Right   | 661         | 1880.0     | N/A           | N/A       | 27.6          | 26.8  | 0.136                  | 0.164               | 1       | 21       |
| GMSK (DTM Class 11) | 0                    | Touch Right  | 512         | 1850.2     | N/A           | N/A       | 27.6          | 26.8  | 0.612                  | 0.736               | 1       | 22       |
| GMSK (DTM Class 11) | 0                    | Touch Right  | 810         | 1909.8     | N/A           | N/A       | 27.6          | 26.8  | 0.634                  | 0.762               | 1       | 23       |

**Note(s):**

- DTM Multi-slot Class 11 - Tested using 3 Uplink time slots (with 2 time slots set as CS1 for GPRS and 1 time slot set for voice).

**9.2.5. PCS 1900 - Hotspot Mode - Power Back-Off Supported and Enabled****Max Reported SAR = 1.144 (W/kg)**

|                    |                      |                 |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|-----------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position    | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| GMSK (Data 4 Slot) | 10                   | Front           | 661         | 1880.0     | N/A           | N/A       | 22.5          | 21.3  | 0.619                  | 0.816               | -       | 24       |
| GMSK (Data 4 Slot) | 10                   | Front           | 512         | 1850.2     | N/A           | N/A       | 22.5          | 21.2  | 0.465                  | 0.627               | -       | 25       |
| GMSK (Data 4 Slot) | 10                   | Front           | 810         | 1909.8     | N/A           | N/A       | 22.5          | 21.4  | 0.394                  | 0.508               | -       | 26       |
| GMSK (Data 4 Slot) | 10                   | Back            | 661         | 1880.0     | N/A           | N/A       | 22.5          | 21.3  | 0.540                  | 0.712               | -       | 27       |
| GMSK (Data 4 Slot) | 10                   | Left Hand Side  | 661         | 1880.0     | N/A           | N/A       | 22.5          | 21.3  | 0.071                  | 0.094               | -       | 28       |
| GMSK (Data 4 Slot) | 10                   | Right Hand Side | 661         | 1880.0     | N/A           | N/A       | 22.5          | 21.3  | 0.017                  | 0.022               | -       | 29       |
| GMSK (Data 4 Slot) | 10                   | Bottom          | 661         | 1880.0     | N/A           | N/A       | 22.5          | 21.3  | 0.868                  | 1.144               | -       | 30       |
| GMSK (Data 4 Slot) | 10                   | Bottom          | 512         | 1850.2     | N/A           | N/A       | 22.5          | 21.2  | 0.504                  | 0.680               | -       | 31       |
| GMSK (Data 4 Slot) | 10                   | Bottom          | 810         | 1909.8     | N/A           | N/A       | 22.5          | 21.4  | 0.724                  | 0.933               | -       | 32       |

**Note(s):**

\*KDB 941225 D03 - SAR is not required for EDGE or DTM technology when the maximum average output power is lower than that measured on the corresponding GPRS channels.

**9.2.6. PCS 1900 - Body-Worn - Power Back-Off Supported and Disabled****Max Reported SAR = 1.250 (W/kg)**

|                     |                      |                |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|---------------------|----------------------|----------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation  | Separation Dist (mm) | EUT Position   | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| GMSK (DTM Class 11) | 15                   | Front          | 661         | 1880.0     | N/A           | N/A       | 27.6          | 26.8  | 0.775                  | 0.932               | -       | 33       |
| GMSK (DTM Class 11) | 15                   | Front          | 512         | 1850.2     | N/A           | N/A       | 27.6          | 26.8  | 0.648                  | 0.779               | -       | 34       |
| GMSK (DTM Class 11) | 15                   | Front          | 810         | 1909.8     | N/A           | N/A       | 27.6          | 26.8  | 1.040                  | 1.250               | 1       | 35       |
| GMSK (DTM Class 11) | 15                   | Back           | 661         | 1880.0     | N/A           | N/A       | 27.6          | 26.8  | 0.712                  | 0.856               | -       | 36       |
| GMSK (DTM Class 11) | 15                   | Back           | 512         | 1850.2     | N/A           | N/A       | 27.6          | 26.8  | 0.648                  | 0.797               | -       | 37       |
| GMSK (DTM Class 11) | 15                   | Back           | 810         | 1909.8     | N/A           | N/A       | 27.6          | 26.8  | 0.635                  | 0.781               | -       | 38       |
| GMSK (DTM Class 11) | 15                   | Front with PHF | 810         | 1909.8     | N/A           | N/A       | 27.6          | 26.8  | 0.847                  | 1.042               | -       | 39       |

**Note(s):**

- As per 865664 D01, the highest SAR measured > 0.8 W/kg has been re-measured and included in the report in section 9.3 under **SAR Measurement Variability and Measurement Uncertainty Analysis Results** Table.

**9.2.7. UMTS FDD 2 - Head - Power Back-Off Supported and Disabled****Max Reported SAR = 0.598 (W/kg)**

|                    |                      |              |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|--------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| QPSK               | 0                    | Touch Left   | 9400        | 1880.0     | N/A           | N/A       | 24.0          | 23.8  | 0.212                  | 0.222               | 1       | 40       |
| QPSK               | 0                    | Tilt Left    | 9400        | 1880.0     | N/A           | N/A       | 24.0          | 23.8  | 0.113                  | 0.118               | 1       | 41       |
| QPSK               | 0                    | Touch Right  | 9400        | 1880.0     | N/A           | N/A       | 24.0          | 23.7  | 0.525                  | 0.563               | 1       | 42       |
| QPSK               | 0                    | Tilt Right   | 9400        | 1880.0     | N/A           | N/A       | 24.0          | 23.8  | 0.154                  | 0.161               | 1       | 43       |
| QPSK               | 0                    | Touch Right  | 9262        | 1852.4     | N/A           | N/A       | 24.0          | 23.8  | 0.571                  | 0.598               | 1       | 44       |
| QPSK               | 0                    | Touch Right  | 9538        | 1907.6     | N/A           | N/A       | 24.0          | 23.5  | 0.462                  | 0.518               | 1       | 45       |

**Note(s):**

1. Circuit Switch (CS) - RMC 12.2kbps with Test loop mode 1 and TPC bits configured to All "1's"

**9.2.8. UMTS FDD 2 - Hotspot Mode - Power Back-Off Supported and Enabled****Max Reported SAR = 1.501 (W/kg)**

|                    |                      |                 |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|-----------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position    | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| QPSK               | 10                   | Front           | 9400        | 1880.0     | N/A           | N/A       | 20.0          | 19.3  | 0.679                  | 0.798               | 1       | 46       |
| QPSK               | 10                   | Back            | 9400        | 1880.0     | N/A           | N/A       | 20.0          | 19.3  | 0.644                  | 0.757               | 1       | 47       |
| QPSK               | 10                   | Left Hand Side  | 9400        | 1880.0     | N/A           | N/A       | 20.0          | 19.3  | 0.077                  | 0.090               | 1       | 48       |
| QPSK               | 10                   | Right Hand Side | 9400        | 1880.0     | N/A           | N/A       | 20.0          | 19.3  | 0.054                  | 0.063               | 1       | 49       |
| QPSK               | 10                   | Bottom          | 9400        | 1880.0     | N/A           | N/A       | 20.0          | 19.3  | 0.967                  | 1.136               | 1       | 50       |
| QPSK               | 10                   | Bottom          | 9262        | 1852.4     | N/A           | N/A       | 20.0          | 19.3  | 0.728                  | 0.855               | 1       | 51       |
| QPSK               | 10                   | Bottom          | 9538        | 1907.6     | N/A           | N/A       | 20.0          | 19.1  | 1.220                  | 1.501               | 1, 2    | 52       |
| QPSK               | 10                   | Bottom          | 9538        | 1907.6     | N/A           | N/A       | 20.0          | 18.6  | 1.070                  | 1.477               | 3, 6    | 53       |
| QPSK               | 10                   | Bottom          | 9538        | 1907.6     | N/A           | N/A       | 20.0          | 18.6  | 1.060                  | 1.463               | 4, 6    | 54       |
| QPSK               | 10                   | Bottom          | 9538        | 1907.6     | N/A           | N/A       | 20.0          | 18.3  | 0.879                  | 1.300               | 5, 6    | 55       |

**Note(s):**

1. Circuit Switch (CS) - RMC 12.2kbps with Test loop mode 1 and TPC bits configured to All "1's".
2. As per 865664 D01, the highest SAR measured > 0.8 W/kg has been re-measured and included in the report in section 9.3 under **SAR Measurement Variability and Measurement Uncertainty Analysis Results** Table.
3. Packet Switch (PS) - RMC 12.2kbps + HSDPA with Test loop mode 1 and TPC bits configured to all "1's", Sub-test 1 with Communication Test Set configured to allow to EUT to transmit at a maximum power as per KDB 941225 D01.
4. Packet Switch (PS) - RMC 12.2kbps + HSUPA with Test loop mode 1 and TPC bits configured to all "1's", Sub-test 5, AG Index set to 21 and E-TFCI set to 81 with Communication Test Set configured to allow to EUT to transmit at a maximum power as per KDB 941225 D01.
5. Packet Switch (PS) - RMC 12.2kbps + DC HSDPA (Cat 24) with Test loop mode 1 and TPC bits configured to all "1's", Sub-test 1 with Communication Test Set configured to allow to EUT to transmit at a maximum power as per KDB 941225 D01.
6. As per KDB 941225 D01, "SAR is measured for HSPA using additional body SAR procedures in the "Release 6 HSPA Data Devices" section of this document, on the maximum output channel with the body exposure configuration that results in the highest SAR in 12.2 kbps RMC for that RF channel".

**9.2.9. UMTS FDD 2 - Body-Worn - Power Back-Off Supported and Disabled****Max Reported SAR = 1.156 (W/kg)**

| Mode or Modulation | Separation Dist (mm) | EUT Position | Channel No. | Freq (MHz) | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     | Note(s) | Scan No. |
|--------------------|----------------------|--------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
|                    |                      |              |             |            | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) |         |          |
| QPSK               | 15                   | Front        | 9400        | 1880.0     | N/A           | N/A       | 24.0          | 23.8  | 1.040                  | 1.089               | -       | 56       |
| QPSK               | 15                   | Front        | 9262        | 1852.4     | N/A           | N/A       | 24.0          | 23.7  | 0.939                  | 1.006               | -       | 57       |
| QPSK               | 15                   | Front        | 9538        | 1907.6     | N/A           | N/A       | 24.0          | 23.5  | 1.030                  | 1.156               | -       | 58       |
| QPSK               | 15                   | Back         | 9400        | 1880.0     | N/A           | N/A       | 24.0          | 23.8  | 0.958                  | 1.003               | -       | 59       |
| QPSK               | 15                   | Back         | 9262        | 1852.4     | N/A           | N/A       | 24.0          | 23.7  | 0.810                  | 0.868               | -       | 60       |
| QPSK               | 15                   | Back         | 9538        | 1907.6     | N/A           | N/A       | 24.0          | 23.5  | 0.928                  | 1.041               | -       | 61       |

**Note(s):**

1. Circuit Switch (CS) - RMC 12.2kbps with Test loop mode 1 and TPC bits configured to All "1's"

\*KDB 941225 D02 - SAR is not required for RMC+HSPA or RMC+DC-HSDPA (HSDPA/HSUPA/DC-HSDPA) channels when the maximum average output power is less than ¼ dB higher than that measured on the corresponding RMC channels and 1g SAR level reported in 'RMC 12.2kbps' is <75% SAR limit.

\*As per 648474 D04 Handsets SAR v01r02, "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". Hence, Body worn configurations were not evaluated with PHF attached.

**9.2.10. UMTS FDD 4 Head - Power Back-Off Not Supported****Max Reported SAR = 0.885 (W/kg)**

|                    |                      |              |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|--------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| QPSK               | 0                    | Touch Left   | 1412        | 1732.6     | N/A           | N/A       | 24.0          | 23.6  | 0.566                  | 0.621               | 1       | 62       |
| QPSK               | 0                    | Tilt Left    | 1412        | 1732.6     | N/A           | N/A       | 24.0          | 23.6  | 0.361                  | 0.396               | 1       | 63       |
| QPSK               | 0                    | Touch Right  | 1412        | 1732.6     | N/A           | N/A       | 24.0          | 23.6  | 0.807                  | 0.885               | 1, 2    | 64       |
| QPSK               | 0                    | Tilt Right   | 1412        | 1732.6     | N/A           | N/A       | 24.0          | 23.6  | 0.228                  | 0.250               | 1       | 65       |
| QPSK               | 0                    | Touch Right  | 1312        | 1712.4     | N/A           | N/A       | 24.0          | 23.5  | 0.725                  | 0.813               | 1       | 66       |
| QPSK               | 0                    | Touch Right  | 1513        | 1752.6     | N/A           | N/A       | 24.0          | 23.6  | 0.798                  | 0.875               | 1       | 67       |

**Note(s):**

1. Circuit Switch (CS) - RMC 12.2kbps with Test loop mode 1 and TPC bits configured to All "1's"
2. As per 865664 D01, the highest SAR measured > 0.8 W/kg has been re-measured and included in the report in section 9.3 under **SAR Measurement Variability and Measurement Uncertainty Analysis Results** Table.

**9.2.11. UMTS FDD 4 - Hotspot Mode - Power Back-Off Supported and Enabled****Max Reported SAR = 0.936 (W/kg)**

|                    |                      |                 |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|-----------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position    | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| QPSK               | 10                   | Front           | 1412        | 1732.6     | N/A           | N/A       | 22.5          | 21.8  | 0.616                  | 0.724               | 1       | 68       |
| QPSK               | 10                   | Back            | 1412        | 1732.6     | N/A           | N/A       | 22.5          | 21.8  | 0.524                  | 0.616               | 1       | 69       |
| QPSK               | 10                   | Left Hand Side  | 1412        | 1732.6     | N/A           | N/A       | 22.5          | 21.8  | 0.233                  | 0.274               | 1       | 70       |
| QPSK               | 10                   | Right Hand Side | 1412        | 1732.6     | N/A           | N/A       | 22.5          | 21.8  | 0.117                  | 0.137               | 1       | 71       |
| QPSK               | 10                   | Bottom          | 1412        | 1732.6     | N/A           | N/A       | 22.5          | 21.8  | 0.638                  | 0.750               | 1       | 72       |
| QPSK               | 10                   | Bottom          | 1312        | 1712.4     | N/A           | N/A       | 22.5          | 21.7  | 0.486                  | 0.584               | 1       | 73       |
| QPSK               | 10                   | Bottom          | 1513        | 1752.6     | N/A           | N/A       | 22.5          | 21.8  | 0.797                  | 0.936               | 1, 2    | 74       |

**Note(s):**

1. Circuit Switch (CS) - RMC 12.2kbps with Test loop mode 1 and TPC bits configured to All "1's"

\*KDB 941225 D02 - SAR is not required for RMC+HSPA or RMC+DC-HSDPA (HSDPA/HSUPA/DC-HSDPA) channels when the maximum average output power is less than ¼ dB higher than that measured on the corresponding RMC channels and 1g SAR level reported in 'RMC 12.2kbps' is <75% SAR limit.

**9.2.12. UMTS FDD 4 - Body-Worn- Power Back-Off Supported and Disabled****Max Reported SAR = 0.550 (W/kg)**

|                    |                      |              |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|--------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| QPSK               | 15                   | Front        | 1412        | 1732.6     | N/A           | N/A       | 24.0          | 23.6  | 0.350                  | 0.384               | 1       | 75       |
| QPSK               | 15                   | Back         | 1412        | 1732.6     | N/A           | N/A       | 24.0          | 23.6  | 0.380                  | 0.417               | 1       | 76       |
| QPSK               | 15                   | Back         | 1312        | 1712.4     | N/A           | N/A       | 24.0          | 23.5  | 0.420                  | 0.471               | 1       | 77       |
| QPSK               | 15                   | Back         | 1513        | 1752.6     | N/A           | N/A       | 24.0          | 23.6  | 0.502                  | 0.550               | 1       | 78       |

**Note(s):**

1. Circuit Switch (CS) - RMC 12.2kbps with Test loop mode 1 and TPC bits configured to All "1's"

\*KDB 941225 D02 - SAR is not required for RMC+HSPA or RMC+DC-HSDPA (HSDPA/HSUPA/DC-HSDPA) channels when the maximum average output power is less than  $\frac{1}{4}$  dB higher than that measured on the corresponding RMC channels and 1g SAR level reported in 'RMC 12.2kbps' is <75% SAR limit.

\*As per 648474 D04 Handsets SAR v01r02, "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". Hence, Body worn configurations were not evaluated with PHF attached.

**9.2.13. UMTS FDD 5 - Head - Power Back-Off Not Supported****Max Reported SAR = 0.407 (W/kg)**

|                    |                      |              |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|--------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| QPSK               | 0                    | Touch Left   | 4183        | 836.6      | N/A           | N/A       | 24.5          | 24.3  | 0.362                  | 0.379               | 1       | 79       |
| QPSK               | 0                    | Tilt Left    | 4183        | 836.6      | N/A           | N/A       | 24.5          | 24.3  | 0.192                  | 0.201               | 1       | 80       |
| QPSK               | 0                    | Touch Right  | 4183        | 836.6      | N/A           | N/A       | 24.5          | 24.3  | 0.333                  | 0.349               | 1       | 81       |
| QPSK               | 0                    | Tilt Right   | 4183        | 836.6      | N/A           | N/A       | 24.5          | 24.3  | 0.180                  | 0.188               | 1       | 82       |
| QPSK               | 0                    | Touch Left   | 4132        | 826.4      | N/A           | N/A       | 24.5          | 24.3  | 0.356                  | 0.373               | 1       | 83       |
| QPSK               | 0                    | Touch Left   | 4233        | 848.8      | N/A           | N/A       | 24.5          | 24.2  | 0.380                  | 0.407               | 1       | 84       |

**Note(s):**

1. Circuit Switch (CS) - RMC 12.2kbps with Test loop mode 1 and TPC bits configured to All "1's"

**9.2.14. UMTS FDD 5 - Hotspot Mode - Power Back-Off Not Supported****Max Reported SAR = 0.403 (W/kg)**

|                    |                      |                 |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|-----------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position    | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| QPSK               | 10                   | Front           | 4183        | 836.6      | N/A           | N/A       | 24.5          | 24.3  | 0.350                  | 0.366               | 1       | 85       |
| QPSK               | 10                   | Back            | 4183        | 836.6      | N/A           | N/A       | 24.5          | 24.3  | 0.378                  | 0.396               | 1       | 86       |
| QPSK               | 10                   | Left Hand Side  | 4183        | 836.6      | N/A           | N/A       | 24.5          | 24.3  | 0.278                  | 0.291               | 1       | 87       |
| QPSK               | 10                   | Right Hand Side | 4183        | 836.6      | N/A           | N/A       | 24.5          | 24.3  | 0.207                  | 0.217               | 1       | 88       |
| QPSK               | 10                   | Bottom          | 4183        | 836.6      | N/A           | N/A       | 24.5          | 24.3  | 0.077                  | 0.081               | 1       | 89       |
| QPSK               | 10                   | Back            | 4132        | 826.4      | N/A           | N/A       | 24.5          | 24.3  | 0.385                  | 0.403               | 1       | 90       |
| QPSK               | 10                   | Back            | 4233        | 848.8      | N/A           | N/A       | 24.5          | 24.2  | 0.361                  | 0.387               | 1       | 91       |

**Note(s):**

1. Circuit Switch (CS) - RMC 12.2kbps with Test loop mode 1 and TPC bits configured to All "1's"

\*KDB 941225 D02 - SAR is not required for RMC+HSPA or RMC+DC-HSDPA (HSDPA/HSUPA/DC-HSDPA) channels when the maximum average output power is less than ¼ dB higher than that measured on the corresponding RMC channels and 1g SAR level reported in 'RMC 12.2kbps' is <75% SAR limit.

**9.2.15. UMTS FDD 5 - Body-Worn - Power Back-Off Not Supported****Max Reported SAR = 0.403 (W/kg)**

For body-worn configuration indicated below the test position overlap with hotspot and the power back –off was not supported meaning hotspot mode was most conservative.

|                    |                      |              |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|--------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| QPSK               | 15                   | Front        | 4183        | 836.6      | N/A           | N/A       | 24.5          | 24.3  | 0.350                  | 0.366               | 1       | 85       |
| QPSK               | 15                   | Back         | 4183        | 836.6      | N/A           | N/A       | 24.5          | 24.3  | 0.378                  | 0.396               | 1       | 86       |
| QPSK               | 15                   | Back         | 4132        | 826.4      | N/A           | N/A       | 24.5          | 24.3  | 0.385                  | 0.403               | 1       | 90       |
| QPSK               | 15                   | Back         | 4233        | 848.8      | N/A           | N/A       | 24.5          | 24.2  | 0.361                  | 0.387               | 1       | 91       |

**Note(s):**

1. Circuit Switch (CS) - RMC 12.2kbps with Test loop mode 1 and TPC bits configured to All "1's"

\*KDB 941225 D02 - SAR is not required for RMC+HSPA or RMC+DC-HSDPA (HSDPA/HSUPA/DC-HSDPA) channels when the maximum average output power is less than ¼ dB higher than that measured on the corresponding RMC channels and 1g SAR level reported in 'RMC 12.2kbps' is <75% SAR limit.

\*As per 648474 D04 Handsets SAR v01r02, "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". Hence, Body worn configurations were not evaluated with PHF attached.

**9.2.16. GENERAL NOTE FOR LTE SAR TESTING**

As per KDB 941225 D05 SAR for LTE Devices v02r02, the following steps were followed to perform SAR evaluation Largest Channel BW

1. QPSK 1RB Allocation

Start with 1RB offset Config with the highest maximum output power on required test channel (1RB low, 1RB high or 1RB mid). If value in (1) is  $< 0.8 \text{ W/kg}$ , testing of remaining RB offset configurations and test channels not required for 1RB

2. QPSK 50% RB Allocation

Apply steps followed in (1) for measuring 50% RB

3. QPSK 100% RB Allocation

SAR not required if highest output power from (1) and (2) is higher than 100% RB output power and if SAR Values in step (1) and (2)  $\leq 0.8 \text{ W/kg}$

4. 16 QAM

Apply steps (1), (2) and (3) for testing 16-QAM/64-QAM, for each configuration SAR required only when highest maximum output power for the highest order modulation (ex. 16-QAM)  $>$  QPSK by 0.5dB or when reported SAR for QPSK  $> 1.45 \text{ W/kg}$

**9.2.17. LTE Band 2; 20MHz Channel BW Head - Power Back-Off Supported and Disabled**

**Max Reported SAR = 0.508 (W/kg)**

| Mode or Modulation | Separation Dist (mm) | EUT Position | Channel No. | Freq (MHz) | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     | Note(s) | Scan No. |
|--------------------|----------------------|--------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
|                    |                      |              |             |            | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) |         |          |
| QPSK               | 0                    | Touch Left   | 18900       | 1880.0     | 1             | 99        | 24.2          | 23.9  | 0.289                  | 0.310               | -       | 92       |
| QPSK               | 0                    | Touch Left   | 18900       | 1880.0     | 50            | 25        | 23.2          | 22.9  | 0.227                  | 0.243               | -       | 93       |
| QPSK               | 0                    | Tilt Left    | 18900       | 1880.0     | 1             | 99        | 24.2          | 23.9  | 0.170                  | 0.182               | -       | 94       |
| QPSK               | 0                    | Tilt Left    | 18900       | 1880.0     | 50            | 25        | 23.2          | 22.9  | 0.169                  | 0.181               | -       | 95       |
| QPSK               | 0                    | Touch Right  | 18900       | 1880.0     | 1             | 99        | 24.2          | 23.9  | 0.415                  | 0.445               | -       | 96       |
| QPSK               | 0                    | Touch Right  | 18900       | 1880.0     | 50            | 25        | 23.2          | 22.9  | 0.370                  | 0.396               | -       | 97       |
| QPSK               | 0                    | Tilt Right   | 18900       | 1880.0     | 1             | 99        | 24.2          | 23.9  | 0.076                  | 0.081               | -       | 98       |
| QPSK               | 0                    | Tilt Right   | 18900       | 1880.0     | 50            | 25        | 23.2          | 22.9  | 0.078                  | 0.084               | -       | 99       |
| QPSK               | 0                    | Touch Right  | 18700       | 1860.0     | 1             | 99        | 24.2          | 23.7  | 0.453                  | 0.508               | -       | 100      |
| QPSK               | 0                    | Touch Right  | 19100       | 1900.0     | 1             | 99        | 24.2          | 23.8  | 0.297                  | 0.326               | -       | 101      |

Note(s):

**9.2.18. LTE Band 2; 20MHz Channel BW - Hotspot Mode – Power Back-Off Supported and Enabled****Max Reported SAR = 1.339 (W/kg)**

|                    |                      |                 |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|-----------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position    | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| QPSK               | 10                   | Front           | 18900       | 1880.0     | 1             | 99        | 20.0          | 19.7  | 0.733                  | 0.785               | -       | 102      |
| QPSK               | 10                   | Front           | 18900       | 1880.0     | 50            | 25        | 20.0          | 19.7  | 0.738                  | 0.791               | -       | 103      |
| QPSK               | 10                   | Back            | 18900       | 1880.0     | 1             | 99        | 20.0          | 19.7  | 0.680                  | 0.729               | -       | 104      |
| QPSK               | 10                   | Back            | 18900       | 1880.0     | 50            | 25        | 20.0          | 19.7  | 0.690                  | 0.739               | -       | 105      |
| QPSK               | 10                   | Left Hand Side  | 18900       | 1880.0     | 1             | 99        | 20.0          | 19.7  | 0.090                  | 0.096               | -       | 106      |
| QPSK               | 10                   | Left Hand Side  | 18900       | 1880.0     | 50            | 25        | 20.0          | 19.7  | 0.086                  | 0.092               | -       | 107      |
| QPSK               | 10                   | Right Hand Side | 18900       | 1880.0     | 1             | 99        | 20.0          | 19.7  | 0.052                  | 0.056               | -       | 108      |
| QPSK               | 10                   | Right Hand Side | 18900       | 1880.0     | 50            | 25        | 20.0          | 19.7  | 0.054                  | 0.058               | -       | 109      |
| QPSK               | 10                   | Bottom          | 18900       | 1880.0     | 1             | 99        | 20.0          | 19.7  | 1.090                  | 1.168               | -       | 110      |
| QPSK               | 10                   | Bottom          | 18700       | 1860.0     | 1             | 99        | 20.0          | 19.7  | 0.944                  | 1.012               | -       | 111      |
| QPSK               | 10                   | Bottom          | 19100       | 1900.0     | 1             | 99        | 20.0          | 19.7  | 1.250                  | 1.339               | 1       | 112      |
| QPSK               | 10                   | Bottom          | 18900       | 1880.0     | 50            | 25        | 20.0          | 19.7  | 1.060                  | 1.136               | -       | 113      |
| QPSK               | 10                   | Bottom          | 18700       | 1860.0     | 50            | 25        | 20.0          | 19.7  | 0.825                  | 0.884               | -       | 114      |
| QPSK               | 10                   | Bottom          | 19100       | 1900.0     | 50            | 25        | 20.0          | 19.6  | 1.120                  | 1.228               | -       | 115      |
| QPSK               | 10                   | Bottom          | 19100       | 1900.0     | 1             | 99        | 20.0          | 19.7  | 1.170                  | 1.254               | -       | 116      |

**Note(s):**

- As per 865664 D01, the highest SAR measured > 0.8 W/kg has been re-measured and included in the report in section 9.3 under **SAR Measurement Variability and Measurement Uncertainty Analysis Results** Table

**9.2.19. LTE Band 2; 20MHz Channel BW - Body-Worn - Power Back-Off Supported and Disabled****Max Reported SAR = 1.316 (W/kg)**

|                    |                      |                |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|----------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position   | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| QPSK               | 15                   | Front          | 18900       | 1880.0     | 1             | 99        | 24.2          | 23.9  | 1.140                  | 1.222               | -       | 117      |
| QPSK               | 15                   | Front          | 18700       | 1860.0     | 1             | 99        | 24.2          | 23.7  | 1.040                  | 1.167               | -       | 118      |
| QPSK               | 15                   | Front          | 19100       | 1900.0     | 1             | 99        | 24.2          | 23.8  | 1.200                  | 1.316               | -       | 119      |
| QPSK               | 15                   | Front          | 18900       | 1880.0     | 50            | 25        | 23.2          | 22.9  | 0.777                  | 0.833               | -       | 120      |
| QPSK               | 15                   | Front          | 18700       | 1860.0     | 50            | 25        | 23.2          | 22.8  | 0.645                  | 0.707               | -       | 121      |
| QPSK               | 15                   | Front          | 19100       | 1900.0     | 50            | 25        | 23.2          | 22.9  | 0.775                  | 0.830               | -       | 122      |
| QPSK               | 15                   | Front          | 19100       | 1900.0     | 100           | 0         | 23.2          | 22.9  | 0.775                  | 0.830               | -       | 123      |
| QPSK               | 15                   | Back           | 18900       | 1880.0     | 1             | 99        | 24.2          | 23.9  | 1.040                  | 1.114               | -       | 124      |
| QPSK               | 15                   | Back           | 18700       | 1860.0     | 1             | 99        | 24.2          | 23.7  | 1.010                  | 1.133               | -       | 125      |
| QPSK               | 15                   | Back           | 19100       | 1900.0     | 1             | 99        | 24.2          | 23.8  | 1.100                  | 1.206               | -       | 126      |
| QPSK               | 15                   | Back           | 18900       | 1880.0     | 50            | 25        | 23.2          | 22.9  | 0.708                  | 0.759               | -       | 127      |
| QPSK               | 15                   | Back           | 18700       | 1860.0     | 100           | 0         | 23.2          | 23.0  | 0.621                  | 0.650               | -       | 128      |
| QPSK               | 15                   | Front with PHF | 19100       | 1900.0     | 1             | 99        | 24.2          | 23.8  | 0.977                  | 1.071               | 1       | 129      |

**Note(s):**

- As per 648474 D04 Handsets SAR v01r02, "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".

**9.2.20. LTE Band 4; 20MHz Channel BW - Head - Power Back-Off Supported and Disabled****Max Reported SAR = 0.820 (W/kg)**

|                    |                      |              |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|--------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| QPSK               | 0                    | Touch Left   | 20175       | 1732.5     | 1             | 49        | 24.3          | 24.0  | 0.507                  | 0.543               | -       | 130      |
| QPSK               | 0                    | Touch Left   | 20175       | 1732.5     | 50            | 25        | 23.3          | 23.0  | 0.254                  | 0.272               | -       | 131      |
| QPSK               | 0                    | Tilt Left    | 20175       | 1732.5     | 1             | 49        | 24.3          | 24.0  | 0.377                  | 0.404               | -       | 132      |
| QPSK               | 0                    | Tilt Left    | 20175       | 1732.5     | 50            | 25        | 23.3          | 23.0  | 0.237                  | 0.254               | -       | 133      |
| QPSK               | 0                    | Touch Right  | 20175       | 1732.5     | 1             | 49        | 24.3          | 24.0  | 0.759                  | 0.813               | -       | 134      |
| QPSK               | 0                    | Touch Right  | 20175       | 1732.5     | 50            | 25        | 23.3          | 23.0  | 0.623                  | 0.668               | -       | 135      |
| QPSK               | 0                    | Tilt Right   | 20175       | 1732.5     | 1             | 49        | 24.3          | 24.0  | 0.242                  | 0.259               | -       | 136      |
| QPSK               | 0                    | Tilt Right   | 20175       | 1732.5     | 50            | 25        | 23.3          | 23.0  | 0.156                  | 0.167               | -       | 137      |
| QPSK               | 0                    | Touch Right  | 20050       | 1720.0     | 1             | 49        | 24.3          | 23.9  | 0.720                  | 0.789               | -       | 138      |
| QPSK               | 0                    | Touch Right  | 20300       | 1745.0     | 1             | 49        | 24.3          | 23.9  | 0.748                  | 0.820               | -       | 139      |

Note(s):

**9.2.21. LTE Band 4; 20MHz Channel BW - Hotspot Mode Power Back-Off Supported and Enabled****Max Reported SAR = 0.797 (W/kg)**

|                    |                      |                 |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|-----------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position    | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| QPSK               | 10                   | Front           | 20175       | 1732.5     | 1             | 49        | 22.0          | 21.8  | 0.761                  | 0.797               | -       | 140      |
| QPSK               | 10                   | Front           | 20175       | 1732.5     | 50            | 25        | 22.0          | 21.8  | 0.459                  | 0.481               | -       | 141      |
| QPSK               | 10                   | Back            | 20175       | 1732.5     | 1             | 49        | 22.0          | 21.8  | 0.473                  | 0.495               | -       | 142      |
| QPSK               | 10                   | Back            | 20175       | 1732.5     | 50            | 25        | 22.0          | 21.8  | 0.462                  | 0.484               | -       | 143      |
| QPSK               | 10                   | Left Hand Side  | 20175       | 1732.5     | 1             | 49        | 22.0          | 21.8  | 0.193                  | 0.202               | -       | 144      |
| QPSK               | 10                   | Left Hand Side  | 20175       | 1732.5     | 50            | 25        | 22.0          | 21.8  | 0.164                  | 0.172               | -       | 145      |
| QPSK               | 10                   | Right Hand Side | 20175       | 1732.5     | 1             | 49        | 22.0          | 21.8  | 0.170                  | 0.178               | -       | 146      |
| QPSK               | 10                   | Right Hand Side | 20175       | 1732.5     | 50            | 25        | 22.0          | 21.8  | 0.135                  | 0.141               | -       | 147      |
| QPSK               | 10                   | Bottom          | 20175       | 1732.5     | 1             | 49        | 22.0          | 21.8  | 0.469                  | 0.491               | -       | 148      |
| QPSK               | 10                   | Bottom          | 20175       | 1732.5     | 50            | 25        | 22.0          | 21.8  | 0.375                  | 0.393               | -       | 149      |
| QPSK               | 10                   | Front           | 20050       | 1720.0     | 1             | 49        | 22.0          | 21.8  | 0.478                  | 0.501               | -       | 150      |
| QPSK               | 10                   | Front           | 20300       | 1745.0     | 1             | 49        | 22.0          | 21.7  | 0.529                  | 0.567               | -       | 151      |

Note(s):

**9.2.22. LTE Band 4; 20MHz Channel BW - Body-Worn - Power Back-Off Supported and Disabled****Max Reported SAR = 0.447 (W/kg)**

|                    |                      |              |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|--------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| QPSK               | 15                   | Front        | 20175       | 1732.5     | 1             | 49        | 24.3          | 24.0  | 0.392                  | 0.420               | -       | 152      |
| QPSK               | 15                   | Front        | 20175       | 1732.5     | 50            | 25        | 23.3          | 23.0  | 0.210                  | 0.225               | -       | 153      |
| QPSK               | 15                   | Back         | 20175       | 1732.5     | 1             | 49        | 24.3          | 24.0  | 0.372                  | 0.399               | -       | 154      |
| QPSK               | 15                   | Back         | 20175       | 1732.5     | 50            | 25        | 23.3          | 23.0  | 0.194                  | 0.208               | -       | 155      |
| QPSK               | 15                   | Front        | 20050       | 1720.0     | 1             | 49        | 24.3          | 23.9  | 0.379                  | 0.416               | -       | 156      |
| QPSK               | 15                   | Front        | 20300       | 1745.0     | 1             | 49        | 24.3          | 23.9  | 0.408                  | 0.447               | -       | 157      |

**Note(s):**

\*As per 648474 D04 Handsets SAR v01r02, "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". Hence, Body worn configurations were not evaluated with PHF attached.

**9.2.23. LTE Band 5; 10MHz Channel BW Head - Power Back-Off Not Supported****Max Reported SAR = 0.310 (W/kg)**

|                    |                      |              |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|--------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| QPSK               | 0                    | Touch Left   | 20525       | 836.5      | 1             | 24        | 24.0          | 23.2  | 0.176                  | 0.212               | -       | 158      |
| QPSK               | 0                    | Touch Left   | 20525       | 836.5      | 25            | 12        | 23.0          | 22.4  | 0.143                  | 0.164               | -       | 159      |
| QPSK               | 0                    | Tilt Left    | 20525       | 836.5      | 1             | 24        | 24.0          | 23.4  | 0.090                  | 0.103               | -       | 160      |
| QPSK               | 0                    | Tilt Left    | 20525       | 836.5      | 25            | 12        | 23.0          | 22.4  | 0.073                  | 0.084               | -       | 161      |
| QPSK               | 0                    | Touch Right  | 20525       | 836.5      | 1             | 24        | 24.0          | 23.2  | 0.182                  | 0.219               | -       | 162      |
| QPSK               | 0                    | Touch Right  | 20525       | 836.5      | 25            | 12        | 23.0          | 22.4  | 0.149                  | 0.171               | -       | 163      |
| QPSK               | 0                    | Tilt Right   | 20525       | 836.5      | 1             | 24        | 24.0          | 23.2  | 0.124                  | 0.149               | -       | 164      |
| QPSK               | 0                    | Tilt Right   | 20525       | 836.5      | 25            | 12        | 23.0          | 22.4  | 0.097                  | 0.111               | -       | 165      |
| QPSK               | 0                    | Touch Right  | 20450       | 829.0      | 1             | 24        | 24.0          | 23.2  | 0.251                  | 0.302               | -       | 166      |
| QPSK               | 0                    | Touch Right  | 20600       | 844.0      | 1             | 24        | 24.0          | 23.2  | 0.258                  | 0.310               | -       | 167      |

**Note(s):****9.2.24. LTE Band 5; 10MHz Channel BW - Hotspot Mode Power Back-Off Not Supported****Max Reported SAR = 0.553 (W/kg)**

|                    |                      |                 |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|-----------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position    | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| QPSK               | 10                   | Front           | 20525       | 836.5      | 1             | 24        | 24.0          | 23.2  | 0.343                  | 0.412               | -       | 168      |
| QPSK               | 10                   | Front           | 20525       | 836.5      | 25            | 12        | 23.0          | 22.4  | 0.332                  | 0.381               | -       | 169      |
| QPSK               | 10                   | Back            | 20525       | 836.5      | 1             | 24        | 24.0          | 23.2  | 0.400                  | 0.481               | -       | 170      |
| QPSK               | 10                   | Back            | 20525       | 836.5      | 25            | 12        | 23.0          | 22.4  | 0.278                  | 0.319               | -       | 171      |
| QPSK               | 10                   | Left Hand Side  | 20525       | 836.5      | 1             | 24        | 24.0          | 23.2  | 0.254                  | 0.305               | -       | 172      |
| QPSK               | 10                   | Left Hand Side  | 20525       | 836.5      | 25            | 12        | 23.0          | 22.4  | 0.205                  | 0.235               | -       | 173      |
| QPSK               | 10                   | Right Hand Side | 20525       | 836.5      | 1             | 24        | 24.0          | 23.2  | 0.449                  | 0.540               | -       | 174      |
| QPSK               | 10                   | Right Hand Side | 20525       | 836.5      | 25            | 12        | 23.0          | 22.4  | 0.365                  | 0.419               | -       | 175      |
| QPSK               | 10                   | Bottom          | 20525       | 836.5      | 1             | 24        | 24.0          | 23.2  | 0.130                  | 0.156               | -       | 176      |
| QPSK               | 10                   | Bottom          | 20525       | 836.5      | 25            | 12        | 23.0          | 22.4  | 0.106                  | 0.122               | -       | 177      |
| QPSK               | 10                   | Right Hand Side | 20450       | 829.0      | 1             | 24        | 24.0          | 23.2  | 0.417                  | 0.501               | -       | 178      |
| QPSK               | 10                   | Right Hand Side | 20600       | 844.0      | 1             | 24        | 24.0          | 23.2  | 0.460                  | 0.553               | -       | 179      |

**Note(s):**

**9.2.25. LTE Band 5; 10MHz Channel BW - Body-Worn - Power Back-Off Not Supported****Max Reported SAR = 0.481 (W/kg)**

For body-worn configuration indicated below the test position overlap with hotspot and the power back –off was not supported meaning hotspot mode was most conservative.

|                    |                      |              |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|--------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| QPSK               | 15                   | Front        | 20525       | 836.5      | 1             | 24        | 24.0          | 23.2  | 0.343                  | 0.412               | -       | 168      |
| QPSK               | 15                   | Front        | 20525       | 836.5      | 25            | 12        | 23.0          | 22.4  | 0.332                  | 0.381               | -       | 169      |
| QPSK               | 15                   | Back         | 20525       | 836.5      | 1             | 24        | 24.0          | 23.2  | 0.400                  | 0.481               | -       | 170      |
| QPSK               | 15                   | Back         | 20525       | 836.5      | 25            | 12        | 23.0          | 22.4  | 0.278                  | 0.319               | -       | 171      |

**Note(s):**

\*As per 648474 D04 Handsets SAR v01r02, "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". Hence, Body worn configurations were not evaluated with PHF attached.

**9.2.26. LTE Band 7; 20MHz Channel BW Head - Power Back-Off Supported and Disabled****Max Reported SAR = 0.474 (W/kg)**

|                    |                      |              |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|--------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| QPSK               | 0                    | Touch Left   | 21350       | 2560.0     | 1             | 99        | 24.5          | 24.4  | 0.463                  | 0.474               | -       | 180      |
| QPSK               | 0                    | Touch Left   | 21350       | 2560.0     | 50            | 49        | 23.5          | 23.3  | 0.349                  | 0.365               | -       | 181      |
| QPSK               | 0                    | Tilt Left    | 21350       | 2560.0     | 1             | 99        | 24.5          | 24.4  | 0.059                  | 0.060               | -       | 182      |
| QPSK               | 0                    | Tilt Left    | 21350       | 2560.0     | 50            | 49        | 23.5          | 23.3  | 0.051                  | 0.053               | -       | 183      |
| QPSK               | 0                    | Touch Right  | 21350       | 2560.0     | 1             | 99        | 24.5          | 24.4  | 0.207                  | 0.212               | -       | 184      |
| QPSK               | 0                    | Touch Right  | 21350       | 2560.0     | 50            | 49        | 23.5          | 23.3  | 0.138                  | 0.145               | -       | 185      |
| QPSK               | 0                    | Tilt Right   | 21350       | 2560.0     | 1             | 99        | 24.5          | 24.4  | 0.091                  | 0.093               | -       | 186      |
| QPSK               | 0                    | Tilt Right   | 21350       | 2560.0     | 50            | 49        | 23.5          | 23.3  | 0.070                  | 0.073               | -       | 187      |
| QPSK               | 0                    | Touch Left   | 20850       | 2510.0     | 1             | 99        | 24.5          | 23.8  | 0.334                  | 0.392               | -       | 188      |
| QPSK               | 0                    | Touch Left   | 21100       | 2535.0     | 1             | 99        | 24.5          | 23.8  | 0.319                  | 0.375               | -       | 189      |

**Note(s):**

### 9.2.27. LTE Band 7; 20MHz Channel BW - Hotspot Mode Power Back-Off Supported and Enabled

Max Reported SAR = 1.424 (W/kg)

|                    |                      |                 |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|-----------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position    | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| QPSK               | 10                   | Front           | 21350       | 2560.0     | 1             | 49        | 24.0          | 23.8  | 0.951                  | 0.996               | -       | 190      |
| QPSK               | 10                   | Front           | 20850       | 2510.0     | 1             | 49        | 24.0          | 23.4  | 1.240                  | 1.424               | 1       | 191      |
| QPSK               | 10                   | Front           | 21100       | 2535.0     | 1             | 49        | 24.0          | 23.5  | 0.959                  | 1.076               | -       | 192      |
| QPSK               | 10                   | Front           | 21350       | 2560.0     | 50            | 0         | 23.0          | 22.9  | 0.728                  | 0.745               | -       | 193      |
| QPSK               | 10                   | Front           | 21350       | 2560.0     | 100           | 0         | 23.0          | 22.8  | 0.923                  | 0.966               | -       | 194      |
| QPSK               | 10                   | Back            | 21350       | 2560.0     | 1             | 49        | 24.0          | 23.8  | 1.010                  | 1.058               | -       | 195      |
| QPSK               | 10                   | Back            | 20850       | 2510.0     | 1             | 49        | 24.0          | 23.4  | 0.995                  | 1.142               | -       | 196      |
| QPSK               | 10                   | Back            | 21100       | 2535.0     | 1             | 49        | 24.0          | 23.5  | 1.020                  | 1.144               | -       | 197      |
| QPSK               | 10                   | Back            | 21350       | 2560.0     | 50            | 0         | 23.0          | 22.9  | 0.760                  | 0.778               | -       | 198      |
| QPSK               | 10                   | Back            | 21350       | 2560.0     | 100           | 0         | 23.0          | 22.8  | 0.753                  | 0.788               | -       | 199      |
| QPSK               | 10                   | Left Hand Side  | 21350       | 2560.0     | 1             | 49        | 24.0          | 23.8  | 0.357                  | 0.374               | -       | 200      |
| QPSK               | 10                   | Left Hand Side  | 21350       | 2560.0     | 50            | 0         | 23.0          | 22.9  | 0.272                  | 0.278               | -       | 201      |
| QPSK               | 10                   | Right Hand Side | 21350       | 2560.0     | 1             | 49        | 24.0          | 23.8  | 0.123                  | 0.129               | -       | 202      |
| QPSK               | 10                   | Right Hand Side | 21350       | 2560.0     | 50            | 0         | 23.0          | 22.9  | 0.102                  | 0.104               | -       | 203      |
| QPSK               | 10                   | Bottom          | 21350       | 2560.0     | 1             | 49        | 24.0          | 23.8  | 0.779                  | 0.816               | -       | 204      |
| QPSK               | 10                   | Bottom          | 20850       | 2510.0     | 1             | 49        | 24.0          | 23.4  | 0.784                  | 0.900               | -       | 205      |
| QPSK               | 10                   | Bottom          | 21100       | 2535.0     | 1             | 49        | 24.0          | 23.5  | 0.751                  | 0.843               | -       | 206      |
| QPSK               | 10                   | Bottom          | 21350       | 2560.0     | 50            | 0         | 23.0          | 22.9  | 0.552                  | 0.565               | -       | 207      |
| QPSK               | 10                   | Bottom          | 20850       | 2510.0     | 100           | 0         | 23.0          | 22.5  | 0.599                  | 0.672               | -       | 208      |

Note(s):

**9.2.28. LTE Band 7; 20MHz Channel BW - Body-Worn - Power Back-Off Supported and Disabled****Max Reported SAR = 0.577 (W/kg)**

|                    |                      |              |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|--------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| QPSK               | 15                   | Front        | 21350       | 2560.0     | 1             | 99        | 24.5          | 24.4  | 0.500                  | 0.512               | -       | 209      |
| QPSK               | 15                   | Front        | 21350       | 2560.0     | 50            | 49        | 23.5          | 23.3  | 0.372                  | 0.390               | -       | 210      |
| QPSK               | 15                   | Back         | 21350       | 2560.0     | 1             | 99        | 24.5          | 24.4  | 0.476                  | 0.487               | -       | 211      |
| QPSK               | 15                   | Back         | 21350       | 2560.0     | 50            | 49        | 23.5          | 23.3  | 0.372                  | 0.390               | -       | 212      |
| QPSK               | 15                   | Front        | 20850       | 2510.0     | 1             | 99        | 24.5          | 23.8  | 0.467                  | 0.549               | -       | 213      |
| QPSK               | 15                   | Front        | 21100       | 2535.0     | 1             | 99        | 24.5          | 23.8  | 0.491                  | 0.577               | -       | 214      |

**Note(s):**

\*As per 648474 D04 Handsets SAR v01r02, "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". Hence, Body worn configurations were not evaluated with PHF attached.

**9.2.29. LTE Band 13; 10MHz Channel BW Head - Power Back-Off Not Supported****Max Reported SAR = 0.178 (W/kg)**

|                    |                      |              |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|--------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| QPSK               | 0                    | Touch Left   | 23230       | 782.0      | 1             | 24        | 24.0          | 23.4  | 0.154                  | 0.177               | -       | 215      |
| QPSK               | 0                    | Touch Left   | 23230       | 782.0      | 25            | 12        | 23.0          | 22.5  | 0.126                  | 0.141               | -       | 216      |
| QPSK               | 0                    | Tilt Left    | 23230       | 782.0      | 1             | 24        | 24.0          | 23.4  | 0.090                  | 0.103               | -       | 217      |
| QPSK               | 0                    | Tilt Left    | 23230       | 782.0      | 25            | 12        | 23.0          | 22.5  | 0.072                  | 0.081               | -       | 218      |
| QPSK               | 0                    | Touch Right  | 23230       | 782.0      | 1             | 24        | 24.0          | 23.4  | 0.155                  | 0.178               | -       | 219      |
| QPSK               | 0                    | Touch Right  | 23230       | 782.0      | 25            | 12        | 23.0          | 22.5  | 0.126                  | 0.141               | -       | 220      |
| QPSK               | 0                    | Tilt Right   | 23230       | 782.0      | 1             | 24        | 24.0          | 23.4  | 0.094                  | 0.108               | -       | 221      |
| QPSK               | 0                    | Tilt Right   | 23230       | 782.0      | 25            | 12        | 23.0          | 22.5  | 0.074                  | 0.083               | -       | 222      |

Note(s):

**9.2.30. LTE Band 13; 10MHz Channel BW - Hotspot Mode Power Back-Off Not Supported****Max Reported SAR = 0.351 (W/kg)**

|                    |                      |                 |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|-----------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position    | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| QPSK               | 10                   | Front           | 23230       | 782.0      | 1             | 24        | 24.0          | 23.4  | 0.251                  | 0.288               | -       | 223      |
| QPSK               | 10                   | Front           | 23230       | 782.0      | 25            | 12        | 23.0          | 22.5  | 0.207                  | 0.232               | -       | 224      |
| QPSK               | 10                   | Back            | 23230       | 782.0      | 1             | 24        | 24.0          | 23.4  | 0.299                  | 0.343               | -       | 225      |
| QPSK               | 10                   | Back            | 23230       | 782.0      | 25            | 12        | 23.0          | 22.5  | 0.248                  | 0.278               | -       | 226      |
| QPSK               | 10                   | Left Hand Side  | 23230       | 782.0      | 1             | 24        | 24.0          | 23.4  | 0.302                  | 0.347               | -       | 227      |
| QPSK               | 10                   | Left Hand Side  | 23230       | 782.0      | 25            | 12        | 23.0          | 22.5  | 0.247                  | 0.277               | -       | 228      |
| QPSK               | 10                   | Right Hand Side | 23230       | 782.0      | 1             | 24        | 24.0          | 23.4  | 0.306                  | 0.351               | -       | 229      |
| QPSK               | 10                   | Right Hand Side | 23230       | 782.0      | 25            | 12        | 23.0          | 22.5  | 0.245                  | 0.275               | -       | 230      |
| QPSK               | 10                   | Bottom          | 23230       | 782.0      | 1             | 24        | 24.0          | 23.4  | 0.031                  | 0.036               | -       | 231      |
| QPSK               | 10                   | Bottom          | 23230       | 782.0      | 25            | 12        | 23.0          | 22.5  | 0.028                  | 0.031               | -       | 232      |

Note(s):

**9.2.31. LTE Band 13; 10MHz Channel BW - Body-Worn - Power Back-Off Not Supported****Max Reported SAR = 0.343 (W/kg)**

For body-worn configuration indicated below the test position overlap with hotspot and the power back –off was not supported meaning hotspot mode was most conservative.

|                    |                      |              |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|--------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| QPSK               | 15                   | Front        | 23230       | 782.0      | 1             | 24        | 24.0          | 23.4  | 0.251                  | 0.288               | -       | 219      |
| QPSK               | 15                   | Front        | 23230       | 782.0      | 25            | 12        | 23.0          | 22.5  | 0.207                  | 0.232               | -       | 220      |
| QPSK               | 15                   | Back         | 23230       | 782.0      | 1             | 24        | 24.0          | 23.4  | 0.299                  | 0.343               | -       | 221      |
| QPSK               | 15                   | Back         | 23230       | 782.0      | 25            | 12        | 23.0          | 22.5  | 0.248                  | 0.278               | -       | 222      |

**Note(s):**

\*As per 648474 D04 Handsets SAR v01r02, "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". Hence, Body worn configurations were not evaluated with PHF attached.

**9.2.32. LTE Band 17; 10MHz Channel BW Head - Power Back-Off Not Supported****Max Reported SAR = 0.178 (W/kg)**

|                    |                      |              |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|--------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| QPSK               | 0                    | Touch Left   | 23780       | 710.0      | 1             | 49        | 24.0          | 23.4  | 0.155                  | 0.178               | -       | 233      |
| QPSK               | 0                    | Touch Left   | 23780       | 710.0      | 25            | 25        | 23.0          | 22.5  | 0.158                  | 0.177               | -       | 234      |
| QPSK               | 0                    | Tilt Left    | 23780       | 710.0      | 1             | 49        | 24.0          | 23.4  | 0.088                  | 0.101               | -       | 235      |
| QPSK               | 0                    | Tilt Left    | 23780       | 710.0      | 25            | 25        | 23.0          | 22.5  | 0.089                  | 0.100               | -       | 236      |
| QPSK               | 0                    | Touch Right  | 23780       | 710.0      | 1             | 49        | 24.0          | 23.4  | 0.141                  | 0.162               | -       | 237      |
| QPSK               | 0                    | Touch Right  | 23780       | 710.0      | 25            | 25        | 23.0          | 22.5  | 0.154                  | 0.173               | -       | 238      |
| QPSK               | 0                    | Tilt Right   | 23780       | 710.0      | 1             | 49        | 24.0          | 23.4  | 0.089                  | 0.102               | -       | 239      |
| QPSK               | 0                    | Tilt Right   | 23780       | 710.0      | 25            | 25        | 23.0          | 22.5  | 0.082                  | 0.092               | -       | 240      |
| QPSK               | 0                    | Touch Left   | 23790       | 709.0      | 1             | 49        | 24.0          | 23.3  | 0.131                  | 0.154               | -       | 241      |
| QPSK               | 0                    | Touch Left   | 23800       | 711.0      | 1             | 49        | 24.0          | 23.3  | 0.124                  | 0.146               | -       | 242      |

Note(s):

**9.2.33. LTE Band 17; 10MHz Channel BW - Hotspot Mode Power Back-Off Not Supported****Max Reported SAR = 0.241 (W/kg)**

|                    |                      |                 |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|-----------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position    | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| QPSK               | 10                   | Front           | 23780       | 710.0      | 1             | 49        | 24.0          | 23.4  | 0.210                  | 0.241               | -       | 243      |
| QPSK               | 10                   | Front           | 23780       | 710.0      | 25            | 25        | 23.0          | 22.5  | 0.177                  | 0.199               | -       | 244      |
| QPSK               | 10                   | Back            | 23780       | 710.0      | 1             | 49        | 24.0          | 23.4  | 0.196                  | 0.225               | -       | 245      |
| QPSK               | 10                   | Back            | 23780       | 710.0      | 25            | 25        | 23.0          | 22.5  | 0.211                  | 0.237               | -       | 246      |
| QPSK               | 10                   | Left Hand Side  | 23780       | 710.0      | 1             | 49        | 24.0          | 23.4  | 0.185                  | 0.212               | -       | 247      |
| QPSK               | 10                   | Left Hand Side  | 23780       | 710.0      | 25            | 25        | 23.0          | 22.5  | 0.142                  | 0.159               | -       | 248      |
| QPSK               | 10                   | Right Hand Side | 23780       | 710.0      | 1             | 49        | 24.0          | 23.4  | 0.159                  | 0.183               | -       | 249      |
| QPSK               | 10                   | Right Hand Side | 23780       | 710.0      | 25            | 25        | 23.0          | 22.5  | 0.127                  | 0.142               | -       | 250      |
| QPSK               | 10                   | Bottom          | 23780       | 710.0      | 1             | 49        | 24.0          | 23.4  | 0.023                  | 0.026               | -       | 251      |
| QPSK               | 10                   | Bottom          | 23780       | 710.0      | 25            | 25        | 23.0          | 22.5  | 0.018                  | 0.020               | -       | 252      |
| QPSK               | 10                   | Front           | 23790       | 709.0      | 1             | 49        | 24.0          | 23.3  | 0.169                  | 0.199               | -       | 253      |
| QPSK               | 10                   | Front           | 23800       | 711.0      | 1             | 49        | 24.0          | 23.3  | 0.203                  | 0.239               | -       | 254      |

Note(s):

**9.2.34. LTE Band 17; 10MHz Channel BW - Body-Worn - Power Back-Off Not Supported****Max Reported SAR = 0.241 (W/kg)**

For body-worn configuration indicated below the test position overlap with hotspot and the power back –off was not supported meaning hotspot mode was most conservative.

|                    |                      |              |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|--------------------|----------------------|--------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation | Separation Dist (mm) | EUT Position | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| QPSK               | 10                   | Front        | 23780       | 710.0      | 1             | 49        | 24.0          | 23.4  | 0.210                  | 0.241               | -       | 243      |
| QPSK               | 10                   | Front        | 23780       | 710.0      | 25            | 25        | 23.0          | 22.5  | 0.177                  | 0.199               | -       | 244      |
| QPSK               | 10                   | Back         | 23780       | 710.0      | 1             | 49        | 24.0          | 23.4  | 0.196                  | 0.225               | -       | 245      |
| QPSK               | 10                   | Back         | 23780       | 710.0      | 25            | 25        | 23.0          | 22.5  | 0.211                  | 0.237               | -       | 246      |
| QPSK               | 10                   | Front        | 23790       | 709.0      | 1             | 49        | 24.0          | 23.3  | 0.169                  | 0.199               | -       | 253      |
| QPSK               | 10                   | Front        | 23800       | 711.0      | 1             | 49        | 24.0          | 23.3  | 0.203                  | 0.239               | -       | 254      |

**Note(s):**

\*As per 648474 D04 Handsets SAR v01r02, "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". Hence, Body worn configurations were not evaluated with PHF attached.

**9.2.35. Wi-Fi 2.4 GHz - Head - Power Back-Off Not Supported****Max Reported SAR = 0.659 (W/kg)**

|                       |                      |              |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|-----------------------|----------------------|--------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation    | Separation Dist (mm) | EUT Position | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| DBPSK (802.11g 6Mbps) | 0                    | Touch Left   | 6           | 2436.0     | N/A           | N/A       | 13.4          | 13.4  | 0.217                  | 0.217               | -       | 255      |
| DBPSK (802.11g 6Mbps) | 0                    | Tilt Left    | 6           | 2436.0     | N/A           | N/A       | 13.4          | 13.4  | 0.218                  | 0.218               | -       | 256      |
| DBPSK (802.11g 6Mbps) | 0                    | Touch Right  | 6           | 2436.0     | N/A           | N/A       | 13.4          | 13.4  | 0.611                  | 0.611               | -       | 257      |
| DBPSK (802.11g 6Mbps) | 0                    | Tilt Right   | 6           | 2436.0     | N/A           | N/A       | 13.4          | 13.4  | 0.206                  | 0.206               | -       | 258      |
| DBPSK (802.11g 6Mbps) | 0                    | Touch Right  | 1           | 2412.0     | N/A           | N/A       | 13.4          | 12.9  | 0.587                  | 0.659               | -       | 259      |
| DBPSK (802.11g 6Mbps) | 0                    | Touch Right  | 11          | 2462.0     | N/A           | N/A       | 13.4          | 13.1  | 0.530                  | 0.568               | -       | 260      |

**Note(s):**

\*KDB 248227 - SAR is not required for 802.11b/n channels when the maximum average output power is equal to that measured on the corresponding 802.11g channels.

**9.2.36. Wi-Fi 2.4 GHz - Hotspot Mode - Power Back-Off Not Supported****Max Reported SAR = 0.077 (W/kg)**

|                       |                      |                |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|-----------------------|----------------------|----------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation    | Separation Dist (mm) | EUT Position   | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| DBPSK (802.11g 6Mbps) | 10                   | Front          | 6           | 2436.0     | N/A           | N/A       | 13.4          | 13.4  | 0.021                  | 0.021               | -       | 261      |
| DBPSK (802.11g 6Mbps) | 10                   | Back           | 6           | 2436.0     | N/A           | N/A       | 13.4          | 13.4  | 0.008                  | 0.008               | -       | 262      |
| DBPSK (802.11g 6Mbps) | 10                   | Left Hand Side | 6           | 2436.0     | N/A           | N/A       | 13.4          | 13.4  | 0.009                  | 0.009               | -       | 263      |
| DBPSK (802.11g 6Mbps) | 10                   | Top            | 6           | 2436.0     | N/A           | N/A       | 13.4          | 13.4  | 0.003                  | 0.003               | -       | 264      |
| DBPSK (802.11g 6Mbps) | 10                   | Front          | 1           | 2412.0     | N/A           | N/A       | 13.4          | 12.9  | 0.069                  | 0.077               | -       | 265      |
| DBPSK (802.11g 6Mbps) | 10                   | Front          | 11          | 2462.0     | N/A           | N/A       | 13.4          | 13.1  | 0.056                  | 0.060               | -       | 266      |

**Note(s):**

\*KDB 248227 - SAR is not required for 802.11b/n channels when the maximum average output power is equal to that measured on the corresponding 802.11g channels.

**9.2.37. Wi-Fi 2.4 GHz - Body-Worn - Power Back-Off Not Supported****Max Reported SAR = 0.077 (W/kg)**

For body-worn configuration indicated below the test position overlap with hotspot and the power back –off was not supported meaning hotspot mode was most conservative.

|                       |                      |              |             |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |                     |         |          |
|-----------------------|----------------------|--------------|-------------|------------|---------------|-----------|---------------|-------|------------------------|---------------------|---------|----------|
| Mode or Modulation    | Separation Dist (mm) | EUT Position | Channel No. | Freq (MHz) | RB Allocation | RB Offset | Tune up limit | Meas. | Meas. Level (W/kg)     | Reported SAR (W/kg) | Note(s) | Scan No. |
| DBPSK (802.11g 6Mbps) | 10                   | Front        | 6           | 2436.0     | N/A           | N/A       | 13.4          | 13.4  | 0.021                  | 0.021               | -       | 261      |
| DBPSK (802.11g 6Mbps) | 10                   | Back         | 6           | 2436.0     | N/A           | N/A       | 13.4          | 13.4  | 0.008                  | 0.008               | -       | 262      |
| DBPSK (802.11g 6Mbps) | 10                   | Front        | 1           | 2412.0     | N/A           | N/A       | 13.4          | 12.9  | 0.069                  | 0.077               | -       | 265      |
| DBPSK (802.11g 6Mbps) | 10                   | Front        | 11          | 2462.0     | N/A           | N/A       | 13.4          | 13.1  | 0.056                  | 0.060               | -       | 266      |

**Note(s):**

\*KDB 248227 - SAR is not required for 802.11b/n channels when the maximum average output power is equal to that measured on the corresponding 802.11g channels.

\*As per 648474 D04 Handsets SAR v01r02, "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". Hence, Body worn configurations were not evaluated with PHF attached.

**9.2.38. Wi-Fi 5.0 GHz - Head - Power Back-Off Not Supported****Max Reported SAR =0.555 (W/kg)**

|                                |           |               |        |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |        |         |          |
|--------------------------------|-----------|---------------|--------|------------|---------------|-----------|---------------|-------|------------------------|--------|---------|----------|
| Mode or Modulation             | Dist (mm) | Test Position | Ch No. | Freq (MHz) | RB Allocation | RB Offset | Tune-up limit | Meas. | Meas.                  | Scaled | Note(s) | Scan No. |
| BPSK (802.11a HT20 6Mbps)      | 0         | Touch Left    | 48     | 5240.0     | N/A           | N/A       | 16.3          | 16.3  | 0.330                  | 0.330  | -       | 267      |
| BPSK (802.11a HT20 6Mbps)      | 0         | Tilt Left     | 48     | 5240.0     | N/A           | N/A       | 16.3          | 16.3  | 0.246                  | 0.246  | -       | 268      |
| BPSK (802.11a HT20 6Mbps)      | 0         | Touch Right   | 48     | 5240.0     | N/A           | N/A       | 16.3          | 16.3  | 0.455                  | 0.455  | -       | 269      |
| BPSK (802.11a HT20 6Mbps)      | 0         | Tilt Right    | 48     | 5240.0     | N/A           | N/A       | 16.3          | 16.3  | 0.207                  | 0.207  | -       | 270      |
| BPSK (802.11a HT20 6Mbps)      | 0         | Touch Right   | 64     | 5320.0     | N/A           | N/A       | 16.3          | 16.3  | 0.551                  | 0.551  | -       | 271      |
| BPSK (802.11a HT20 6Mbps)      | 0         | Touch Right   | 100    | 5500.0     | N/A           | N/A       | 16.5          | 16.5  | 0.254                  | 0.254  | -       | 272      |
| BPSK (802.11a HT20 6Mbps)      | 0         | Touch Right   | 165    | 5825.0     | N/A           | N/A       | 16.5          | 16.2  | 0.481                  | 0.515  | -       | 273      |
| BPSK (802.11ac VHT40 13.5Mbps) | 0         | Touch Right   | 38     | 5190.0     | N/A           | N/A       | 14.3          | 14.0  | 0.197                  | 0.211  | -       | 274      |
| BPSK (802.11ac VHT40 13.5Mbps) | 0         | Touch Right   | 54     | 5270.0     | N/A           | N/A       | 14.3          | 14.0  | 0.302                  | 0.324  | -       | 275      |
| BPSK (802.11ac VHT40 13.5Mbps) | 0         | Touch Right   | 102    | 5510.0     | N/A           | N/A       | 14.7          | 14.6  | 0.192                  | 0.196  | -       | 276      |
| BPSK (802.11ac VHT40 13.5Mbps) | 0         | Touch Right   | 151    | 5755.0     | N/A           | N/A       | 14.7          | 14.1  | 0.233                  | 0.268  | -       | 277      |
| BPSK (802.11ac VHT80 29.3Mbps) | 0         | Touch Right   | 42     | 5210.0     | N/A           | N/A       | 14.2          | 13.9  | 0.362                  | 0.388  | -       | 278      |
| BPSK (802.11ac VHT80 29.3Mbps) | 0         | Touch Right   | 58     | 5290.0     | N/A           | N/A       | 14.2          | 14.0  | 0.482                  | 0.505  | -       | 279      |
| BPSK (802.11ac VHT80 29.3Mbps) | 0         | Touch Right   | 106    | 5530.0     | N/A           | N/A       | 14.5          | 14.3  | 0.530                  | 0.555  | -       | 280      |
| BPSK (802.11ac VHT80 29.3Mbps) | 0         | Touch Right   | 155    | 5775.0     | N/A           | N/A       | 14.5          | 14.1  | 0.245                  | 0.269  | -       | 281      |

**Note(s):**

\*For frequency bands with an operating range of  $\leq 100$  MHz, when the SAR measured for the highest output power channel within is  $\leq 0.8$  W/kg, SAR for the remaining channels is not required. Per KDB 447498 D01, section 4.3.3

\*For frequency bands with an operating range of  $\geq 200$  MHz, when the SAR for the highest output power channel within is  $\leq 0.4$  W/kg, SAR for the remaining channels is not required. Per KDB 447498 D01, section 4.3.3

\*KDB 248227 - SAR is not required for 802.11n HT20 / 802.11ac VHT20 channels as the maximum average output power is less than  $\frac{1}{4}$  dB higher than 802.11a.

\*KDB 248227 - SAR is not required for 802.11n HT40 channels as the maximum average output power is less than  $\frac{1}{4}$  dB higher than 802.11ac VHT40.

**9.2.39. Wi-Fi 5.0 GHz Hotspot Mode - Power Back-Off Not Supported****Max Reported SAR = 0.266 (W/kg)**

|                                |           |                |        |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |        |         |          |
|--------------------------------|-----------|----------------|--------|------------|---------------|-----------|---------------|-------|------------------------|--------|---------|----------|
| Mode or Modulation             | Dist (mm) | Test Position  | Ch No. | Freq (MHz) | RB Allocation | RB Offset | Tune-up limit | Meas. | Meas.                  | Scaled | Note(s) | Scan No. |
| BPSK (802.11a HT20 6Mbps)      | 10        | Front          | 48     | 5240.0     | N/A           | N/A       | 16.3          | 16.3  | 0.072                  | 0.072  | -       | 282      |
| BPSK (802.11a HT20 6Mbps)      | 10        | Back           | 48     | 5240.0     | N/A           | N/A       | 16.3          | 16.3  | 0.198                  | 0.198  | -       | 283      |
| BPSK (802.11a HT20 6Mbps)      | 10        | Left Hand Side | 48     | 5240.0     | N/A           | N/A       | 16.3          | 16.3  | 0.031                  | 0.031  | -       | 284      |
| BPSK (802.11a HT20 6Mbps)      | 10        | Top            | 48     | 5240.0     | N/A           | N/A       | 16.3          | 16.3  | 0.000                  | 0.000  | -       | -        |
| BPSK (802.11a HT20 6Mbps)      | 10        | Back           | 64     | 5320.0     | N/A           | N/A       | 16.3          | 16.3  | 0.266                  | 0.266  | -       | 285      |
| BPSK (802.11a HT20 6Mbps)      | 10        | Back           | 100    | 5500.0     | N/A           | N/A       | 16.5          | 16.5  | 0.139                  | 0.139  | -       | 286      |
| BPSK (802.11a HT20 6Mbps)      | 10        | Back           | 165    | 5825.0     | N/A           | N/A       | 16.5          | 16.2  | 0.106                  | 0.114  | -       | 287      |
| BPSK (802.11ac VHT40 13.5Mbps) | 10        | Back           | 38     | 5190.0     | N/A           | N/A       | 14.3          | 14.0  | 0.137                  | 0.147  | -       | 288      |
| BPSK (802.11ac VHT40 13.5Mbps) | 10        | Back           | 54     | 5270.0     | N/A           | N/A       | 14.3          | 14.0  | 0.201                  | 0.215  | -       | 289      |
| BPSK (802.11ac VHT40 13.5Mbps) | 10        | Back           | 102    | 5510.0     | N/A           | N/A       | 14.7          | 14.6  | 0.065                  | 0.067  | -       | 290      |
| BPSK (802.11ac VHT40 13.5Mbps) | 10        | Back           | 151    | 5755.0     | N/A           | N/A       | 14.7          | 14.1  | 0.051                  | 0.059  | -       | 291      |
| BPSK (802.11ac VHT80 29.3Mbps) | 10        | Back           | 42     | 5210.0     | N/A           | N/A       | 14.2          | 13.9  | 0.114                  | 0.122  | -       | 292      |
| BPSK (802.11ac VHT80 29.3Mbps) | 10        | Back           | 58     | 5290.0     | N/A           | N/A       | 14.2          | 14.0  | 0.130                  | 0.136  | -       | 293      |
| BPSK (802.11ac VHT80 29.3Mbps) | 10        | Back           | 106    | 5530.0     | N/A           | N/A       | 14.5          | 14.3  | 0.057                  | 0.060  | -       | 294      |
| BPSK (802.11ac VHT80 29.3Mbps) | 10        | Back           | 155    | 5775.0     | N/A           | N/A       | 14.5          | 14.1  | 0.049                  | 0.054  | -       | 295      |

**Note(s):**

\*For frequency bands with an operating range of  $\leq 100$  MHz, when the SAR measured for the highest output power channel within is  $\leq 0.8$  W/kg, SAR for the remaining channels is not required. Per KDB 447498 D01, section 4.3.3

\*For frequency bands with an operating range of  $\geq 200$  MHz, when the SAR for the highest output power channel within is  $\leq 0.4$  W/kg, SAR for the remaining channels is not required. Per KDB 447498 D01, section 4.3.3

\*KDB 248227 - SAR is not required for 802.11n HT20 / 802.11ac VHT20 channels as the maximum average output power is less than  $\frac{1}{4}$  dB higher than 802.11a.

\*KDB 248227 - SAR is not required for 802.11n HT40 channels as the maximum average output power is less than  $\frac{1}{4}$  dB higher than 802.11ac VHT40.

**9.2.40. Wi-Fi 5.0 GHz - Body-Worn - Power Back-Off Not Supported****Max Reported SAR = 0.266 (W/kg)**

For body-worn configuration indicated below the test position overlap with hotspot and the power back –off was not supported meaning hotspot mode was most conservative.

|                                |           |               |        |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |        |         |          |
|--------------------------------|-----------|---------------|--------|------------|---------------|-----------|---------------|-------|------------------------|--------|---------|----------|
| Mode or Modulation             | Dist (mm) | Test Position | Ch No. | Freq (MHz) | RB Allocation | RB Offset | Tune-up limit | Meas. | Meas.                  | Scaled | Note(s) | Scan No. |
| BPSK (802.11a HT20 6Mbps)      | 10        | Front         | 48     | 5240.0     | N/A           | N/A       | 16.3          | 16.3  | 0.072                  | 0.072  | -       | 282      |
| BPSK (802.11a HT20 6Mbps)      | 10        | Back          | 48     | 5240.0     | N/A           | N/A       | 16.3          | 16.3  | 0.198                  | 0.198  | -       | 283      |
| BPSK (802.11a HT20 6Mbps)      | 10        | Back          | 64     | 5320.0     | N/A           | N/A       | 16.3          | 16.3  | 0.266                  | 0.266  | -       | 285      |
| BPSK (802.11a HT20 6Mbps)      | 10        | Back          | 100    | 5500.0     | N/A           | N/A       | 16.5          | 16.5  | 0.139                  | 0.139  | -       | 286      |
| BPSK (802.11a HT20 6Mbps)      | 10        | Back          | 165    | 5825.0     | N/A           | N/A       | 16.5          | 16.2  | 0.106                  | 0.114  | -       | 287      |
| BPSK (802.11ac VHT40 13.5Mbps) | 10        | Back          | 38     | 5190.0     | N/A           | N/A       | 14.3          | 14.0  | 0.137                  | 0.147  | -       | 288      |
| BPSK (802.11ac VHT40 13.5Mbps) | 10        | Back          | 54     | 5270.0     | N/A           | N/A       | 14.3          | 14.0  | 0.201                  | 0.215  | -       | 289      |
| BPSK (802.11ac VHT40 13.5Mbps) | 10        | Back          | 102    | 5510.0     | N/A           | N/A       | 14.7          | 14.6  | 0.065                  | 0.067  | -       | 290      |
| BPSK (802.11ac VHT40 13.5Mbps) | 10        | Back          | 151    | 5755.0     | N/A           | N/A       | 14.7          | 14.1  | 0.051                  | 0.059  | -       | 291      |
| BPSK (802.11ac VHT80 29.3Mbps) | 10        | Back          | 42     | 5210.0     | N/A           | N/A       | 14.2          | 13.9  | 0.114                  | 0.122  | -       | 292      |
| BPSK (802.11ac VHT80 29.3Mbps) | 10        | Back          | 58     | 5290.0     | N/A           | N/A       | 14.2          | 14.0  | 0.130                  | 0.136  | -       | 293      |
| BPSK (802.11ac VHT80 29.3Mbps) | 10        | Back          | 106    | 5530.0     | N/A           | N/A       | 14.5          | 14.3  | 0.057                  | 0.060  | -       | 294      |
| BPSK (802.11ac VHT80 29.3Mbps) | 10        | Back          | 155    | 5775.0     | N/A           | N/A       | 14.5          | 14.1  | 0.049                  | 0.054  | -       | 295      |

**Note(s):**

\*For frequency bands with an operating range of  $\leq 100$  MHz, when the SAR measured for the highest output power channel within is  $\leq 0.8$  W/kg, SAR for the remaining channels is not required. Per KDB 447498 D01, section 4.3.3

\*For frequency bands with an operating range of  $\geq 200$  MHz, when the SAR for the highest output power channel within is  $\leq 0.4$  W/kg, SAR for the remaining channels is not required. Per KDB 447498 D01, section 4.3.3

\*KDB 248227 - SAR is not required for 802.11n HT20 / 802.11ac VHT20 channels as the maximum average output power is less than  $\frac{1}{4}$  dB higher than 802.11a.

\*KDB 248227 - SAR is not required for 802.11n HT40 channels as the maximum average output power is less than  $\frac{1}{4}$  dB higher than 802.11ac VHT40.

**9.2.41. Bluetooth – Hotspot Mode - Power Back-Off Not Supported****Max Reported SAR = 0.039 (W/kg)**

|                    |           |                |        |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |        |         |          |
|--------------------|-----------|----------------|--------|------------|---------------|-----------|---------------|-------|------------------------|--------|---------|----------|
| Mode or Modulation | Dist (mm) | Test Position  | Ch No. | Freq (MHz) | RB Allocation | RB Offset | Tune-up limit | Meas. | Meas.                  | Scaled | Note(s) | Scan No. |
| GFSK (BR 1Mbps)    | 10        | Front          | 39     | 2441.0     | N/A           | N/A       | 10.0          | 9.3   | 0.033                  | 0.039  | -       | 296      |
| GFSK (BR 1Mbps)    | 10        | Back           | 39     | 2441.0     | N/A           | N/A       | 10.0          | 9.3   | 0.026                  | 0.031  | -       | 297      |
| GFSK (BR 1Mbps)    | 10        | Left Hand Side | 39     | 2441.0     | N/A           | N/A       | 10.0          | 9.3   | 0.006                  | 0.007  | -       | 298      |
| GFSK (BR 1Mbps)    | 10        | Top            | 39     | 2441.0     | N/A           | N/A       | 10.0          | 9.3   | 0.000                  | 0.000  | -       | 299      |
| GFSK (BR 1Mbps)    | 10        | Front          | 0      | 2402.0     | N/A           | N/A       | 7.9           | 6.1   | 0.014                  | 0.021  | -       | 300      |
| GFSK (BR 1Mbps)    | 10        | Front          | 78     | 2480.0     | N/A           | N/A       | 7.9           | 6.5   | 0.023                  | 0.032  | -       | 301      |

**9.2.42. Bluetooth - Body-Worn - Power Back-Off Not Supported****Max Reported SAR = 0.039 (W/kg)**

For body-worn configuration indicated below the test position overlap with hotspot and the power back –off was not supported meaning hotspot mode was most conservative.

|                    |           |               |        |            | For LTE Only  |           | Power (dBm)   |       | 1g: SAR Results (W/kg) |        |         |          |
|--------------------|-----------|---------------|--------|------------|---------------|-----------|---------------|-------|------------------------|--------|---------|----------|
| Mode or Modulation | Dist (mm) | Test Position | Ch No. | Freq (MHz) | RB Allocation | RB Offset | Tune-up limit | Meas. | Meas.                  | Scaled | Note(s) | Scan No. |
| GFSK (BR 1Mbps)    | 15        | Front         | 39     | 2441.0     | N/A           | N/A       | 10.0          | 9.3   | 0.033                  | 0.039  | -       | 296      |
| GFSK (BR 1Mbps)    | 15        | Back          | 39     | 2441.0     | N/A           | N/A       | 10.0          | 9.3   | 0.026                  | 0.031  | -       | 297      |
| GFSK (BR 1Mbps)    | 15        | Front         | 0      | 2402.0     | N/A           | N/A       | 7.9           | 6.1   | 0.014                  | 0.021  | -       | 300      |
| GFSK (BR 1Mbps)    | 15        | Front         | 78     | 2480.0     | N/A           | N/A       | 7.9           | 6.5   | 0.023                  | 0.032  | -       | 301      |

**9.3. SAR measurement variability and measurement uncertainty analysis:**

| Exposure Configuration                  | Technology Band | Measured 1g -SAR (W/Kg) | Equipment Class | Max Meas. Source base Avg Power [dBm] | Ratio of Largest to Smallest SAR Measured |
|-----------------------------------------|-----------------|-------------------------|-----------------|---------------------------------------|-------------------------------------------|
| HEAD<br>(Separation Distance 0mm)       | UMTS FDD 4      | 0.807                   | DTS             | 23.6                                  | 1.01                                      |
|                                         |                 | 0.797                   |                 |                                       |                                           |
| HOTSPOT<br>(Separation Distance 10mm)   | UMTS FDD 2      | 1.220                   | PCE             | 19.1                                  | 1.03                                      |
|                                         |                 | 1.190                   |                 |                                       |                                           |
|                                         | LTE Band 2      | 1.250                   |                 | 19.7                                  | 1.07                                      |
|                                         |                 | 1.170                   |                 |                                       |                                           |
|                                         | LTE Band 7      | 1.240                   |                 | 23.4                                  | 1.15                                      |
|                                         |                 | 1.080                   |                 |                                       |                                           |
| BODY-WORN<br>(Separation Distance 15mm) | PCS1900         | 1.040                   | PCE             | 26.8                                  | 1.13                                      |
|                                         |                 | 0.922                   |                 |                                       |                                           |

**Note(s):**

1. The following step below were followed as per KDB publication 865664 D01:
  - 1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.
  - 2) When the original highest measured SAR is  $\geq 0.80$  W/kg, repeat that measurement once.
  - 3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is  $\geq 1.45$  W/kg (~ 10% from the 1-g SAR limit).
  - 4) Perform a third repeated measurement only if the original, first or second repeated measurement is  $\geq 1.5$  W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

#### 9.4. Simultaneous Transmission SAR Analysis

According to the worst case configuration Simultaneous transmission analysis of worst cases is shown in the tables below.

**Overall Worst Case:**

1. WWAN + WLAN 2.4 GHz
2. WWAN + WLAN 5.0 GHz
3. WWAN + WPAN
4. WPAN + WLAN 5.0 GHz
5. WWAN + WLAN 5.0 GHz + WPAN

**Simultaneous Transmission SAR Analysis (Continued)****Head 1g – Worst cases measurements WWAN + WLAN 2.4GHz**

| EUT Position | Reported SAR 1g (W/Kg) |         |            |            |       | Sum of WWAN & WLAN |
|--------------|------------------------|---------|------------|------------|-------|--------------------|
|              | WWAN                   |         |            |            | WLAN  |                    |
|              | GSM850                 | PCS1900 | UMTS FDD 2 | UMTS FDD 4 | Wi-Fi |                    |
| Touch Left   | 0.191                  |         |            |            | 0.217 | 0.408              |
| Tilt Left    | 0.125                  |         |            |            | 0.218 | 0.343              |
| Touch Right  | 0.360                  |         |            |            | 0.659 | 1.019              |
| Tilt Right   | 0.184                  |         |            |            | 0.206 | 0.390              |
| Touch Left   |                        | 0.470   |            |            | 0.217 | 0.687              |
| Tilt Left    |                        | 0.182   |            |            | 0.218 | 0.400              |
| Touch Right  |                        | 0.762   |            |            | 0.659 | 1.421              |
| Tilt Right   |                        | 0.164   |            |            | 0.206 | 0.370              |
| Touch Left   |                        |         | 0.222      |            | 0.217 | 0.439              |
| Tilt Left    |                        |         | 0.118      |            | 0.218 | 0.357              |
| Touch Right  |                        |         | 0.598      |            | 0.659 | 1.257              |
| Tilt Right   |                        |         | 0.161      |            | 0.206 | 0.367              |
| Touch Left   |                        |         |            | 0.621      | 0.217 | 0.838              |
| Tilt Left    |                        |         |            | 0.396      | 0.218 | 0.614              |
| Touch Right  |                        |         |            | 0.885      | 0.659 | 1.544              |
| Tilt Right   |                        |         |            | 0.250      | 0.206 | 0.456              |

**Head 1g – Worst cases measurements WWAN + WLAN 2.4GHz**

| EUT Position | Reported SAR 1g (W/Kg) |            |            |            |       | Sum of WWAN & WLAN |
|--------------|------------------------|------------|------------|------------|-------|--------------------|
|              | WWAN                   |            |            |            | WLAN  |                    |
|              | UMTS FDD 5             | LTE Band 2 | LTE Band 4 | LTE Band 5 | Wi-Fi |                    |
| Touch Left   | 0.407                  |            |            |            | 0.217 | 0.624              |
| Tilt Left    | 0.201                  |            |            |            | 0.218 | 0.419              |
| Touch Right  | 0.349                  |            |            |            | 0.659 | 1.008              |
| Tilt Right   | 0.188                  |            |            |            | 0.206 | 0.394              |
| Touch Left   |                        | 0.310      |            |            | 0.217 | 0.527              |
| Tilt Left    |                        | 0.182      |            |            | 0.218 | 0.400              |
| Touch Right  |                        | 0.508      |            |            | 0.659 | 1.167              |
| Tilt Right   |                        | 0.084      |            |            | 0.206 | 0.290              |
| Touch Left   |                        |            | 0.543      |            | 0.217 | 0.760              |
| Tilt Left    |                        |            | 0.404      |            | 0.218 | 0.622              |
| Touch Right  |                        |            | 0.820      |            | 0.659 | 1.479              |
| Tilt Right   |                        |            | 0.259      |            | 0.206 | 0.465              |
| Touch Left   |                        |            |            | 0.212      | 0.217 | 0.429              |
| Tilt Left    |                        |            |            | 0.103      | 0.218 | 0.321              |
| Touch Right  |                        |            |            | 0.310      | 0.659 | 0.969              |
| Tilt Right   |                        |            |            | 0.149      | 0.206 | 0.355              |

**Head 1g – Worst cases measurements WWAN + WLAN 2.4GHz**

| EUT Position | Reported SAR 1g (W/Kg) |             |             |   |       | Sum of WWAN & WLAN |
|--------------|------------------------|-------------|-------------|---|-------|--------------------|
|              | WWAN                   |             |             |   | WLAN  |                    |
|              | LTE Band 7             | LTE Band 13 | LTE Band 17 | - | Wi-Fi |                    |
| Touch Left   | 0.474                  |             |             |   | 0.217 | 0.691              |
| Tilt Left    | 0.060                  |             |             |   | 0.218 | 0.278              |
| Touch Right  | 0.212                  |             |             |   | 0.659 | 0.871              |
| Tilt Right   | 0.093                  |             |             |   | 0.206 | 0.299              |
| Touch Left   |                        | 0.177       |             |   | 0.217 | 0.394              |
| Tilt Left    |                        | 0.103       |             |   | 0.218 | 0.321              |
| Touch Right  |                        | 0.178       |             |   | 0.659 | 0.837              |
| Tilt Right   |                        | 0.108       |             |   | 0.206 | 0.314              |
| Touch Left   |                        |             | 0.178       |   | 0.217 | 0.395              |
| Tilt Left    |                        |             | 0.101       |   | 0.218 | 0.319              |
| Touch Right  |                        |             | 0.173       |   | 0.659 | 0.832              |
| Tilt Right   |                        |             | 0.102       |   | 0.206 | 0.308              |

**Simultaneous Transmission SAR Analysis (Continued)****Hotspot Mode 1g – Worst cases measurements WWAN + WLAN 2.4GHz**

| EUT Position    | Reported SAR 1g (W/Kg) |         |            |            |                   | Sum of WWAN & WLAN |
|-----------------|------------------------|---------|------------|------------|-------------------|--------------------|
|                 | WWAN                   |         |            |            | WLAN              |                    |
|                 | GSM850                 | PCS1900 | UMTS FDD 2 | UMTS FDD 4 | Wi-Fi 802.11b/g/n |                    |
| Front           | 0.513                  |         |            |            | 0.077             | 0.590              |
| Back            | 0.555                  |         |            |            | 0.008             | 0.563              |
| Left Hand Side  | 0.366                  |         |            |            | 0.009             | 0.375              |
| Right Hand Side | 0.631                  |         |            |            |                   | 0.631              |
| Bottom          | 0.165                  |         |            |            |                   | 0.165              |
| Top             |                        |         |            |            | 0.003             | 0.003              |
| Front           |                        | 0.816   |            |            | 0.077             | 0.893              |
| Back            |                        | 0.712   |            |            | 0.008             | 0.720              |
| Left Hand Side  |                        | 0.094   |            |            | 0.009             | 0.103              |
| Right Hand Side |                        | 0.022   |            |            |                   | 0.022              |
| Bottom          |                        | 1.144   |            |            |                   | 1.144              |
| Top             |                        |         |            |            | 0.003             | 0.003              |
| Front           |                        |         | 0.798      |            | 0.077             | 0.875              |
| Back            |                        |         | 0.757      |            | 0.008             | 0.765              |
| Left Hand Side  |                        |         | 0.090      |            | 0.009             | 0.099              |
| Right Hand Side |                        |         | 0.063      |            |                   | 0.063              |
| Bottom          |                        |         | 1.501      |            |                   | 1.501              |
| Top             |                        |         |            |            | 0.003             | 0.003              |
| Front           |                        |         |            | 0.724      | 0.077             | 0.801              |
| Back            |                        |         |            | 0.616      | 0.008             | 0.624              |
| Left Hand Side  |                        |         |            | 0.274      | 0.009             | 0.283              |
| Right Hand Side |                        |         |            | 0.137      |                   | 0.137              |
| Bottom          |                        |         |            | 0.936      |                   | 0.936              |
| Top             |                        |         |            |            | 0.003             | 0.003              |

**Simultaneous Transmission SAR Analysis (Continued)****Hotspot Mode 1g – Worst cases measurements WWAN + WLAN 2.4GHz**

| EUT Position    | Reported SAR 1g (W/Kg) |            |            |            |                   | Sum of WWAN & WLAN |
|-----------------|------------------------|------------|------------|------------|-------------------|--------------------|
|                 | WWAN                   |            |            |            | WLAN              |                    |
|                 | UMTS FDD 5             | LTE Band 2 | LTE Band 4 | LTE Band 5 | Wi-Fi 802.11b/g/n |                    |
| Front           | 0.366                  |            |            |            | 0.077             | 0.443              |
| Back            | 0.403                  |            |            |            | 0.008             | 0.411              |
| Left Hand Side  | 0.291                  |            |            |            | 0.009             | 0.300              |
| Right Hand Side | 0.217                  |            |            |            |                   | 0.217              |
| Bottom          | 0.081                  |            |            |            |                   | 0.081              |
| Top             |                        |            |            |            | 0.003             | 0.003              |
| Front           |                        | 0.791      |            |            | 0.077             | 0.868              |
| Back            |                        | 0.739      |            |            | 0.008             | 0.747              |
| Left Hand Side  |                        | 0.096      |            |            | 0.009             | 0.105              |
| Right Hand Side |                        | 0.058      |            |            |                   | 0.058              |
| Bottom          |                        | 1.339      |            |            |                   | 1.339              |
| Top             |                        |            |            |            | 0.003             | 0.003              |
| Front           |                        |            | 0.797      |            | 0.077             | 0.874              |
| Back            |                        |            | 0.495      |            | 0.008             | 0.503              |
| Left Hand Side  |                        |            | 0.202      |            | 0.009             | 0.211              |
| Right Hand Side |                        |            | 0.178      |            |                   | 0.178              |
| Bottom          |                        |            | 0.491      |            |                   | 0.491              |
| Top             |                        |            |            |            | 0.003             | 0.003              |
| Front           |                        |            |            | 0.412      | 0.077             | 0.489              |
| Back            |                        |            |            | 0.481      | 0.008             | 0.489              |
| Left Hand Side  |                        |            |            | 0.305      | 0.009             | 0.314              |
| Right Hand Side |                        |            |            | 0.553      |                   | 0.553              |
| Bottom          |                        |            |            | 0.156      |                   | 0.156              |
| Top             |                        |            |            |            | 0.003             | 0.003              |

**Hotspot Mode 1g – Worst cases measurements WWAN + WLAN 2.4GHz**

| EUT Position    | Reported SAR 1g (W/Kg) |             |             |   |                   | Sum of WWAN & WLAN |
|-----------------|------------------------|-------------|-------------|---|-------------------|--------------------|
|                 | WWAN                   |             |             |   | WLAN              |                    |
|                 | LTE Band 7             | LTE Band 13 | LTE Band 17 | - | Wi-Fi 802.11b/g/n |                    |
| Front           | 1.424                  |             |             |   | 0.077             | 1.501              |
| Back            | 1.144                  |             |             |   | 0.008             | 1.152              |
| Left Hand Side  | 0.374                  |             |             |   | 0.009             | 0.383              |
| Right Hand Side | 0.129                  |             |             |   |                   | 0.129              |
| Bottom          | 0.900                  |             |             |   |                   | 0.900              |
| Top             |                        |             |             |   | 0.003             | 0.003              |
| Front           |                        | 0.288       |             |   | 0.077             | 0.365              |
| Back            |                        | 0.343       |             |   | 0.008             | 0.351              |
| Left Hand Side  |                        | 0.347       |             |   | 0.009             | 0.356              |
| Right Hand Side |                        | 0.351       |             |   |                   | 0.351              |
| Bottom          |                        | 0.036       |             |   |                   | 0.036              |
| Top             |                        |             |             |   | 0.003             | 0.003              |
| Front           |                        |             | 0.241       |   | 0.077             | 0.318              |
| Back            |                        |             | 0.237       |   | 0.008             | 0.245              |
| Left Hand Side  |                        |             | 0.212       |   | 0.009             | 0.221              |
| Right Hand Side |                        |             | 0.183       |   |                   | 0.183              |
| Bottom          |                        |             | 0.026       |   |                   | 0.026              |
| Top             |                        |             |             |   | 0.003             | 0.003              |

**Simultaneous Transmission SAR Analysis (Continued)****Body-worn 1g – Worst cases measurements WWAN + WLAN 2.4GHz**

|              | Reported SAR 1g (W/Kg) |         |            |            |                   | Sum of WWAN & WLAN |
|--------------|------------------------|---------|------------|------------|-------------------|--------------------|
|              | WWAN                   |         |            |            | WLAN              |                    |
| EUT Position | GSM850                 | PCS1900 | UMTS FDD 2 | UMTS FDD 4 | Wi-Fi 802.11b/g/n |                    |
| Front        | 0.451                  |         |            |            | 0.077             | 0.528              |
| Back         | 0.490                  |         |            |            | 0.008             | 0.498              |
| Front        |                        | 1.250   |            |            | 0.077             | 1.327              |
| Back         |                        | 0.856   |            |            | 0.008             | 0.864              |
| Front        |                        |         | 1.156      |            | 0.077             | 1.233              |
| Back         |                        |         | 1.041      |            | 0.008             | 1.049              |
| Front        |                        |         |            | 0.384      | 0.077             | 0.461              |
| Back         |                        |         |            | 0.550      | 0.008             | 0.558              |

**Body-worn 1g – Worst cases measurements WWAN + WLAN 2.4GHz**

|              | Reported SAR 1g (W/Kg) |            |            |            |                   | Sum of WWAN & WLAN |
|--------------|------------------------|------------|------------|------------|-------------------|--------------------|
|              | WWAN                   |            |            |            | WLAN              |                    |
| EUT Position | UMTS FDD 5             | LTE Band 2 | LTE Band 4 | LTE Band 5 | Wi-Fi 802.11b/g/n |                    |
| Front        | 0.366                  |            |            |            | 0.077             | 0.443              |
| Back         | 0.403                  |            |            |            | 0.008             | 0.411              |
| Front        |                        | 1.316      |            |            | 0.077             | 1.393              |
| Back         |                        | 1.206      |            |            | 0.008             | 1.214              |
| Front        |                        |            | 0.420      |            | 0.077             | 0.497              |
| Back         |                        |            | 0.447      |            | 0.008             | 0.455              |
| Front        |                        |            |            | 0.412      | 0.077             | 0.489              |
| Back         |                        |            |            | 0.481      | 0.008             | 0.489              |

**Body-worn 1g – Worst cases measurements WWAN + WLAN 2.4GHz**

|              | Reported SAR 1g (W/Kg) |             |             |   |                   | Sum of WWAN & WLAN |
|--------------|------------------------|-------------|-------------|---|-------------------|--------------------|
|              | WWAN                   |             |             |   | WLAN              |                    |
| EUT Position | LTE Band 7             | LTE Band 13 | LTE Band 17 | - | Wi-Fi 802.11b/g/n |                    |
| Front        | 0.577                  |             |             |   | 0.077             | 0.654              |
| Back         | 0.487                  |             |             |   | 0.008             | 0.495              |
| Front        |                        | 0.288       |             |   | 0.077             | 0.365              |
| Back         |                        | 0.343       |             |   | 0.008             | 0.351              |
| Front        |                        |             | 0.241       |   | 0.077             | 0.318              |
| Back         |                        |             | 0.237       |   | 0.008             | 0.245              |

**Simultaneous Transmission SAR Analysis (Continued)****Head 1g – Worst cases measurements WWAN + WLAN 5.0GHz**

| EUT Position | Reported SAR 1g (W/Kg) |         |            |            |       | Sum of WWAN & WLAN |
|--------------|------------------------|---------|------------|------------|-------|--------------------|
|              | WWAN                   |         |            |            | WLAN  |                    |
|              | GSM850                 | PCS1900 | UMTS FDD 2 | UMTS FDD 4 | Wi-Fi |                    |
| Touch Left   | 0.191                  |         |            |            | 0.330 | 0.521              |
| Tilt Left    | 0.125                  |         |            |            | 0.246 | 0.371              |
| Touch Right  | 0.360                  |         |            |            | 0.555 | 0.915              |
| Tilt Right   | 0.184                  |         |            |            | 0.207 | 0.391              |
| Touch Left   |                        | 0.470   |            |            | 0.330 | 0.800              |
| Tilt Left    |                        | 0.182   |            |            | 0.246 | 0.428              |
| Touch Right  |                        | 0.762   |            |            | 0.555 | 1.317              |
| Tilt Right   |                        | 0.164   |            |            | 0.207 | 0.371              |
| Touch Left   |                        |         | 0.222      |            | 0.330 | 0.552              |
| Tilt Left    |                        |         | 0.118      |            | 0.246 | 0.364              |
| Touch Right  |                        |         | 0.598      |            | 0.555 | 1.153              |
| Tilt Right   |                        |         | 0.161      |            | 0.207 | 0.368              |
| Touch Left   |                        |         |            | 0.621      | 0.330 | 0.951              |
| Tilt Left    |                        |         |            | 0.396      | 0.246 | 0.642              |
| Touch Right  |                        |         |            | 0.885      | 0.555 | 1.440              |
| Tilt Right   |                        |         |            | 0.250      | 0.207 | 0.457              |

**Head 1g – Worst cases measurements WWAN + WLAN 5.0GHz**

| EUT Position | Reported SAR 1g (W/Kg) |            |            |            |       | Sum of WWAN & WLAN |
|--------------|------------------------|------------|------------|------------|-------|--------------------|
|              | WWAN                   |            |            |            | WLAN  |                    |
|              | UMTS FDD 5             | LTE Band 2 | LTE Band 4 | LTE Band 5 | Wi-Fi |                    |
| Touch Left   | 0.407                  |            |            |            | 0.330 | 0.737              |
| Tilt Left    | 0.201                  |            |            |            | 0.246 | 0.447              |
| Touch Right  | 0.349                  |            |            |            | 0.555 | 0.904              |
| Tilt Right   | 0.188                  |            |            |            | 0.207 | 0.395              |
| Touch Left   |                        | 0.310      |            |            | 0.330 | 0.640              |
| Tilt Left    |                        | 0.182      |            |            | 0.246 | 0.428              |
| Touch Right  |                        | 0.508      |            |            | 0.555 | 1.063              |
| Tilt Right   |                        | 0.084      |            |            | 0.207 | 0.291              |
| Touch Left   |                        |            | 0.543      |            | 0.330 | 0.873              |
| Tilt Left    |                        |            | 0.404      |            | 0.246 | 0.650              |
| Touch Right  |                        |            | 0.820      |            | 0.555 | 1.375              |
| Tilt Right   |                        |            | 0.259      |            | 0.207 | 0.466              |
| Touch Left   |                        |            |            | 0.212      | 0.330 | 0.542              |
| Tilt Left    |                        |            |            | 0.103      | 0.246 | 0.349              |
| Touch Right  |                        |            |            | 0.310      | 0.555 | 0.865              |
| Tilt Right   |                        |            |            | 0.149      | 0.207 | 0.356              |

**Head 1g – Worst cases measurements WWAN + WLAN 5.0GHz**

| EUT Position | Reported SAR 1g (W/Kg) |             |             |  |       | Sum of WWAN & WLAN |
|--------------|------------------------|-------------|-------------|--|-------|--------------------|
|              | WWAN                   |             |             |  | WLAN  |                    |
|              | LTE Band 7             | LTE Band 13 | LTE Band 17 |  | Wi-Fi |                    |
| Touch Left   | 0.474                  |             |             |  | 0.330 | 0.804              |
| Tilt Left    | 0.060                  |             |             |  | 0.246 | 0.306              |
| Touch Right  | 0.212                  |             |             |  | 0.555 | 0.767              |
| Tilt Right   | 0.093                  |             |             |  | 0.207 | 0.300              |
| Touch Left   |                        | 0.177       |             |  | 0.330 | 0.507              |
| Tilt Left    |                        | 0.103       |             |  | 0.246 | 0.349              |
| Touch Right  |                        | 0.178       |             |  | 0.555 | 0.733              |
| Tilt Right   |                        | 0.108       |             |  | 0.207 | 0.315              |
| Touch Left   |                        |             | 0.178       |  | 0.330 | 0.508              |
| Tilt Left    |                        |             | 0.101       |  | 0.246 | 0.347              |
| Touch Right  |                        |             | 0.173       |  | 0.555 | 0.728              |
| Tilt Right   |                        |             | 0.102       |  | 0.207 | 0.309              |

## Simultaneous Transmission SAR Analysis (Continued)

## Hotspot Mode 1g – Worst cases measurements WWAN + WLAN 5.0GHz

|                 | Reported SAR 1g (W/Kg) |         |            |            |                    | Sum of WWAN & WLAN |
|-----------------|------------------------|---------|------------|------------|--------------------|--------------------|
|                 | WWAN                   |         |            |            | WLAN               |                    |
| EUT Position    | GSM850                 | PCS1900 | UMTS FDD 2 | UMTS FDD 4 | Wi-Fi 802.11a/n/ac |                    |
| Front           | 0.513                  |         |            |            | 0.072              | 0.585              |
| Back            | 0.555                  |         |            |            | 0.266              | 0.821              |
| Left Hand Side  | 0.366                  |         |            |            | 0.031              | 0.397              |
| Right Hand Side | 0.631                  |         |            |            |                    | 0.631              |
| Bottom          | 0.165                  |         |            |            |                    | 0.165              |
| Top             |                        |         |            |            | 0.000              | 0.000              |
| Front           |                        | 0.816   |            |            | 0.072              | 0.888              |
| Back            |                        | 0.712   |            |            | 0.266              | 0.978              |
| Left Hand Side  |                        | 0.094   |            |            | 0.031              | 0.125              |
| Right Hand Side |                        | 0.022   |            |            |                    | 0.022              |
| Bottom          |                        | 1.144   |            |            |                    | 1.144              |
| Top             |                        |         |            |            | 0.000              | 0.000              |
| Front           |                        |         | 0.798      |            | 0.072              | 0.870              |
| Back            |                        |         | 0.757      |            | 0.266              | 1.023              |
| Left Hand Side  |                        |         | 0.090      |            | 0.031              | 0.121              |
| Right Hand Side |                        |         | 0.063      |            |                    | 0.063              |
| Bottom          |                        |         | 1.501      |            |                    | 1.501              |
| Top             |                        |         |            |            | 0.000              | 0.000              |
| Front           |                        |         |            | 0.724      | 0.072              | 0.796              |
| Back            |                        |         |            | 0.616      | 0.266              | 0.882              |
| Left Hand Side  |                        |         |            | 0.274      | 0.031              | 0.305              |
| Right Hand Side |                        |         |            | 0.137      |                    | 0.137              |
| Bottom          |                        |         |            | 0.936      |                    | 0.936              |
| Top             |                        |         |            |            | 0.000              | 0.000              |

**Simultaneous Transmission SAR Analysis (Continued)****Hotspot Mode 1g – Worst cases measurements WWAN + WLAN 5.0GHz**

| EUT Position    | Reported SAR 1g (W/Kg) |            |            |            |                    | Sum of WWAN & WLAN |
|-----------------|------------------------|------------|------------|------------|--------------------|--------------------|
|                 | WWAN                   |            |            |            | WLAN               |                    |
|                 | UMTS FDD 5             | LTE Band 2 | LTE Band 4 | LTE Band 5 | Wi-Fi 802.11a/n/ac |                    |
| Front           | 0.366                  |            |            |            | 0.072              | 0.438              |
| Back            | 0.403                  |            |            |            | 0.266              | 0.669              |
| Left Hand Side  | 0.291                  |            |            |            | 0.031              | 0.322              |
| Right Hand Side | 0.217                  |            |            |            |                    | 0.217              |
| Bottom          | 0.081                  |            |            |            |                    | 0.081              |
| Top             |                        |            |            |            | 0.000              | 0.000              |
| Front           |                        | 0.791      |            |            | 0.072              | 0.863              |
| Back            |                        | 0.739      |            |            | 0.266              | 1.005              |
| Left Hand Side  |                        | 0.096      |            |            | 0.031              | 0.127              |
| Right Hand Side |                        | 0.058      |            |            |                    | 0.058              |
| Bottom          |                        | 1.339      |            |            |                    | 1.339              |
| Top             |                        |            |            |            | 0.000              | 0.000              |
| Front           |                        |            | 0.797      |            | 0.072              | 0.869              |
| Back            |                        |            | 0.495      |            | 0.266              | 0.761              |
| Left Hand Side  |                        |            | 0.202      |            | 0.031              | 0.233              |
| Right Hand Side |                        |            | 0.178      |            |                    | 0.178              |
| Bottom          |                        |            | 0.491      |            |                    | 0.491              |
| Top             |                        |            |            |            | 0.000              | 0.000              |
| Front           |                        |            |            | 0.412      | 0.072              | 0.484              |
| Back            |                        |            |            | 0.481      | 0.266              | 0.747              |
| Left Hand Side  |                        |            |            | 0.305      | 0.031              | 0.336              |
| Right Hand Side |                        |            |            | 0.553      |                    | 0.553              |
| Bottom          |                        |            |            | 0.156      |                    | 0.156              |
| Top             |                        |            |            |            | 0.000              | 0.000              |

**Hotspot Mode 1g – Worst cases measurements WWAN + WLAN 5.0GHz**

| EUT Position    | Reported SAR 1g (W/Kg) |             |             |   |                    | Sum of WWAN & WLAN |
|-----------------|------------------------|-------------|-------------|---|--------------------|--------------------|
|                 | WWAN                   |             |             |   | WLAN               |                    |
|                 | LTE Band 7             | LTE Band 13 | LTE Band 17 | - | Wi-Fi 802.11a/n/ac |                    |
| Front           | 1.424                  |             |             |   | 0.072              | 1.496              |
| Back            | 1.144                  |             |             |   | 0.266              | 1.410              |
| Left Hand Side  | 0.374                  |             |             |   | 0.031              | 0.405              |
| Right Hand Side | 0.129                  |             |             |   |                    | 0.129              |
| Bottom          | 0.900                  |             |             |   |                    | 0.900              |
| Top             |                        |             |             |   | 0.000              | 0.000              |
| Front           |                        | 0.288       |             |   | 0.072              | 0.360              |
| Back            |                        | 0.343       |             |   | 0.266              | 0.609              |
| Left Hand Side  |                        | 0.347       |             |   | 0.031              | 0.378              |
| Right Hand Side |                        | 0.351       |             |   |                    | 0.351              |
| Bottom          |                        | 0.036       |             |   |                    | 0.036              |
| Top             |                        |             |             |   | 0.000              | 0.000              |
| Front           |                        |             | 0.241       |   | 0.072              | 0.313              |
| Back            |                        |             | 0.237       |   | 0.266              | 0.503              |
| Left Hand Side  |                        |             | 0.212       |   | 0.031              | 0.243              |
| Right Hand Side |                        |             | 0.183       |   |                    | 0.183              |
| Bottom          |                        |             | 0.026       |   |                    | 0.026              |
| Top             |                        |             |             |   | 0.000              | 0.000              |

## Simultaneous Transmission SAR Analysis (Continued)

## Body-worn 1g – Worst cases measurements WWAN + WLAN 5.0GHz

|              | Reported SAR 1g (W/Kg) |         |            |            |                    | Sum of WWAN & WLAN |
|--------------|------------------------|---------|------------|------------|--------------------|--------------------|
|              | WWAN                   |         |            |            | WLAN               |                    |
| EUT Position | GSM850                 | PCS1900 | UMTS FDD 2 | UMTS FDD 4 | Wi-Fi 802.11a/n/ac |                    |
| Front        | 0.451                  |         |            |            | 0.072              | 0.523              |
| Back         | 0.490                  |         |            |            | 0.266              | 0.756              |
| Front        |                        | 1.250   |            |            | 0.072              | 1.322              |
| Back         |                        | 0.856   |            |            | 0.266              | 1.122              |
| Front        |                        |         | 1.156      |            | 0.072              | 1.228              |
| Back         |                        |         | 1.041      |            | 0.266              | 1.307              |
| Front        |                        |         |            | 0.384      | 0.072              | 0.456              |
| Back         |                        |         |            | 0.550      | 0.266              | 0.816              |

## Body-worn 1g – Worst cases measurements WWAN + WLAN 5.0GHz

|              | Reported SAR 1g (W/Kg) |            |            |            |                    | Sum of WWAN & WLAN |
|--------------|------------------------|------------|------------|------------|--------------------|--------------------|
|              | WWAN                   |            |            |            | WLAN               |                    |
| EUT Position | UMTS FDD 5             | LTE Band 2 | LTE Band 4 | LTE Band 5 | Wi-Fi 802.11a/n/ac |                    |
| Front        | 0.366                  |            |            |            | 0.072              | 0.438              |
| Back         | 0.403                  |            |            |            | 0.266              | 0.669              |
| Front        |                        | 1.316      |            |            | 0.072              | 1.388              |
| Back         |                        | 1.206      |            |            | 0.266              | 1.472              |
| Front        |                        |            | 0.420      |            | 0.072              | 0.492              |
| Back         |                        |            | 0.447      |            | 0.266              | 0.713              |
| Front        |                        |            |            | 0.412      | 0.072              | 0.484              |
| Back         |                        |            |            | 0.481      | 0.266              | 0.747              |

## Body-worn 1g – Worst cases measurements WWAN + WLAN 5.0GHz

|              | Reported SAR 1g (W/Kg) |             |             |   |                    | Sum of WWAN & WLAN |
|--------------|------------------------|-------------|-------------|---|--------------------|--------------------|
|              | WWAN                   |             |             |   | WLAN               |                    |
| EUT Position | LTE Band 7             | LTE Band 13 | LTE Band 17 | - | Wi-Fi 802.11a/n/ac |                    |
| Front        | 0.577                  |             |             |   | 0.072              | 0.649              |
| Back         | 0.487                  |             |             |   | 0.266              | 0.753              |
| Front        |                        | 0.288       |             |   | 0.072              | 0.360              |
| Back         |                        | 0.343       |             |   | 0.266              | 0.609              |
| Front        |                        |             | 0.241       |   | 0.072              | 0.313              |
| Back         |                        |             | 0.237       |   | 0.266              | 0.503              |

**Simultaneous Transmission SAR Analysis (Continued)****Hotspot Mode 1g – Worst cases measurements WWAN + WPAN**

| EUT Position    | Reported SAR 1g (W/Kg) |         |            |            |           | Sum of WWAN & WPAN |
|-----------------|------------------------|---------|------------|------------|-----------|--------------------|
|                 | WWAN                   |         |            |            | WPAN      |                    |
|                 | GSM850                 | PCS1900 | UMTS FDD 2 | UMTS FDD 4 | Bluetooth |                    |
| Front           | 0.513                  |         |            |            | 0.039     | 0.552              |
| Back            | 0.555                  |         |            |            | 0.032     | 0.587              |
| Left Hand Side  | 0.366                  |         |            |            | 0.007     | 0.373              |
| Right Hand Side | 0.631                  |         |            |            |           | 0.631              |
| Bottom          | 0.165                  |         |            |            |           | 0.165              |
| Top             |                        |         |            |            | 0.000     | 0.000              |
| Front           |                        | 0.816   |            |            | 0.039     | 0.855              |
| Back            |                        | 0.712   |            |            | 0.032     | 0.744              |
| Left Hand Side  |                        | 0.094   |            |            | 0.007     | 0.101              |
| Right Hand Side |                        | 0.022   |            |            |           | 0.022              |
| Bottom          |                        | 1.144   |            |            |           | 1.144              |
| Top             |                        |         |            |            | 0.000     | 0.000              |
| Front           |                        |         | 0.798      |            | 0.039     | 0.837              |
| Back            |                        |         | 0.757      |            | 0.032     | 0.789              |
| Left Hand Side  |                        |         | 0.090      |            | 0.007     | 0.097              |
| Right Hand Side |                        |         | 0.063      |            |           | 0.063              |
| Bottom          |                        |         | 1.501      |            |           | 1.501              |
| Top             |                        |         |            |            | 0.000     | 0.000              |
| Front           |                        |         |            | 0.724      | 0.039     | 0.763              |
| Back            |                        |         |            | 0.616      | 0.032     | 0.648              |
| Left Hand Side  |                        |         |            | 0.274      | 0.007     | 0.281              |
| Right Hand Side |                        |         |            | 0.137      |           | 0.137              |
| Bottom          |                        |         |            | 0.936      |           | 0.936              |
| Top             |                        |         |            |            | 0.000     | 0.000              |

**Hotspot Mode 1g – Worst cases measurements WWAN + WPAN**

| EUT Position    | Reported SAR 1g (W/Kg) |            |            |            |           | Sum of WWAN & WPAN |
|-----------------|------------------------|------------|------------|------------|-----------|--------------------|
|                 | WWAN                   |            |            |            | WPAN      |                    |
|                 | UMTS FDD 5             | LTE Band 2 | LTE Band 4 | LTE Band 5 | Bluetooth |                    |
| Front           | 0.366                  |            |            |            | 0.039     | 0.405              |
| Back            | 0.403                  |            |            |            | 0.032     | 0.435              |
| Left Hand Side  | 0.291                  |            |            |            | 0.007     | 0.298              |
| Right Hand Side | 0.217                  |            |            |            |           | 0.217              |
| Bottom          | 0.081                  |            |            |            |           | 0.081              |
| Top             |                        |            |            |            | 0.000     | 0.000              |
| Front           |                        | 0.791      |            |            | 0.039     | 0.830              |
| Back            |                        | 0.739      |            |            | 0.032     | 0.771              |
| Left Hand Side  |                        | 0.096      |            |            | 0.007     | 0.103              |
| Right Hand Side |                        | 0.058      |            |            |           | 0.058              |
| Bottom          |                        | 1.339      |            |            |           | 1.339              |
| Top             |                        |            |            |            | 0.000     | 0.000              |
| Front           |                        |            | 0.797      |            | 0.039     | 0.836              |
| Back            |                        |            | 0.495      |            | 0.032     | 0.527              |
| Left Hand Side  |                        |            | 0.202      |            | 0.007     | 0.209              |
| Right Hand Side |                        |            | 0.178      |            |           | 0.178              |
| Bottom          |                        |            | 0.491      |            |           | 0.491              |
| Top             |                        |            |            |            | 0.000     | 0.000              |
| Front           |                        |            |            | 0.412      | 0.039     | 0.451              |
| Back            |                        |            |            | 0.481      | 0.032     | 0.513              |
| Left Hand Side  |                        |            |            | 0.305      | 0.007     | 0.312              |
| Right Hand Side |                        |            |            | 0.553      |           | 0.553              |
| Bottom          |                        |            |            | 0.156      |           | 0.156              |
| Top             |                        |            |            |            | 0.000     | 0.000              |

**Simultaneous Transmission SAR Analysis (Continued)****Hotspot Mode 1g – Worst cases measurements WWAN + WPAN**

| EUT Position    | Reported SAR 1g (W/Kg) |             |             |   |           | Sum of WWAN & WPAN |
|-----------------|------------------------|-------------|-------------|---|-----------|--------------------|
|                 | WWAN                   |             |             |   | WPAN      |                    |
|                 | LTE Band 7             | LTE Band 13 | LTE Band 17 | - | Bluetooth |                    |
| Front           | 1.424                  |             |             |   | 0.039     | 1.463              |
| Back            | 1.144                  |             |             |   | 0.032     | 1.176              |
| Left Hand Side  | 0.374                  |             |             |   | 0.007     | 0.381              |
| Right Hand Side | 0.129                  |             |             |   |           | 0.129              |
| Bottom          | 0.900                  |             |             |   |           | 0.900              |
| Top             |                        |             |             |   | 0.000     | 0.000              |
| Front           |                        | 0.288       |             |   | 0.039     | 0.327              |
| Back            |                        | 0.343       |             |   | 0.032     | 0.375              |
| Left Hand Side  |                        | 0.347       |             |   | 0.007     | 0.354              |
| Right Hand Side |                        | 0.351       |             |   |           | 0.351              |
| Bottom          |                        | 0.036       |             |   |           | 0.036              |
| Top             |                        |             |             |   | 0.000     | 0.000              |
| Front           |                        |             | 0.241       |   | 0.039     | 0.280              |
| Back            |                        |             | 0.237       |   | 0.032     | 0.269              |
| Left Hand Side  |                        |             | 0.212       |   | 0.007     | 0.219              |
| Right Hand Side |                        |             | 0.183       |   |           | 0.183              |
| Bottom          |                        |             | 0.026       |   |           | 0.026              |
| Top             |                        |             |             |   | 0.000     | 0.000              |

**Simultaneous Transmission SAR Analysis (Continued)****Body-worn 1g – Worst cases measurements WWAN + WPAN**

| EUT Position | Reported SAR 1g (W/Kg) |         |            |            |           | Sum of WWAN & WLAN |
|--------------|------------------------|---------|------------|------------|-----------|--------------------|
|              | WWAN                   |         |            |            | WPAN      |                    |
|              | GSM850                 | PCS1900 | UMTS FDD 2 | UMTS FDD 4 | Bluetooth |                    |
| Front        | 0.451                  |         |            |            | 0.039     | 0.490              |
| Back         | 0.490                  |         |            |            | 0.032     | 0.522              |
| Front        |                        | 1.250   |            |            | 0.039     | 1.289              |
| Back         |                        | 0.856   |            |            | 0.032     | 0.888              |
| Front        |                        |         | 1.156      |            | 0.039     | 1.195              |
| Back         |                        |         | 1.041      |            | 0.032     | 1.073              |
| Front        |                        |         |            | 0.384      | 0.039     | 0.423              |
| Back         |                        |         |            | 0.550      | 0.032     | 0.582              |

**Body-worn 1g – Worst cases measurements WWAN + WPAN**

| EUT Position | Reported SAR 1g (W/Kg) |            |            |            |           | Sum of WWAN & WLAN |
|--------------|------------------------|------------|------------|------------|-----------|--------------------|
|              | WWAN                   |            |            |            | WPAN      |                    |
|              | UMTS FDD 5             | LTE Band 2 | LTE Band 4 | LTE Band 5 | Bluetooth |                    |
| Front        | 0.366                  |            |            |            | 0.039     | 0.405              |
| Back         | 0.403                  |            |            |            | 0.032     | 0.435              |
| Front        |                        | 1.316      |            |            | 0.039     | 1.355              |
| Back         |                        | 1.206      |            |            | 0.032     | 1.238              |
| Front        |                        |            | 0.420      |            | 0.039     | 0.459              |
| Back         |                        |            | 0.447      |            | 0.032     | 0.479              |
| Front        |                        |            |            | 0.412      | 0.039     | 0.451              |
| Back         |                        |            |            | 0.481      | 0.032     | 0.513              |

**Body-worn 1g – Worst cases measurements WWAN + WPAN**

| EUT Position | Reported SAR 1g (W/Kg) |             |             |   |           | Sum of WWAN & WLAN |
|--------------|------------------------|-------------|-------------|---|-----------|--------------------|
|              | WWAN                   |             |             |   | WPAN      |                    |
|              | LTE Band 7             | LTE Band 13 | LTE Band 17 | - | Bluetooth |                    |
| Front        | 0.577                  |             |             |   | 0.039     | 0.616              |
| Back         | 0.487                  |             |             |   | 0.032     | 0.519              |
| Front        |                        | 0.288       |             |   | 0.039     | 0.327              |
| Back         |                        | 0.343       |             |   | 0.032     | 0.375              |
| Front        |                        |             | 0.241       |   | 0.039     | 0.280              |
| Back         |                        |             | 0.237       |   | 0.032     | 0.269              |

**Simultaneous Transmission SAR Analysis (Continued)****Hotspot Mode 1g – Worst cases measurements WWAN + WLAN 5.0GHz + WPAN**

| EUT Position    | Reported SAR 1g (W/Kg) |         |            |            |       |           |                          |
|-----------------|------------------------|---------|------------|------------|-------|-----------|--------------------------|
|                 | WWAN                   |         |            |            | WLAN  | WPAN      | Sum of WWAN, WLAN & WPAN |
|                 | GSM850                 | PCS1900 | UMTS FDD 2 | UMTS FDD 4 | Wi-Fi | Bluetooth |                          |
| Front           | 0.513                  |         |            |            | 0.072 | 0.039     | 0.624                    |
| Back            | 0.555                  |         |            |            | 0.266 | 0.032     | 0.853                    |
| Left Hand Side  | 0.366                  |         |            |            | 0.031 | 0.007     | 0.404                    |
| Right Hand Side | 0.631                  |         |            |            |       |           | 0.631                    |
| Bottom          | 0.165                  |         |            |            |       |           | 0.165                    |
| Top             |                        |         |            |            | 0.000 | 0.000     | 0.000                    |
| Front           |                        | 0.816   |            |            | 0.072 | 0.039     | 0.927                    |
| Back            |                        | 0.712   |            |            | 0.266 | 0.032     | 1.010                    |
| Left Hand Side  |                        | 0.094   |            |            | 0.031 | 0.007     | 0.132                    |
| Right Hand Side |                        | 0.022   |            |            |       |           | 0.022                    |
| Bottom          |                        | 1.144   |            |            |       |           | 1.144                    |
| Top             |                        |         |            |            | 0.000 | 0.000     | 0.000                    |
| Front           |                        |         | 0.798      |            | 0.072 | 0.039     | 0.909                    |
| Back            |                        |         | 0.757      |            | 0.266 | 0.032     | 1.055                    |
| Left Hand Side  |                        |         | 0.090      |            | 0.031 | 0.007     | 0.128                    |
| Right Hand Side |                        |         | 0.063      |            |       |           | 0.063                    |
| Bottom          |                        |         | 1.501      |            |       |           | 1.501                    |
| Top             |                        |         |            |            | 0.000 | 0.000     | 0.000                    |
| Front           |                        |         |            | 0.724      | 0.072 | 0.039     | 0.835                    |
| Back            |                        |         |            | 0.616      | 0.266 | 0.032     | 0.914                    |
| Left Hand Side  |                        |         |            | 0.274      | 0.031 | 0.007     | 0.312                    |
| Right Hand Side |                        |         |            | 0.137      |       |           | 0.137                    |
| Bottom          |                        |         |            | 0.936      |       |           | 0.936                    |
| Top             |                        |         |            |            | 0.000 | 0.000     | 0.000                    |

**Simultaneous Transmission SAR Analysis (Continued)****Hotspot Mode 1g – Worst cases measurements WWAN + WLAN 5.0GHz + WPAN**

|                 | Reported SAR 1g (W/Kg) |            |            |            |       |           | Sum of WWAN, WLAN & WPAN |
|-----------------|------------------------|------------|------------|------------|-------|-----------|--------------------------|
|                 | WWAN                   |            |            |            | WLAN  | WPAN      |                          |
| EUT Position    | UMTS FDD 5             | LTE Band 2 | LTE Band 4 | LTE Band 5 | Wi-Fi | Bluetooth |                          |
| Front           | 0.366                  |            |            |            | 0.072 | 0.039     | 0.477                    |
| Back            | 0.403                  |            |            |            | 0.266 | 0.032     | 0.701                    |
| Left Hand Side  | 0.291                  |            |            |            | 0.031 | 0.007     | 0.329                    |
| Right Hand Side | 0.217                  |            |            |            |       |           | 0.217                    |
| Bottom          | 0.081                  |            |            |            |       |           | 0.081                    |
| Top             |                        |            |            |            | 0.000 | 0.000     | 0.000                    |
| Front           |                        | 0.791      |            |            | 0.072 | 0.039     | 0.902                    |
| Back            |                        | 0.739      |            |            | 0.266 | 0.032     | 1.037                    |
| Left Hand Side  |                        | 0.096      |            |            | 0.031 | 0.007     | 0.134                    |
| Right Hand Side |                        | 0.058      |            |            |       |           | 0.058                    |
| Bottom          |                        | 1.339      |            |            |       |           | 1.339                    |
| Top             |                        |            |            |            | 0.000 | 0.000     | 0.000                    |
| Front           |                        |            | 0.797      |            | 0.072 | 0.039     | 0.908                    |
| Back            |                        |            | 0.495      |            | 0.266 | 0.032     | 0.793                    |
| Left Hand Side  |                        |            | 0.202      |            | 0.031 | 0.007     | 0.240                    |
| Right Hand Side |                        |            | 0.178      |            |       |           | 0.178                    |
| Bottom          |                        |            | 0.491      |            |       |           | 0.491                    |
| Top             |                        |            |            |            | 0.000 | 0.000     | 0.000                    |
| Front           |                        |            |            | 0.412      | 0.072 | 0.039     | 0.523                    |
| Back            |                        |            |            | 0.481      | 0.266 | 0.032     | 0.779                    |
| Left Hand Side  |                        |            |            | 0.305      | 0.031 | 0.007     | 0.343                    |
| Right Hand Side |                        |            |            | 0.553      |       |           | 0.553                    |
| Bottom          |                        |            |            | 0.156      |       |           | 0.156                    |
| Top             |                        |            |            |            | 0.000 | 0.000     | 0.000                    |

**Hotspot Mode 1g – Worst cases measurements WWAN + WLAN 5.0GHz + WPAN**

|                 | Reported SAR 1g (W/Kg) |             |             |   |       |           | Sum of WWAN, WLAN & WPAN |
|-----------------|------------------------|-------------|-------------|---|-------|-----------|--------------------------|
|                 | WWAN                   |             |             |   | WLAN  | WPAN      |                          |
| EUT Position    | LTE Band 7             | LTE Band 13 | LTE Band 17 | - | Wi-Fi | Bluetooth |                          |
| Front           | 1.424                  |             |             |   | 0.072 | 0.039     | 1.535                    |
| Back            | 1.144                  |             |             |   | 0.266 | 0.032     | 1.442                    |
| Left Hand Side  | 0.374                  |             |             |   | 0.031 | 0.007     | 0.412                    |
| Right Hand Side | 0.129                  |             |             |   |       |           | 0.129                    |
| Bottom          | 0.900                  |             |             |   |       |           | 0.900                    |
| Top             |                        |             |             |   | 0.000 | 0.000     | 0.000                    |
| Front           |                        | 0.288       |             |   | 0.072 | 0.039     | 0.399                    |
| Back            |                        | 0.343       |             |   | 0.266 | 0.032     | 0.641                    |
| Left Hand Side  |                        | 0.347       |             |   | 0.031 | 0.007     | 0.385                    |
| Right Hand Side |                        | 0.351       |             |   |       |           | 0.351                    |
| Bottom          |                        | 0.036       |             |   |       |           | 0.036                    |
| Top             |                        |             |             |   | 0.000 | 0.000     | 0.000                    |
| Front           |                        |             | 0.241       |   | 0.072 | 0.039     | 0.352                    |
| Back            |                        |             | 0.237       |   | 0.266 | 0.032     | 0.535                    |
| Left Hand Side  |                        |             | 0.212       |   | 0.031 | 0.007     | 0.250                    |
| Right Hand Side |                        |             | 0.183       |   |       |           | 0.183                    |
| Bottom          |                        |             | 0.026       |   |       |           | 0.026                    |
| Top             |                        |             |             |   | 0.000 | 0.000     | 0.000                    |

**Simultaneous Transmission SAR Analysis (Continued)****Body-Worn 1g – Worst cases measurements WWAN + WLAN 5.0GHz + WPAN**

|              | Reported SAR 1g (W/Kg) |         |            |            |                   |           |                          |
|--------------|------------------------|---------|------------|------------|-------------------|-----------|--------------------------|
|              | WWAN                   |         |            |            | WLAN              | WPAN      | Sum of WWAN, WLAN & WPAN |
| EUT Position | GSM850                 | PCS1900 | UMTS FDD 2 | UMTS FDD 4 | Wi-Fi 802.11b/g/n | Bluetooth |                          |
| Front        | 0.451                  |         |            |            | 0.072             | 0.039     | 0.562                    |
| Back         | 0.490                  |         |            |            | 0.266             | 0.032     | 0.788                    |
| Front        |                        | 1.250   |            |            | 0.072             | 0.039     | 1.361                    |
| Back         |                        | 0.856   |            |            | 0.266             | 0.032     | 1.154                    |
| Front        |                        |         | 1.156      |            | 0.072             | 0.039     | 1.267                    |
| Back         |                        |         | 1.003      |            | 0.266             | 0.032     | 1.301                    |
| Front        |                        |         |            | 0.384      | 0.072             | 0.039     | 0.495                    |
| Back         |                        |         |            | 0.550      | 0.266             | 0.032     | 0.848                    |

**Body-Worn 1g – Worst cases measurements WWAN + WLAN 5.0GHz + WPAN**

|              | Reported SAR 1g (W/Kg) |            |            |            |                   |           |                          |
|--------------|------------------------|------------|------------|------------|-------------------|-----------|--------------------------|
|              | WWAN                   |            |            |            | WLAN              | WPAN      | Sum of WWAN, WLAN & WPAN |
| EUT Position | UMTS FDD 5             | LTE Band 2 | LTE Band 4 | LTE Band 5 | Wi-Fi 802.11b/g/n | Bluetooth |                          |
| Front        | 0.366                  |            |            |            | 0.072             | 0.039     | 0.477                    |
| Back         | 0.403                  |            |            |            | 0.266             | 0.032     | 0.701                    |
| Front        |                        | 1.316      |            |            | 0.072             | 0.039     | 1.427                    |
| Back         |                        | 1.206      |            |            | 0.266             | 0.032     | 1.504                    |
| Front        |                        |            | 0.420      |            | 0.072             | 0.039     | 0.531                    |
| Back         |                        |            | 0.447      |            | 0.266             | 0.032     | 0.745                    |
| Front        |                        |            |            | 0.412      | 0.072             | 0.039     | 0.523                    |
| Back         |                        |            |            | 0.481      | 0.266             | 0.032     | 0.779                    |

**Body-Worn 1g – Worst cases measurements WWAN + WLAN 5.0GHz + WPAN**

|              | Reported SAR 1g (W/Kg) |             |             |   |                   |           |                          |
|--------------|------------------------|-------------|-------------|---|-------------------|-----------|--------------------------|
|              | WWAN                   |             |             |   | WLAN              | WPAN      | Sum of WWAN, WLAN & WPAN |
| EUT Position | LTE Band 7             | LTE Band 13 | LTE Band 17 | - | Wi-Fi 802.11b/g/n | Bluetooth |                          |
| Front        | 0.577                  |             |             |   | 0.072             | 0.039     | 0.688                    |
| Back         | 0.487                  |             |             |   | 0.266             | 0.032     | 0.785                    |
| Front        |                        | 0.288       |             |   | 0.072             | 0.039     | 0.399                    |
| Back         |                        | 0.343       |             |   | 0.266             | 0.032     | 0.641                    |
| Front        |                        |             | 0.241       |   | 0.072             | 0.039     | 0.352                    |
| Back         |                        |             | 0.237       |   | 0.266             | 0.032     | 0.535                    |

**Note(s):**

1. The sum of reported SAR does not exceed 1.6 W/kg in any of the above cases and hence, the SAR to peak location separation ratio distance was not calculated.

**Appendix 1. Test Equipment Used**

| UL No. | Instrument                   | Manufacturer                    | Type No.        | Serial No.    | Date Last Calibrated         | Cal. Interval (Months) |
|--------|------------------------------|---------------------------------|-----------------|---------------|------------------------------|------------------------|
| A034   | Narda 20W Termination        | Narda                           | 374BNM          | 8706          | Calibrated as part of system | -                      |
| A1097  | SMA Directional Coupler      | MiDISCO                         | MDC6223-30      | None          | Calibrated as part of system | -                      |
| A1137  | 3dB Attenuator               | Narda                           | 779             | 04690         | Calibrated as part of system | -                      |
| A1174  | Dielectric Probe Kit         | Agilent Technologies            | 85070C          | Us99360072    | Calibrated before use        | -                      |
| A1328  | Handset Positioner           | Schmid & Partner Engineering AG | Modification    | SD 000 H01 DA | -                            | -                      |
| A1182  | Handset Positioner           | Schmid & Partner Engineering AG | V3.0            | None          | -                            | -                      |
| A2111  | Data Acquisition Electronics | Schmid & Partner Engineering AG | DAE3            | 432           | 28 Aug 2014                  | 12                     |
| A2110  | Data Acquisition Electronics | Schmid & Partner Engineering AG | DAE3            | 431           | 18 Nov 2014                  | 12                     |
| A1234  | Data Acquisition Electronics | Schmid & Partner Engineering AG | DAE3            | 450           | 12 Nov 2014                  | 12                     |
| A2109  | Data Acquisition Electronics | Schmid & Partner Engineering AG | DAE3            | 417           | 10 Apr 2014                  | 12                     |
| A2546  | Data Acquisition Electronics | Schmid & Partner Engineering AG | DAE4            | 1435          | 12 May 2014                  | 12                     |
| A2547  | Data Acquisition Electronics | Schmid & Partner Engineering AG | DAE4            | 1438          | 12 May 2014                  | 12                     |
| A2077  | Probe                        | Schmid & Partner Engineering AG | EX3 DV4         | 3814          | 24 Sep 2014                  | 12                     |
| A1185  | Probe                        | Schmid & Partner Engineering AG | ET3 DV6         | 1528          | 16 Apr 2014                  | 12                     |
| A1186  | Probe                        | Schmid & Partner Engineering AG | ET3 DV6         | 1529          | 22 May 2014                  | 12                     |
| A2243  | Probe                        | Schmid & Partner Engineering AG | ES3 DV3         | 3304          | 02 Sept 2014                 | 12                     |
| A2436  | Probe                        | Schmid & Partner Engineering AG | ES3 DV3         | 3335          | 09 Jan 2015                  | 12                     |
| A2544  | Probe                        | Schmid & Partner Engineering AG | EX3 DV4         | 3994          | 09 May 2015                  | 12                     |
| A2545  | Probe                        | Schmid & Partner Engineering AG | EX3 DV4         | 3995          | 09 May 2015                  | 12                     |
| A1985  | 750 MHz Dipole Kit           | Schmid & Partner Engineering AG | D75V3           | 1011          | 13 Feb 2013                  | 24                     |
| A2201  | 900 MHz Dipole Kit           | Schmid & Partner Engineering AG | D900V2          | 035           | 20 Jan 2014                  | 12                     |
| A1236  | 1800 MHz Dipole Kit          | Schmid & Partner Engineering AG | D1800V2         | 2d009         | 16 Jan 2014                  | 12                     |
| A2200  | 1900 MHz Dipole Kit          | Schmid & Partner Engineering AG | D1900V2         | 537           | 22 Jan 2014                  | 12                     |
| A2202  | 2440 MHz Dipole Kit          | Schmid & Partner Engineering AG | D2440V2         | 701           | 14 Jan 2014                  | 12                     |
| A2244  | 2600 MHz Dipole Kit          | Schmid & Partner Engineering AG | D2600V2         | 1046          | 20 Aug 2013                  | 12                     |
| A1377  | 5.0 GHz Dipole Kit           | Schmid & Partner Engineering AG | D5GHzV2         | 1016          | 20 Feb 2014                  | 12                     |
| A1497  | Amplifier                    | Mini-Circuits                   | zhl-42w (sma)   | e020105       | Calibrated as part of system | -                      |
| A1566  | SAM Phantom                  | Schmid & Partner Engineering AG | SAM a (Site 56) | 002           | Calibrated before use        | -                      |

| UL No. | Instrument         | Manufacturer                    | Type No.             | Serial No.          | Date Last Calibrated         | Cal. Interval (Months) |
|--------|--------------------|---------------------------------|----------------------|---------------------|------------------------------|------------------------|
| A1238  | SAM Phantom        | Schmid & Partner Engineering AG | SAM b (Site 56)      | 001                 | Calibrated before use        | -                      |
| A2125  | SAM Phantom        | Schmid & Partner Engineering AG | SAM b (Site 57)      | TP-1031             | Calibrated before use        | -                      |
| A2124  | SAM Phantom        | Schmid & Partner Engineering AG | SAM a (Site 57)      | TP-1030             | Calibrated before use        | -                      |
| A2438  | SAM Phantom        | Schmid & Partner Engineering AG | SAM a                | 1805                | Calibrated before use        | -                      |
| A2551  | SAM Phantom        | Schmid & Partner Engineering AG | SAM a                | 1832                | Calibrated before use        | -                      |
| A2552  | SAM Phantom        | Schmid & Partner Engineering AG | SAM a                | 1836                | Calibrated before use        | -                      |
| A2437  | Eli Phantom        | Schmid & Partner Engineering AG | Eli5                 | 1235                | Calibrated before use        | -                      |
| A2252  | 2mm Oval Phantom   | Schmid & Partner Engineering AG | Eli5                 | 1177                | Calibrated before use        | -                      |
| A2549  | 2mm Oval Phantom   | Schmid & Partner Engineering AG | Eli5                 | 00T01 DA            | Calibrated before use        | -                      |
| A2550  | 2mm Oval Phantom   | Schmid & Partner Engineering AG | Eli5                 | 00T01 DA            | Calibrated before use        | -                      |
| A215   | 20 dB Attenuator   | Narda                           | 766-20               | 9402                | Calibrated as part of system | -                      |
| A1531  | Antenna            | AARONIA AG                      | 7025                 | 02458               | -                            | -                      |
| A2263  | Digital Camera     | Samsung                         | PL211                | 9453C90B<br>607487L | -                            | -                      |
| M1015  | Network Analyser   | Agilent Technologies            | 8753ES               | US39172406          | 04 Oct 2013                  | 12                     |
| C1145  | Cable              | Rosenberger MICRO-COAX          | FA147A<br>F003003030 | 41843-1             | Calibrated as part of system | -                      |
| C1146  | Cable              | Rosenberger MICRO-COAX          | FA147A<br>F030003030 | 41752-1             | Calibrated as part of system | -                      |
| G0528  | Robot Power Supply | Schmid & Partner Engineering AG | DASY4                | None                | Calibrated before use        | -                      |
| GO591  | Robot Power Supply | Schmid & Partner Engineering AG | DASY4                | None                | Calibrated before use        | -                      |
| G0592  | Robot Power Supply | Schmid & Partner Engineering AG | DASY53               | None                | Calibrated before use        | -                      |
| G0610  | Robot Power Supply | Schmid & Partner Engineering AG | DASY53               | None                | Calibrated before use        | -                      |
| G0611  | Robot Power Supply | Schmid & Partner Engineering AG | DASY53               | None                | Calibrated before use        | -                      |
| G0612  | Robot Power Supply | Schmid & Partner Engineering AG | DASY53               | None                | Calibrated before use        | -                      |
| G087   | PSU                | Thurlby Thandar                 | CPX200               | 100701              | Calibrated before use        | -                      |
| M1047  | Robot Arm          | Staubli                         | RX908 L              | F00/SD8<br>9A1/A/01 | Calibrated before use        | -                      |
| M1653  | Robot Arm          | Staubli                         | RX908 L              | F01/5J8<br>6A1/C/01 | Calibrated before use        | -                      |
| M1680  | Robot Arm          | Staubli                         | TX60 L               | F12/5MZ7<br>A1/A/01 | Calibrated before use        | -                      |
| M1875  | Robot Arm          | Staubli                         | TX60 L               | F13/5SC6F1/A/01     | Calibrated                   | -                      |

| UL No. | Instrument               | Manufacturer | Type No. | Serial No.      | Date Last Calibrated        | Cal. Interval (Months) |
|--------|--------------------------|--------------|----------|-----------------|-----------------------------|------------------------|
|        |                          |              |          |                 | before use                  |                        |
| M1876  | Robot Arm                | Staubli      | TX60 L   | F14/5T5ZA1/A/01 | Calibrated before use       | -                      |
| M1877  | Robot Arm                | Staubli      | TX60 L   | F14/5UA6A1/A/01 | Calibrated before use       | -                      |
| M1839  | Signal Generator         | R&S          | SME06    | 837633/001      | 15 Apr 2014                 | -                      |
| M1838  | Signal Generator         | R&S          | SME06    | 831377/005      | 15 Apr 2014                 | -                      |
| M1270  | Digital Thermometer      | RS           | N/A      | N/A             | Internal Cal<br>06 May 2014 | 12                     |
| M1023  | Dual Channel Power Meter | R & S        | NRVD     | 863715/030      | 06 July 2013                | 12                     |
| S0566  | SAR Lab                  | UL           | Site 56  | N/A             | Calibrated before use       | -                      |
| S0567  | SAR Lab                  | UL           | Site 57  | N/A             | Calibrated before use       | -                      |
| S0568  | SAR Lab                  | UL           | Site 58  | N/A             | Calibrated before use       | -                      |
| S0569  | SAR Lab                  | UL           | Site 59  | N/A             | Calibrated before use       | -                      |
| S0570  | SAR Lab                  | UL           | Site 60  | N/A             | Calibrated before use       | -                      |
| S0571  | SAR Lab                  | UL           | Site 61  | N/A             | Calibrated before use       | -                      |