



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

**SAR EVALUATION REPORT**

*For*

**INARI8-LTDN-1**

**Tablet with cellular GPRS/EGPRS, WCDMA, DC-HSDPA & HSPA+, CDMA 1xRTT/ EVDO  
Rev A, LTE FDD Radio, IEEE 802.11a/b/g/n (MIMO 2x2) and Bluetooth Radio**

**Report Number UL-SAR-RP10710967JD01A V1.0**

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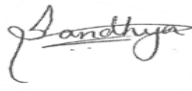
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**1. Attestation of Test Results**

|                                 |                                                                                                                                                    |                 |            |            |            |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------|------------|------------|
| Applicant Name:                 | Aava Mobile Oy                                                                                                                                     |                 |            |            |            |
| Application Purpose             | <input checked="" type="checkbox"/> Original Grant                                                                                                 |                 |            |            |            |
| DUT Description                 | Tablet with cellular GPRS/EGPRS, WCDMA, DC-HSDPA & HSPA+, CDMA 1xRTT, EVDO Rev A, LTE FDD Radio, IEEE 802.11a/b/g/n (MIMO 2x2) and Bluetooth Radio |                 |            |            |            |
| Model:                          | INARI8-LTDN-1                                                                                                                                      |                 |            |            |            |
| Test Device is                  | An identical prototype                                                                                                                             |                 |            |            |            |
| Device category                 | Portable                                                                                                                                           |                 |            |            |            |
| Exposure Category               | General Population/Uncontrolled Exposure (1g SAR limit: 1.6 W/kg)                                                                                  |                 |            |            |            |
| Date Tested                     | 25 March 2015 to 27 April 2015                                                                                                                     |                 |            |            |            |
| The highest reported SAR values | RF Exposure Conditions                                                                                                                             | Equipment Class |            |            |            |
|                                 |                                                                                                                                                    | Licensed        | DTS        | DSS        | UNII       |
|                                 | Body                                                                                                                                               | 1.318 W/kg      | 0.498 W/kg | 0.067 W/kg | 1.479 W/kg |
|                                 | Simultaneous Transmission                                                                                                                          | 1.565 W/kg      | 1.519 W/kg | 1.088 W/kg | 1.565 W/kg |
| Applicable Standards            | FCC 47 CFR part 2 (2.1093)<br>KDB publication<br>IEEE Std 1528-2013                                                                                |                 |            |            |            |
| Test Results                    | Pass                                                                                                                                               |                 |            |            |            |

UL VS Limited 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 VS Limited 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 VS Limited and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL VS Limited 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 VS Limited                                       | Sandhya Menon<br>Senior Engineer<br>UL VS Limited                                    |

## **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:**

248227 D01 802.11 W-Fi SAR v02

447498 D01 General RF Exposure Guidance v05r02

616217 D04 SAR for laptop and tablets v01r01

865664 D01 SAR Measurement 100 MHz to 6 GHz v01r03

865664 D02 RF Exposure Reporting v01r01

941225 D01 SAR test for 3G SAR Procedures v03

941225 D05 SAR for LTE Devices v02r03

941225 D05A LTE Rel.10 KDB Inquiry Sheet 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

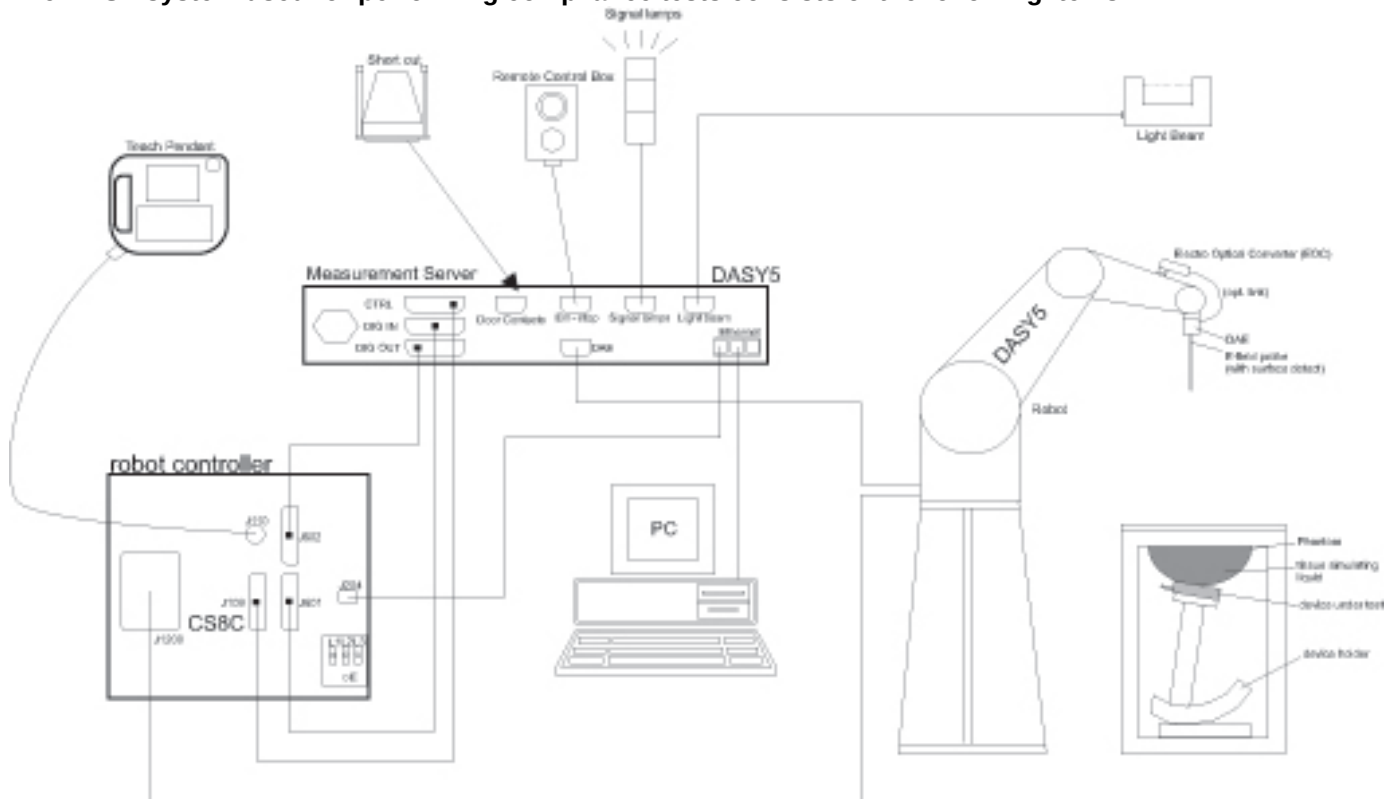
| Pavilion A, Ashwood Park, Ashwood Way, Basingstoke, Hampshire, RG23 8BG UK | Facility Type                  |
|----------------------------------------------------------------------------|--------------------------------|
| SAR Lab 57                                                                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

UL VS Limited, is accredited by UKAS (United Kingdom Accreditation Service), Laboratory UKAS Code 0644.

## 4. SAR Measurement System & Test Equipment

### 4.1. SAR Measurement System

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



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

### 4.2.1. Normal SAR Measurement Procedure

#### Step 1: Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. The minimum distance of probe sensors to surface is 2.1 mm. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties

#### Step 2: Area Scan

The Area Scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum locations even in relatively coarse grids. When an Area Scan has measured all reachable points, it computes the field maximal found in the scanned area, within a range of the global maximum. The range (in dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE Standard 1528 and IEC 62209-1 / IEC 62209-2 standards. If only one Zoom Scan follows the Area Scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of Zoom Scans has to be increased accordingly.

Area Scan Parameters extracted from KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r03

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

**Step 3: Zoom Scan**

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

Zoom Scan Parameters extracted from KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r03

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

**Step 4: Power drift measurement**

The Power Drift Measurement measures the field at the same location as the most recent power reference measurement within the same procedure, and with the same settings. The Power Drift Measurement gives the field difference in dB from the reading conducted within the last Power Reference Measurement. This allows a user to monitor the power drift of the device under test within a batch process. The measurement procedure is the same as Step 1.

**Step 5: Z-Scan (FCC only)**

The Z Scan measures points along a vertical straight line. The line runs along the Z-axis of a one-dimensional grid. In order to get a reasonable extrapolation the extrapolated distance should not be larger than the step size in Z- direction.

### **4.3. Volumetric Scan Procedure**

#### **Step 1: Repeat Step 1-4 in Section 4.3**

#### **Step 2: Volume Scan**

Volume Scans are used to assess peak SAR and averaged SAR measurements in largely extended 3-dimensional volumes within any phantom. This measurement does not need any previous area scan. The grid can be anchored to a user specific point or to the current probe location.

#### **Step 3: Power drift measurement**

The Power Drift Measurement measures the field at the same location as the most recent power reference measurement within the same procedure, and with the same settings. The Power Drift Measurement gives the field difference in dB from the reading conducted within the last Power Reference Measurement. This allows a user to monitor the pow

#### 4.4. 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.

| UL No. | Instrument                   | Manufacturer           | Type No.          | Serial No.       | Date Last Calibrated         | Cal. Interval (Months) |
|--------|------------------------------|------------------------|-------------------|------------------|------------------------------|------------------------|
| A1097  | SMA Directional Coupler      | MIDISCO                | MDC6223-30        | None             | Calibrated as part of system | -                      |
| M1755  | DAK Fluid Probe              | SPEAG                  | SM DAK 040 CA     | 1089             | Calibrated before use        | -                      |
| A2547  | Data Acquisition Electronics | SPEAG                  | DAE4              | 1438             | 12 May 2014                  | 12                     |
| A2546  | Data Acquisition Electronics | SPEAG                  | DAE4              | 1435             | 20 Feb 2015                  | 12                     |
| A2547  | Data Acquisition Electronics | SPEAG                  | DAE4              | 417              | 19 Mar 2015                  | 12                     |
| A2111  | Data Acquisition Electronics | SPEAG                  | DAE3              | 432              | 20 Aug 2014                  | 12                     |
| A1234  | Data Acquisition Electronics | SPEAG                  | DAE3              | 450              | 16 Sept 2014                 | 12                     |
| A2544  | Probe                        | SPEAG                  | EX3 DV4           | 3994             | 07 May 2014                  | 12                     |
| A2243  | Probe                        | SPEAG                  | ES3DV3            | 3304             | 21 Aug 2014                  | 12                     |
| A2587  | Probe                        | SPEAG                  | ES3DV3            | 3341             | 21 Aug 2014                  | 12                     |
| A2112  | Probe                        | SPEAG                  | ET3DV6            | 1586             | 22 May 2014                  | 12                     |
| A2077  | Probe                        | SPEAG                  | EX3 DV4           | 3814             | 04 Sept 2014                 | 12                     |
| A1985  | 750 MHz Dipole Kit           | SPEAG                  | D750V3            | 1011             | 16 Jan 2015                  | 12                     |
| A2588  | 900 MHz Dipole Kit           | SPEAG                  | D900V2            | 1d168            | 14 May 2014                  | 12                     |
| A1190  | 1800 MHz Dipole Kit          | SPEAG                  | D1800V2           | 264              | 18 Aug 2014                  | 12                     |
| A1237  | 1900 MHz Dipole Kit          | SPEAG                  | D1900V2           | 540              | 08 Dec 2014                  | 12                     |
| A1322  | 2450 MHz Dipole Kit          | SPEAG                  | D2450V2           | 725              | 08 Dec 2014                  | 12                     |
| A1377  | 5GHz GHz Dipole Kit          | SPEAG                  | D5GHzV2           | 1016             | 24 Feb 2015                  | 12                     |
| A1531  | Antenna                      | AARONIA AG             | 7025              | 02458            | -                            | -                      |
| A2621  | Digital Camera               | Nikon                  | S6300             | 41010357         | -                            | -                      |
| C1145  | Cable                        | Rosenberger MICRO-COAX | FA147A F003003030 | 41843-1          | Calibrated as part of system | -                      |
| GO591  | Robot Power Supply           | SPEAG                  | DASY4             | None             | Calibrated before use        | -                      |
| G0610  | Robot Power Supply           | SPEAG                  | DASY52            | None             | Calibrated before use        | -                      |
| G0611  | Robot Power Supply           | SPEAG                  | DASY52            | None             | Calibrated before use        | -                      |
| G0612  | Robot Power Supply           | SPEAG                  | DASY52            | None             | Calibrated before use        | -                      |
| G087   | PSU                          | Thurlby Thandar        | CPX200            | 100701           | Calibrated before use        | -                      |
| M1653  | Robot Arm                    | Staubli                | RX908 L           | F01/5J8 6A1/C/01 | Calibrated before use        | -                      |
| M1875  | Robot Arm                    | Staubli                | TX60 L            | F13/5SC6F1/A/01  | Calibrated 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        | -                      |
| M1755  | DAK Fluid Probe              | SPEAG                  | SM DAK 040 CA     | 1089             | Calibrated before use        | -                      |
| M1015  | Network Analyser             | Agilent Technologies   | 8753ES            | US39172406       | 26 Sept 2014                 | 12                     |
| A2621  | Digital Camera               | Nikon                  | S3600             | 41010357         | -                            | -                      |
| M1908  | Signal Generator             | R&S                    | SMIQ03B           | 1125555503       | 02 Dec 2014                  | 12                     |
| M1839  | Signal Generator             | R&S                    | SME06             | 837633/001       | 27 Mar 2015                  | 12                     |
| M1841  | Dual Channel Power Meter     | R & S                  | NRVD              | 834501/069       | 27 Mar 2015                  | 12                     |
| M1023  | Dual Channel Power Meter     | R & S                  | NRVD              | 863715/030       | 01 May 2014                  | 12                     |

| UL No. | Instrument          | Manufacturer  | Type No.    | Serial No.  | Date Last Calibrated         | Cal. Interval (Months) |
|--------|---------------------|---------------|-------------|-------------|------------------------------|------------------------|
| M1044  | Power Sensor        | R & S         | ZRPZ1       | 893350/0019 | 05 Sep 2014                  | 12                     |
| M265   | Power Sensor        | R & S         | ZRPZ1       | 893350/0017 | 05 Sep 2014                  | 12                     |
| M1634  | Power Sensor        | R & S         | NRVZ1       | 860462/016  | 02 May 2014                  | 12                     |
| M1635  | Power Sensor        | R & S         | ZRPZ1       | 826515/015  | 02 May 2014                  | 12                     |
| M1848  | Power Sensor        | R & S         | ZRPZ1       | 831430/004  | 20 Apr 2015                  | 12                     |
| M1847  | Power Sensor        | R & S         | ZRPZ1       | 831430/003  | 20 Apr 2015                  | 12                     |
| A2100  | Directional Coupler | RF-Lambda     | 11101300748 | None        | Calibrated as part of system | -                      |
| A1097  | Directional Coupler | MiDISCO       | MDC6223-30  | None        | Calibrated as part of system | -                      |
| A1938  | Amplifier           | Mini-Circuits | ZHL-42      | QA0826002   | Calibrated as part of system | -                      |
| A1474  | Amplifier           | Mini-Circuits | ZVE-8G      | 638700305   | Calibrated as part of system | -                      |
| A2403  | Amplifier           | Mini-Circuits | ZHL-42W     | 15542       | Calibrated as part of system | -                      |

#### 4.5. SAR System Specifications

|                                                 |                                                                          |
|-------------------------------------------------|--------------------------------------------------------------------------|
| <b>Robot System</b>                             |                                                                          |
| <b>Positioner:</b>                              | Stäubli Unimation Corp. Robot Model: RX90L                               |
| <b>Repeatability:</b>                           | 0.025 mm                                                                 |
| <b>No. of Axis:</b>                             | 6                                                                        |
| <b>Serial Number(s):</b>                        | F00/SD89A1/A/01<br>F01/5J86A1/A/01                                       |
| <b>Reach:</b>                                   | 1185 mm                                                                  |
| <b>Payload:</b>                                 | 3.5 kg                                                                   |
| <b>Control Unit:</b>                            | CS7                                                                      |
| <b>Programming Language:</b>                    | V+                                                                       |
| <b>Robot System</b>                             |                                                                          |
| <b>Positioner:</b>                              | Stäubli Unimation Corp. Robot Model: TX60L                               |
| <b>Repeatability:</b>                           | ±0.030 mm                                                                |
| <b>No. of Axis:</b>                             | 6                                                                        |
| <b>Serial Number:</b>                           | F12/5MZ7A1/A/01<br>F13/5SC6F1/A/01<br>F14/5T5ZA1/A/01<br>F14/5UA6A1/A/01 |
| <b>Reach:</b>                                   | 920 mm                                                                   |
| <b>Payload:</b>                                 | 2.0 kg                                                                   |
| <b>Control Unit:</b>                            | CS8C                                                                     |
| <b>Programming Language:</b>                    | V+                                                                       |
| <b>Data Acquisition Electronic (DAE) System</b> |                                                                          |
| <b>Serial Number:</b>                           | DAE3 SN: 417, 450, 432                                                   |
| <b>Serial Number:</b>                           | DAE4 SN: 1435                                                            |
| <b>PC Controller</b>                            |                                                                          |
| <b>PC:</b>                                      | Dell Precision 340                                                       |
| <b>Operating System:</b>                        | Windows 2000                                                             |
| <b>Data Card:</b>                               | DASY4 Measurement Server                                                 |
| <b>Serial Number:</b>                           | 1080                                                                     |

**SAR System Specifications (Continued)**

| <b>Data Converter</b>        |                                                                                                                                                                          |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Features:</b>             | Signal Amplifier, multiplexer, A/D converted and control logic.                                                                                                          |
| <b>Software:</b>             | DASY4 Software                                                                                                                                                           |
| <b>Connecting Lines:</b>     | Optical downlink for data and status info.<br>Optical uplink for commands and clock.                                                                                     |
| <b>PC Interface Card</b>     |                                                                                                                                                                          |
| <b>Function:</b>             | 24 bit (64 MHz) DSP for real time processing Link to DAE3 16 nit A/D converter for surface detection system serial link to robot direct emergency stop output for robot. |
| <b>E-Field Probe</b>         |                                                                                                                                                                          |
| <b>Model:</b>                | EX3DV4                                                                                                                                                                   |
| <b>Serial No:</b>            | 3994                                                                                                                                                                     |
| <b>Construction:</b>         | Triangular core                                                                                                                                                          |
| <b>Frequency:</b>            | 10 MHz to >6 GHz                                                                                                                                                         |
| <b>Linearity:</b>            | ±0.2 dB (30 MHz to 6 GHz)                                                                                                                                                |
| <b>Probe Length (mm):</b>    | 337                                                                                                                                                                      |
| <b>Probe Diameter (mm):</b>  | 10                                                                                                                                                                       |
| <b>Tip Length (mm):</b>      | 9                                                                                                                                                                        |
| <b>Tip Diameter (mm):</b>    | 2.5                                                                                                                                                                      |
| <b>Sensor X Offset (mm):</b> | 1                                                                                                                                                                        |
| <b>Sensor Y Offset (mm):</b> | 1                                                                                                                                                                        |
| <b>Sensor Z Offset (mm):</b> | 1                                                                                                                                                                        |
| <b>E-Field Probe</b>         |                                                                                                                                                                          |
| <b>Model:</b>                | ES3DV3                                                                                                                                                                   |
| <b>Serial No:</b>            | 3304; 3341                                                                                                                                                               |
| <b>Construction:</b>         | Triangular core                                                                                                                                                          |
| <b>Frequency:</b>            | 10 MHz to >4 GHz                                                                                                                                                         |
| <b>Linearity:</b>            | ±0.2 dB (30 MHz to 4 GHz)                                                                                                                                                |
| <b>Probe Length (mm):</b>    | 337                                                                                                                                                                      |
| <b>Probe Diameter (mm):</b>  | 10                                                                                                                                                                       |
| <b>Tip Length (mm):</b>      | 10                                                                                                                                                                       |
| <b>Tip Diameter (mm):</b>    | 4                                                                                                                                                                        |
| <b>Sensor X Offset (mm):</b> | 2                                                                                                                                                                        |
| <b>Sensor Y Offset (mm):</b> | 2                                                                                                                                                                        |
| <b>Sensor Z Offset (mm):</b> | 2                                                                                                                                                                        |

**SAR System Specifications (Continued)**

| E-Field Probe         |                                  |
|-----------------------|----------------------------------|
| Model:                | ET3DV6                           |
| Serial No:            | 1586                             |
| Construction:         | Triangular core                  |
| Frequency:            | 10 MHz to 2.55GHz                |
| Linearity:            | $\pm 0.2$ dB (30 MHz to 2.55GHz) |
| Probe Length (mm):    | 337                              |
| Probe Diameter (mm):  | 10                               |
| Tip Length (mm):      | 10                               |
| Tip Diameter (mm):    | 6.8                              |
| Sensor X Offset (mm): | 2.7                              |
| Sensor Y Offset (mm): | 2.7                              |
| Sensor Z Offset (mm): | 2.7                              |
| Phantom               |                                  |
| Phantom:              | SAM Phantom, Eli Phantom         |
| Shell Material:       | Fibreglass                       |
| Thickness:            | 2.0 $\pm$ 0.1 mm                 |

## 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 / GPRS / EDGE 850 / WCDMA FDD 5 / LTE Band 5 / LTE Band 13 / LTE Band 17 Body Configurations 1g | 95%              | ±18.36%                |
| Specific Absorption Rate-WCDMA FDD 4 / LTE Band 4 Body Configuration 1g                                                      | 95%              | ±18.45%                |
| Specific Absorption Rate-GSM / GPRS / EDGE 1900 / WCDMA FDD 2 / CDMA BC1 / LTE Band 2 / LTE Band 25 Body Configuration 1g    | 95%              | ±18.26%                |
| Specific Absorption Rate-Wi-Fi 2450 MHz Body Configuration 1g                                                                | 95%              | ±18.35%                |
| 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.

### 5.1. Uncertainty -GSM / GPRS / EDGE 850 / WCDMA FDD 5 / CDMA BC 0 / CDMA BC10 / LTE Band 5 / LTE Band 13 / LTE Band 17 Body Configuration 1g

| Type | Source of uncertainty                                 | + Value | - Value | Probability Distribution | Divisor | C <sub>i</sub> (1g) | Standard Uncertainty |         | U <sub>i</sub> Or U <sub>eff</sub> |
|------|-------------------------------------------------------|---------|---------|--------------------------|---------|---------------------|----------------------|---------|------------------------------------|
|      |                                                       |         |         |                          |         |                     | + u (%)              | - u (%) |                                    |
| B    | Probe calibration                                     | 6.000   | 6.000   | normal (k=1)             | 1.0000  | 1.0000              | 6.000                | 6.000   | ∞                                  |
| B    | Axial Isotropy                                        | 0.250   | 0.250   | normal (k=1)             | 1.0000  | 1.0000              | 0.250                | 0.250   | ∞                                  |
| B    | Hemispherical Isotropy                                | 1.300   | 1.300   | normal (k=1)             | 1.0000  | 1.0000              | 1.300                | 1.300   | ∞                                  |
| B    | Spatial Resolution                                    | 0.500   | 0.500   | Rectangular              | 1.7321  | 1.0000              | 0.289                | 0.289   | ∞                                  |
| B    | Boundary Effect                                       | 0.769   | 0.769   | Rectangular              | 1.7321  | 1.0000              | 0.444                | 0.444   | ∞                                  |
| B    | Linearity                                             | 0.600   | 0.600   | Rectangular              | 1.7321  | 1.0000              | 0.346                | 0.346   | ∞                                  |
| B    | Detection Limits                                      | 0.200   | 0.200   | Rectangular              | 1.7321  | 1.0000              | 0.115                | 0.115   | ∞                                  |
| B    | Readout Electronics                                   | 0.160   | 0.160   | normal (k=1)             | 1.0000  | 1.0000              | 0.160                | 0.160   | ∞                                  |
| B    | Response Time                                         | 0.000   | 0.000   | Rectangular              | 1.7321  | 1.0000              | 0.000                | 0.000   | ∞                                  |
| B    | Integration Time                                      | 1.730   | 1.730   | Rectangular              | 1.7321  | 1.0000              | 0.999                | 0.999   | ∞                                  |
| B    | RF Ambient conditions                                 | 3.000   | 3.000   | Rectangular              | 1.7321  | 1.0000              | 1.732                | 1.732   | ∞                                  |
| B    | Probe Positioner Mechanical Restrictions              | 4.000   | 4.000   | Rectangular              | 1.7321  | 1.0000              | 2.309                | 2.309   | ∞                                  |
| B    | Probe Positioning with regard to Phantom Shell        | 2.850   | 2.850   | Rectangular              | 1.7321  | 1.0000              | 1.645                | 1.645   | ∞                                  |
| B    | Extrapolation and integration /Maximum SAR evaluation | 5.080   | 5.080   | Rectangular              | 1.7321  | 1.0000              | 2.933                | 2.933   | ∞                                  |
| A    | Test Sample Positioning                               | 2.510   | 2.510   | normal (k=1)             | 1.0000  | 1.0000              | 2.510                | 2.510   | 10                                 |
| A    | Device Holder uncertainty                             | 0.154   | 0.154   | normal (k=1)             | 1.0000  | 1.0000              | 0.154                | 0.154   | 10                                 |
| B    | Phantom Uncertainty                                   | 4.000   | 4.000   | Rectangular              | 1.7321  | 1.0000              | 2.309                | 2.309   | ∞                                  |
| B    | Drift of output power                                 | 5.000   | 5.000   | Rectangular              | 1.7321  | 1.0000              | 2.887                | 2.887   | ∞                                  |
| B    | Liquid Conductivity (target value)                    | 5.000   | 5.000   | Rectangular              | 1.7321  | 0.6400              | 1.848                | 1.848   | ∞                                  |
| A    | Liquid Conductivity (measured value)                  | 2.000   | 2.000   | normal (k=1)             | 1.0000  | 0.6400              | 1.280                | 1.280   | 5                                  |
| B    | Liquid Permittivity (target value)                    | 5.000   | 5.000   | Rectangular              | 1.7321  | 0.6000              | 1.732                | 1.732   | ∞                                  |
| A    | Liquid Permittivity (measured value)                  | 1.560   | 1.560   | normal (k=1)             | 1.0000  | 0.6000              | 0.936                | 0.936   | 5                                  |
|      | Combined standard uncertainty                         |         |         | t-distribution           |         |                     | 9.37                 | 9.37    | >500                               |
|      | Expanded uncertainty                                  |         |         | k = 1.96                 |         |                     | 18.36                | 18.36   | >500                               |

**5.2. Uncertainty -WCDMA FDD 4 / LTE Band 4 Body Configuration 1g**

| Type | Source of uncertainty                                 | + Value | - Value | Probability Distribution | Divisor | C <sub>i</sub> (1g) | Standard Uncertainty |         | v <sub>i</sub> or v <sub>eff</sub> |
|------|-------------------------------------------------------|---------|---------|--------------------------|---------|---------------------|----------------------|---------|------------------------------------|
|      |                                                       |         |         |                          |         |                     | + u (%)              | - u (%) |                                    |
| B    | Probe calibration                                     | 6.000   | 6.000   | normal (k=1)             | 1.0000  | 1.0000              | 6.000                | 6.000   | ∞                                  |
| B    | Axial Isotropy                                        | 0.250   | 0.250   | normal (k=1)             | 1.0000  | 1.0000              | 0.250                | 0.250   | ∞                                  |
| B    | Hemispherical Isotropy                                | 1.300   | 1.300   | normal (k=1)             | 1.0000  | 1.0000              | 1.300                | 1.300   | ∞                                  |
| B    | Spatial Resolution                                    | 0.500   | 0.500   | Rectangular              | 1.7321  | 1.0000              | 0.289                | 0.289   | ∞                                  |
| B    | Boundary Effect                                       | 0.769   | 0.769   | Rectangular              | 1.7321  | 1.0000              | 0.444                | 0.444   | ∞                                  |
| B    | Linearity                                             | 0.600   | 0.600   | Rectangular              | 1.7321  | 1.0000              | 0.346                | 0.346   | ∞                                  |
| B    | Detection Limits                                      | 0.200   | 0.200   | Rectangular              | 1.7321  | 1.0000              | 0.115                | 0.115   | ∞                                  |
| B    | Readout Electronics                                   | 0.160   | 0.160   | normal (k=1)             | 1.0000  | 1.0000              | 0.160                | 0.160   | ∞                                  |
| B    | Response Time                                         | 0.000   | 0.000   | Rectangular              | 1.7321  | 1.0000              | 0.000                | 0.000   | ∞                                  |
| B    | Integration Time                                      | 1.730   | 1.730   | Rectangular              | 1.7321  | 1.0000              | 0.999                | 0.999   | ∞                                  |
| B    | RF Ambient conditions                                 | 3.000   | 3.000   | Rectangular              | 1.7321  | 1.0000              | 1.732                | 1.732   | ∞                                  |
| B    | Probe Positioner Mechanical Restrictions              | 4.000   | 4.000   | Rectangular              | 1.7321  | 1.0000              | 2.309                | 2.309   | ∞                                  |
| B    | Probe Positioning with regard to Phantom Shell        | 2.850   | 2.850   | Rectangular              | 1.7321  | 1.0000              | 1.645                | 1.645   | ∞                                  |
| B    | Extrapolation and integration/ Maximum SAR evaluation | 5.080   | 5.080   | Rectangular              | 1.7321  | 1.0000              | 2.933                | 2.933   | ∞                                  |
| A    | Test Sample Positioning                               | 2.460   | 2.460   | normal (k=1)             | 1.0000  | 1.0000              | 2.460                | 2.460   | 10                                 |
| A    | Device Holder uncertainty                             | 0.154   | 0.154   | normal (k=1)             | 1.0000  | 1.0000              | 0.154                | 0.154   | 10                                 |
| B    | Phantom Uncertainty                                   | 4.000   | 4.000   | Rectangular              | 1.7321  | 1.0000              | 2.309                | 2.309   | ∞                                  |
| B    | Drift of output power                                 | 5.000   | 5.000   | Rectangular              | 1.7321  | 1.0000              | 2.887                | 2.887   | ∞                                  |
| B    | Liquid Conductivity (target value)                    | 5.000   | 5.000   | Rectangular              | 1.7321  | 0.6400              | 1.848                | 1.848   | ∞                                  |
| A    | Liquid Conductivity (measured value)                  | 2.210   | 2.210   | normal (k=1)             | 1.0000  | 0.6400              | 1.414                | 1.414   | 5                                  |
| B    | Liquid Permittivity (target value)                    | 5.000   | 5.000   | Rectangular              | 1.7321  | 0.6000              | 1.732                | 1.732   | ∞                                  |
| A    | Liquid Permittivity (measured value)                  | 2.150   | 2.150   | normal (k=1)             | 1.0000  | 0.6000              | 1.290                | 1.290   | 5                                  |
|      | Combined standard uncertainty                         |         |         | t-distribution           |         |                     | 9.42                 | 9.42    | >500                               |
|      | Expanded uncertainty                                  |         |         | k = 1.96                 |         |                     | 18.45                | 18.45   | >500                               |

### 5.3. Uncertainty -PCS / GPRS / EDGE 1900 / WCDMA FDD 2 / CDMA BC1 / LTE Band 2 / LTE Band 25 Body Configuration 1g

| Type | Source of uncertainty                                  | + Value | - Value | Probability Distribution | Divisor | C <sub>i</sub> (1g) | Standard Uncertainty |         | U <sub>i</sub> Or U <sub>eff</sub> |
|------|--------------------------------------------------------|---------|---------|--------------------------|---------|---------------------|----------------------|---------|------------------------------------|
|      |                                                        |         |         |                          |         |                     | + u (%)              | - u (%) |                                    |
| B    | Probe calibration                                      | 6.000   | 6.000   | normal (k=1)             | 1.0000  | 1.0000              | 6.000                | 6.000   | ∞                                  |
| B    | Axial Isotropy                                         | 0.250   | 0.250   | normal (k=1)             | 1.0000  | 1.0000              | 0.250                | 0.250   | ∞                                  |
| B    | Hemispherical Isotropy                                 | 1.300   | 1.300   | normal (k=1)             | 1.0000  | 1.0000              | 1.300                | 1.300   | ∞                                  |
| B    | Spatial Resolution                                     | 0.500   | 0.500   | Rectangular              | 1.7321  | 1.0000              | 0.289                | 0.289   | ∞                                  |
| B    | Boundary Effect                                        | 0.769   | 0.769   | Rectangular              | 1.7321  | 1.0000              | 0.444                | 0.444   | ∞                                  |
| B    | Linearity                                              | 0.600   | 0.600   | Rectangular              | 1.7321  | 1.0000              | 0.346                | 0.346   | ∞                                  |
| B    | Detection Limits                                       | 0.200   | 0.200   | Rectangular              | 1.7321  | 1.0000              | 0.115                | 0.115   | ∞                                  |
| B    | Readout Electronics                                    | 0.160   | 0.160   | normal (k=1)             | 1.0000  | 1.0000              | 0.160                | 0.160   | ∞                                  |
| B    | Response Time                                          | 0.000   | 0.000   | Rectangular              | 1.7321  | 1.0000              | 0.000                | 0.000   | ∞                                  |
| B    | Integration Time                                       | 1.730   | 1.730   | Rectangular              | 1.7321  | 1.0000              | 0.999                | 0.999   | ∞                                  |
| B    | RF Ambient conditions                                  | 3.000   | 3.000   | Rectangular              | 1.7321  | 1.0000              | 1.732                | 1.732   | ∞                                  |
| B    | Probe Positioner Mechanical Restrictions               | 4.000   | 4.000   | Rectangular              | 1.7321  | 1.0000              | 2.309                | 2.309   | ∞                                  |
| B    | Probe Positioning with regard to Phantom Shell         | 2.850   | 2.850   | Rectangular              | 1.7321  | 1.0000              | 1.645                | 1.645   | ∞                                  |
| B    | Extrapolation and integration / Maximum SAR evaluation | 5.080   | 5.080   | Rectangular              | 1.7321  | 1.0000              | 2.933                | 2.933   | ∞                                  |
| A    | Test Sample Positioning                                | 1.860   | 1.860   | normal (k=1)             | 1.0000  | 1.0000              | 1.860                | 1.860   | 10                                 |
| A    | Device Holder uncertainty                              | 0.154   | 0.154   | normal (k=1)             | 1.0000  | 1.0000              | 0.154                | 0.154   | 10                                 |
| B    | Phantom Uncertainty                                    | 4.000   | 4.000   | Rectangular              | 1.7321  | 1.0000              | 2.309                | 2.309   | ∞                                  |
| B    | Drift of output power                                  | 5.000   | 5.000   | Rectangular              | 1.7321  | 1.0000              | 2.887                | 2.887   | ∞                                  |
| B    | Liquid Conductivity (target value)                     | 5.000   | 5.000   | Rectangular              | 1.7321  | 0.6400              | 1.848                | 1.848   | ∞                                  |
| A    | Liquid Conductivity (measured value)                   | 2.610   | 2.610   | normal (k=1)             | 1.0000  | 0.6400              | 1.670                | 1.670   | 5                                  |
| B    | Liquid Permittivity (target value)                     | 5.000   | 5.000   | Rectangular              | 1.7321  | 0.6000              | 1.732                | 1.732   | ∞                                  |
| A    | Liquid Permittivity (measured value)                   | 2.140   | 2.140   | normal (k=1)             | 1.0000  | 0.6000              | 1.284                | 1.284   | 5                                  |
|      | Combined standard uncertainty                          |         |         | t-distribution           |         |                     | 9.32                 | 9.32    | >500                               |
|      | Expanded uncertainty                                   |         |         | k = 1.96                 |         |                     | 18.26                | 18.26   | >500                               |

**5.4. Uncertainty –Wi-Fi 2450 MHz Body Configuration 1g**

| Type | Source of uncertainty                                  | + Value | - Value | Probability Distribution | Divisor | C <sub>i</sub> (1g) | Standard Uncertainty |         | u <sub>i</sub> or u <sub>eff</sub> |
|------|--------------------------------------------------------|---------|---------|--------------------------|---------|---------------------|----------------------|---------|------------------------------------|
|      |                                                        |         |         |                          |         |                     | + u (%)              | - u (%) |                                    |
| B    | Probe calibration                                      | 6.000   | 6.000   | normal (k=1)             | 1.0000  | 1.0000              | 6.000                | 6.000   | ∞                                  |
| B    | Axial Isotropy                                         | 0.250   | 0.250   | normal (k=1)             | 1.0000  | 1.0000              | 0.250                | 0.250   | ∞                                  |
| B    | Hemispherical Isotropy                                 | 1.300   | 1.300   | normal (k=1)             | 1.0000  | 1.0000              | 1.300                | 1.300   | ∞                                  |
| B    | Spatial Resolution                                     | 0.500   | 0.500   | Rectangular              | 1.7321  | 1.0000              | 0.289                | 0.289   | ∞                                  |
| B    | Boundary Effect                                        | 0.769   | 0.769   | Rectangular              | 1.7321  | 1.0000              | 0.444                | 0.444   | ∞                                  |
| B    | Linearity                                              | 0.600   | 0.600   | Rectangular              | 1.7321  | 1.0000              | 0.346                | 0.346   | ∞                                  |
| B    | Detection Limits                                       | 0.200   | 0.200   | Rectangular              | 1.7321  | 1.0000              | 0.115                | 0.115   | ∞                                  |
| B    | Readout Electronics                                    | 0.160   | 0.160   | normal (k=1)             | 1.0000  | 1.0000              | 0.160                | 0.160   | ∞                                  |
| B    | Response Time                                          | 0.000   | 0.000   | Rectangular              | 1.7321  | 1.0000              | 0.000                | 0.000   | ∞                                  |
| B    | Integration Time                                       | 0.000   | 0.000   | Rectangular              | 1.7321  | 1.0000              | 0.000                | 0.000   | ∞                                  |
| B    | RF Ambient conditions                                  | 3.000   | 3.000   | Rectangular              | 1.7321  | 1.0000              | 1.732                | 1.732   | ∞                                  |
| B    | Probe Positioner Mechanical Restrictions               | 4.000   | 4.000   | Rectangular              | 1.7321  | 1.0000              | 2.309                | 2.309   | ∞                                  |
| B    | Probe Positioning with regard to Phantom Shell         | 2.850   | 2.850   | Rectangular              | 1.7321  | 1.0000              | 1.645                | 1.645   | ∞                                  |
| B    | Extrapolation and integration / Maximum SAR evaluation | 5.080   | 5.080   | Rectangular              | 1.7321  | 1.0000              | 2.933                | 2.933   | ∞                                  |
| A    | Test Sample Positioning                                | 2.440   | 2.440   | normal (k=1)             | 1.0000  | 1.0000              | 2.440                | 2.440   | 10                                 |
| A    | Device Holder uncertainty                              | 0.154   | 0.154   | normal (k=1)             | 1.0000  | 1.0000              | 0.154                | 0.154   | 10                                 |
| B    | Phantom Uncertainty                                    | 4.000   | 4.000   | Rectangular              | 1.7321  | 1.0000              | 2.309                | 2.309   | ∞                                  |
| B    | Drift of output power                                  | 5.000   | 5.000   | Rectangular              | 1.7321  | 1.0000              | 2.887                | 2.887   | ∞                                  |
| B    | Liquid Conductivity (target value)                     | 5.000   | 5.000   | Rectangular              | 1.7321  | 0.6400              | 1.848                | 1.848   | ∞                                  |
| A    | Liquid Conductivity (measured value)                   | 2.260   | 2.260   | normal (k=1)             | 1.0000  | 0.6400              | 1.446                | 1.446   | 5                                  |
| B    | Liquid Permittivity (target value)                     | 5.000   | 5.000   | Rectangular              | 1.7321  | 0.6000              | 1.732                | 1.732   | ∞                                  |
| A    | Liquid Permittivity (measured value)                   | 2.150   | 2.150   | normal (k=1)             | 1.0000  | 0.6000              | 1.290                | 1.290   | 5                                  |
|      | Combined standard uncertainty                          |         |         | t-distribution           |         |                     | 9.36                 | 9.36    | >500                               |
|      | Expanded uncertainty                                   |         |         | k = 1.96                 |         |                     | 18.35                | 18.35   | >500                               |

**5.5. Uncertainty - Wi-Fi 5GHz Body Configuration 1g**

| Type | Source of uncertainty                                  | + Value | - Value | Probability Distribution | Divisor | C <sub>i</sub> (1g) | Standard Uncertainty |         | u <sub>i</sub> or u <sub>eff</sub> |
|------|--------------------------------------------------------|---------|---------|--------------------------|---------|---------------------|----------------------|---------|------------------------------------|
|      |                                                        |         |         |                          |         |                     | + u (%)              | - u (%) |                                    |
| B    | Probe calibration                                      | 6.550   | 6.550   | normal (k=1)             | 1.0000  | 1.0000              | 6.550                | 6.550   | ∞                                  |
| B    | Axial Isotropy                                         | 0.250   | 0.250   | normal (k=1)             | 1.0000  | 1.0000              | 0.250                | 0.250   | ∞                                  |
| B    | Hemispherical Isotropy                                 | 1.300   | 1.300   | normal (k=1)             | 1.0000  | 1.0000              | 1.300                | 1.300   | ∞                                  |
| B    | Spatial Resolution                                     | 0.500   | 0.500   | Rectangular              | 1.7321  | 1.0000              | 0.289                | 0.289   | ∞                                  |
| B    | Boundary Effect                                        | 0.769   | 0.769   | Rectangular              | 1.7321  | 1.0000              | 0.444                | 0.444   | ∞                                  |
| B    | Linearity                                              | 0.600   | 0.600   | Rectangular              | 1.7321  | 1.0000              | 0.346                | 0.346   | ∞                                  |
| B    | Detection Limits                                       | 0.200   | 0.200   | Rectangular              | 1.7321  | 1.0000              | 0.115                | 0.115   | ∞                                  |
| B    | Readout Electronics                                    | 0.160   | 0.160   | normal (k=1)             | 1.0000  | 1.0000              | 0.160                | 0.160   | ∞                                  |
| B    | Response Time                                          | 0.000   | 0.000   | Rectangular              | 1.7321  | 1.0000              | 0.000                | 0.000   | ∞                                  |
| B    | Integration Time                                       | 0.000   | 0.000   | Rectangular              | 1.7321  | 1.0000              | 0.000                | 0.000   | ∞                                  |
| B    | RF Ambient conditions                                  | 3.000   | 3.000   | Rectangular              | 1.7321  | 1.0000              | 1.732                | 1.732   | ∞                                  |
| B    | Probe Positioner Mechanical Restrictions               | 4.000   | 4.000   | Rectangular              | 1.7321  | 1.0000              | 2.309                | 2.309   | ∞                                  |
| B    | Probe Positioning with regard to Phantom Shell         | 2.850   | 2.850   | Rectangular              | 1.7321  | 1.0000              | 1.645                | 1.645   | ∞                                  |
| B    | Extrapolation and integration / Maximum SAR evaluation | 5.080   | 5.080   | Rectangular              | 1.7321  | 1.0000              | 2.933                | 2.933   | ∞                                  |
| A    | Test Sample Positioning                                | 1.960   | 1.960   | normal (k=1)             | 1.0000  | 1.0000              | 1.960                | 1.960   | 10                                 |
| A    | Device Holder uncertainty                              | 0.154   | 0.154   | normal (k=1)             | 1.0000  | 1.0000              | 0.154                | 0.154   | 10                                 |
| B    | Phantom Uncertainty                                    | 4.000   | 4.000   | Rectangular              | 1.7321  | 1.0000              | 2.309                | 2.309   | ∞                                  |
| B    | Drift of output power                                  | 5.000   | 5.000   | Rectangular              | 1.7321  | 1.0000              | 2.887                | 2.887   | ∞                                  |
| B    | Liquid Conductivity (target value)                     | 5.000   | 5.000   | Rectangular              | 1.7321  | 0.6400              | 1.848                | 1.848   | ∞                                  |
| A    | Liquid Conductivity (measured value)                   | 4.370   | 4.370   | normal (k=1)             | 1.0000  | 0.6400              | 2.797                | 2.797   | 5                                  |
| B    | Liquid Permittivity (target value)                     | 5.000   | 5.000   | Rectangular              | 1.7321  | 0.6000              | 1.732                | 1.732   | ∞                                  |
| A    | Liquid Permittivity (measured value)                   | 4.270   | 4.270   | normal (k=1)             | 1.0000  | 0.6000              | 2.562                | 2.562   | 5                                  |
|      | Combined standard uncertainty                          |         |         | t-distribution           |         |                     | 10.15                | 10.15   | >450                               |
|      | Expanded uncertainty                                   |         |         | k = 1.96                 |         |                     | 19.90                | 19.90   | >450                               |

## **6. Device Under Test (DUT) Information**

### **6.1. DUT Description**

|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>DUT Description:</b>         | Tablet with cellular GPRS/EGPRS, WCDMA, DC-HSDPA & HSPA+, CDMA 1xRTT, EVDO Rev 0, Rev A, LTE FDD Radio, IEEE 802.11a/b/g/n (MIMO 2x2), Bluetooth Radio and wireless hotspot capabilities.<br>The cellular bands support power reduction by proximity sensing.                                                                                                                                                                                                |
| <b>Serial Number:</b>           | <b>The following samples were used to perform radiated SAR measurements:</b><br>AB42400261: WLAN 5.2/5.3/5.5/5.8 GHz<br>AB42400380: GSM850, UMTS FDD 5, CDMA BC0, CDMA BC10, LTE 5, WLAN 2.4GHz<br>KC43100003: PCS1900, UMTS FDD 2, CDMA BC1, LTE 2, LTE 25<br>AB42400429:UMTS FDD 4, LTE 4, LTE 13, LTE 17<br><br><b>The following sample was used to perform conducted SAR measurements:</b><br>KB42400152:All cellular bands<br>AB42400132:All WLAN bands |
| <b>Hardware Version Number:</b> | INARI8-LTDN-1                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Software Version Number:</b> | SWI9X15C_05.05.16.00                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Country of Manufacture:</b>  | Finland                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Date of Receipt:</b>         | 02 March 2015                                                                                                                                                                                                                                                                                                                                                                                                                                                |

## 6.2. Wireless Technologies

| Wireless technologies | Frequency bands                                                                                                                                                                                                                                                                                                                          | Operating mode                                                                                          | Duty Cycle                                                                                          |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| GSM                   | 850, 1900                                                                                                                                                                                                                                                                                                                                | GPRS (GMSK)<br>EGPRS (GMSK / 8PSK)                                                                      | GPRS 1 Slot: 12.0%; 2 Slots: 25%<br>EGPRS 1 Slot: 12.0%; 2 Slots: 25%, 3 Slots: 37.5%, 4 Slots: 50% |
|                       | GPRS Multi-Slot Class: <input type="checkbox"/> Class 8 - One Up <input checked="" type="checkbox"/> Class 10 - Two Up <input type="checkbox"/> Class 12 - Four Up<br>EDGE Multi-Slot Class: <input type="checkbox"/> Class 8 - One Up <input type="checkbox"/> Class 10 - Two Up <input checked="" type="checkbox"/> Class 12 - Four Up |                                                                                                         |                                                                                                     |
| W-CDMA (FDD)          | Band 2 / 4 / 5                                                                                                                                                                                                                                                                                                                           | WCDMA Rel. 99 (Voice & Data)<br>HSDPA (Rel. 5)<br>HSUPA (Rel. 6)<br>DC-HSDPA (Rel. 7)<br>HSPA+ (Rel. 9) | Rel. 99: 100%                                                                                       |
| CDMA                  | BC 0/1/10                                                                                                                                                                                                                                                                                                                                | 1xRTT<br>EVDO Rev A                                                                                     | 100%                                                                                                |
| LTE (FDD)             | Band 2 / 4 / 5 / 13 / 17 / 25                                                                                                                                                                                                                                                                                                            | QPSK<br>16QAM                                                                                           | 100%                                                                                                |
|                       | Does this device SV-LTE (1xRTT-LTE)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                                                                                                                                                                                 |                                                                                                         |                                                                                                     |
| Wi-Fi                 | 2.4 GHz                                                                                                                                                                                                                                                                                                                                  | 802.11b<br>802.11g<br>802.11n (HT20)<br>802.11n (HT40)                                                  | 100%                                                                                                |
|                       | 5.0 GHz                                                                                                                                                                                                                                                                                                                                  | 802.11a<br>802.11n (HT20)<br>802.11n (HT40)                                                             | 100%                                                                                                |
| Bluetooth 4.0         | -                                                                                                                                                                                                                                                                                                                                        | BR<br>EDR<br>BLE                                                                                        | 31%                                                                                                 |

|                                     |                                       |                    |
|-------------------------------------|---------------------------------------|--------------------|
| <b>Transmitter Frequency Range:</b> | GSM850                                | (824 to 849) MHz   |
|                                     | PCS1900                               | (1850 to 1910) MHz |
|                                     | WCDMA FDD 2                           | (1852 to 1908) MHz |
|                                     | WCDMA FDD 4                           | (1712 to 1753) MHz |
|                                     | WCDMA FDD 5                           | (826 to 847) MHz   |
|                                     | CDMA BC0                              | (824 to 849) MHz   |
|                                     | CDMA BC1                              | (1851 to 1909) MHz |
|                                     | CDMA BC10                             | (817 to 824) MHz   |
|                                     | LTE Band 2                            | (1850 to 1910) MHz |
|                                     | LTE Band 4                            | (1710 to 1755) MHz |
|                                     | LTE Band 5                            | (820 to 850) MHz   |
|                                     | LTE Band 13                           | (775 to 790) MHz   |
|                                     | LTE Band 17                           | (705 to 715) MHz   |
|                                     | LTE Band 25                           | (1850 to 1915) MHz |
|                                     | 2.4 GHz Wi-Fi 802.11b/g/n             | (2412 to 2462) MHz |
|                                     | 5.0 GHz Sub band 1 - Wi-Fi 802.11a/n  | (5180 to 5240) MHz |
|                                     | 5.0 GHz Sub band 2A - Wi-Fi 802.11a/n | (5260 to 5320) MHz |
|                                     | 5.0 GHz Sub band 2C - Wi-Fi 802.11a/n | (5500 to 5700) MHz |
|                                     | 5.0 GHz Sub band 3 - Wi-Fi 802.11a/n  | (5745 to 5825) MHz |
|                                     | Bluetooth                             | (2402 to 2480) MHz |

**Wireless Technologies (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          |
|                                                          | WCDMA FDD 2 | 9262           | Low                 | 1852.4          |
|                                                          |             | 9400           | Middle              | 1880.0          |
|                                                          |             | 9538           | High                | 1907.6          |
|                                                          | WCDMA FDD 4 | 1312           | Low                 | 1712.4          |
|                                                          |             | 1412           | Middle              | 1732.6          |
|                                                          |             | 1513           | High                | 1752.6          |
|                                                          | WCDMA FDD 5 | 4132           | Low                 | 826.4           |
|                                                          |             | 4183           | Middle              | 836.6           |
|                                                          |             | 4233           | High                | 846.6           |
|                                                          | CDMA BC 0   | 1013           | Low                 | 824.70          |
|                                                          |             | 384            | Middle              | 836.52          |
|                                                          |             | 777            | High                | 848.31          |
|                                                          | CDMA BC 1   | 25             | Low                 | 1851.25         |
|                                                          |             | 600            | Middle              | 1880.00         |
|                                                          |             | 1175           | High                | 1908.75         |
|                                                          | CDMA BC 10  | 476            | Low                 | 817.90          |
|                                                          |             | 580            | Middle              | 820.50          |
|                                                          |             | 684            |                     | 823.10          |
|                                                          | 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 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           |
|                                                          | LTE Band 25 | 26140          | Low                 | 1860.0          |
|                                                          |             | 26365          | Middle              | 1882.5          |
|                                                          |             | 26590          | High                | 1905.0          |

**Wireless Technologies (Continued):**

| Transmitter Frequency Allocation of EUT<br>When Under Test: | Band: 2.4 / 5.0 GHz Wi-Fi 802.11a/n (HT20 / HT40 / HT80) |                   |               |                   |               |                   |               |        |        |
|-------------------------------------------------------------|----------------------------------------------------------|-------------------|---------------|-------------------|---------------|-------------------|---------------|--------|--------|
|                                                             | Rule                                                     | 20 MHz<br>BW Ch.# | Frq.<br>(MHz) | 40 MHz<br>BW 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        |                   |               |        |        |
|                                                             |                                                          | 40                | 5200.0        | 42                |               |                   |               | 5210.0 |        |
|                                                             |                                                          | 44                | 5220.0        |                   |               |                   |               |        | 46     |
|                                                             |                                                          | 48                | 5240.0        |                   |               |                   |               |        |        |
|                                                             | 5.3<br>U-NII-2A                                          | 52                | 5260.0        | 54                | 5270.0        |                   |               |        |        |
|                                                             |                                                          | 56                | 5280.0        | 58                |               |                   |               | 5290.0 |        |
|                                                             |                                                          | 60                | 5300.0        |                   |               |                   |               |        | 62     |
|                                                             |                                                          | 64                | 5320.0        |                   |               |                   |               |        |        |
|                                                             | 5.6<br>U-NII-2C                                          | 100               | 5500.0        | 102               | 5510.0        |                   |               |        |        |
|                                                             |                                                          | 104               | 5520.0        | 106               |               |                   |               | 5530.0 |        |
|                                                             |                                                          | 108               | 5540.0        |                   |               |                   |               |        | 110    |
|                                                             |                                                          | 112               | 5560.0        |                   |               |                   |               |        |        |
|                                                             |                                                          | 116               | 5580.0        | 118               | 5590.0        |                   |               |        |        |
|                                                             |                                                          | 120               | 5600.0        | 122               |               |                   |               | 5610.0 |        |
|                                                             |                                                          | 124               | 5620.0        |                   |               |                   |               |        | 126    |
|                                                             |                                                          | 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        |                   |               |        |        |
| 153                                                         |                                                          | 5765.0            | 155           |                   | 5775.0        |                   |               |        |        |
| 157                                                         |                                                          | 5785.0            |               |                   |               |                   |               | 159    | 5795.0 |
| 161                                                         |                                                          | 5805.0            |               |                   |               |                   |               |        |        |
| 165                                                         |                                                          | 5825.0            |               |                   |               |                   |               |        |        |
| Antenna Type:                                               | Internal integral                                        |                   |               |                   |               |                   |               |        |        |
| Antenna Length:                                             | As specified in <a href="#">Appendix 12.1</a>            |                   |               |                   |               |                   |               |        |        |
| Number of Antenna Positions:                                | WWAN ~ LTE / WCDMA / GSM (Cellular Main)                 |                   |               |                   |               | 1 fixed           |               |        |        |
|                                                             | WWAN ~ LTE / WCDMA / GSM (Cellular Diversity – Rx only)  |                   |               |                   |               | 1 fixed           |               |        |        |
|                                                             | WLAN/ BT (Main)                                          |                   |               |                   |               | 1 fixed           |               |        |        |
|                                                             | WLAN (AUX)                                               |                   |               |                   |               | 1 fixed           |               |        |        |
|                                                             | NFC                                                      |                   |               |                   |               | 1 fixed           |               |        |        |
|                                                             | GPS                                                      |                   |               |                   |               | 1 fixed           |               |        |        |

**6.3. Nominal and Maximum Output Power**

(From customer)

|                                           |                             | RF Output Power (dBm) |                              |
|-------------------------------------------|-----------------------------|-----------------------|------------------------------|
| RF Air interface                          | Mode                        | Target                | Max. tune-up tolerance limit |
| GSM850<br>(Proximity Sensor Active)       | GPRS / EGPRS 1 slot (GMSK)  | 32.0                  | -1.0~+1.0                    |
|                                           | GPRS / EGPRS 2 slots (GMSK) | 32.0                  | -1.0~+1.0                    |
|                                           | GPRS / EGPRS 3 slots (GMSK) | 28.5                  | -1.0~+1.0                    |
|                                           | GPRS / EGPRS 4 slots (GMSK) | 26.5                  | -1.0~+1.0                    |
|                                           | EGPRS 1 slot (8PSK)         | 27.0                  | -1.0~+1.0                    |
|                                           | EGPRS 2 slots (8PSK)        | 27.0                  | -1.0~+1.0                    |
|                                           | EGPRS 3 slots (8PSK)        | 27.0                  | -1.0~+1.0                    |
|                                           | EGPRS 4 slots (8PSK)        | 27.0                  | -1.0~+1.0                    |
| GSM850<br>(Proximity Sensor Inactive)     | GPRS / EGPRS 1 slot (GMSK)  | 25.5                  | -1.0~+1.0                    |
|                                           | GPRS / EGPRS 2 slots (GMSK) | 22.5                  | -1.0~+1.0                    |
|                                           | GPRS / EGPRS 3 slots (GMSK) | 20.5                  | -1.0~+1.0                    |
|                                           | GPRS / EGPRS 4 slots (GMSK) | 19.5                  | -1.0~+1.0                    |
|                                           | EGPRS 1 slot (8PSK)         | 26.0                  | -1.0~+1.0                    |
|                                           | EGPRS 2 slots (8PSK)        | 23.0                  | -1.0~+1.0                    |
|                                           | EGPRS 3 slots (8PSK)        | 21.0                  | -1.0~+1.0                    |
|                                           | EGPRS 4 slots (8PSK)        | 20.0                  | -1.0~+1.0                    |
| PCS1900<br>(Proximity Sensor Active)      | GPRS / EGPRS 1 slot (GMSK)  | 29.0                  | -1.0~+1.0                    |
|                                           | GPRS / EGPRS 2 slots (GMSK) | 29.0                  | -1.0~+1.0                    |
|                                           | GPRS / EGPRS 3 slots (GMSK) | 26.5                  | -1.0~+1.0                    |
|                                           | GPRS / EGPRS 4 slots (GMSK) | 25.5                  | -1.0~+1.0                    |
|                                           | EGPRS 1 slot (8PSK)         | 26.0                  | -1.0~+1.0                    |
|                                           | EGPRS 2 slots (8PSK)        | 26.0                  | -1.0~+1.0                    |
|                                           | EGPRS 3 slots (8PSK)        | 26.0                  | -1.0~+1.0                    |
|                                           | EGPRS 4 slots (8PSK)        | 26.0                  | -1.0~+1.0                    |
| PCS1900<br>(Proximity Sensor Inactive)    | GPRS / EGPRS 1 slot (GMSK)  | 24.0                  | -1.0~+1.0                    |
|                                           | GPRS / EGPRS 2 slots (GMSK) | 21.0                  | -1.0~+1.0                    |
|                                           | GPRS / EGPRS 3 slots (GMSK) | 19.0                  | -1.0~+1.0                    |
|                                           | GPRS / EGPRS 4 slots (GMSK) | 18.0                  | -1.0~+1.0                    |
|                                           | EGPRS 1 slot (8PSK)         | 24.0                  | -1.0~+1.0                    |
|                                           | EGPRS 2 slots (8PSK)        | 21.0                  | -1.0~+1.0                    |
|                                           | EGPRS 3 slots (8PSK)        | 19.0                  | -1.0~+1.0                    |
|                                           | EGPRS 4 slots (8PSK)        | 18.0                  | -1.0~+1.0                    |
| UMTS FDD 2<br>(Proximity Sensor Active)   | R99                         | 23.0                  | -1.0 ~ +1.0                  |
| UMTS FDD 2<br>(Proximity Sensor Inactive) | R99                         | 15.0                  | -1.0 ~ +1.0                  |
| UMTS FDD 4<br>(Proximity Sensor Active)   | R99                         | 23.0                  | -1.0 ~ +1.0                  |
| UMTS FDD 4<br>(Proximity Sensor Inactive) | R99                         | 14.0                  | -1.0 ~ +1.0                  |
| UMTS FDD 5<br>(Proximity Sensor Active)   | R99                         | 23.0                  | -1.0 ~ +1.0                  |
| UMTS FDD 5<br>(Proximity Sensor Inactive) | R99                         | 17.0                  | -1.0 ~ +1.0                  |

**Nominal and Maximum Output Power (Continued)**

|                                            |               | RF Output Power (dBm) |                              |
|--------------------------------------------|---------------|-----------------------|------------------------------|
| RF Air interface                           | Mode          | Target                | Max. tune-up tolerance limit |
| CDMA BC 0<br>(Proximity Sensor Active)     | SSMA          | 24.0                  | -1.0 ~ +0.5                  |
| CDMA BC 0<br>(Proximity Sensor Inactive)   | SSMA          | 17.0                  | -1.0 ~ +0.5                  |
| CDMA BC 1<br>(Proximity Sensor Active)     | SSMA          | 24.0                  | -1.0 ~ +0.5                  |
| CDMA BC 1<br>(Proximity Sensor Inactive)   | SSMA          | 15.0                  | -1.0 ~ +0.5                  |
| CDMA BC 10<br>(Proximity Sensor Active)    | SSMA          | 24.0                  | -1.0 ~ +0.5                  |
| CDMA BC 10<br>(Proximity Sensor Inactive)  | SSMA          | 17.0                  | -1.0 ~ +0.5                  |
| LTE Band 2<br>(Proximity Sensor Active)    | QPSK (1RB)    | 23.0                  | -1.0 ~ +1.0                  |
|                                            | QPSK (50%RB)  | 22.0                  | -1.0 ~ +1.0                  |
|                                            | QPSK (100%RB) | 22.0                  | -1.0 ~ +1.0                  |
| LTE Band 2<br>(Proximity Sensor Inactive)  | QPSK (1RB)    | 14.0                  | -1.0 ~ +1.0                  |
|                                            | QPSK (50%RB)  | 14.0                  | -1.0 ~ +1.0                  |
|                                            | QPSK (100%RB) | 14.0                  | -1.0 ~ +1.0                  |
| LTE Band 4<br>(Proximity Sensor Active)    | QPSK (1RB)    | 23.0                  | -1.0 ~ +1.0                  |
|                                            | QPSK (50%RB)  | 22.0                  | -1.0 ~ +1.0                  |
|                                            | QPSK (100%RB) | 22.0                  | -1.0 ~ +1.0                  |
| LTE Band 4<br>(Proximity Sensor Inactive)  | QPSK (1RB)    | 13.5                  | -1.0 ~ +1.0                  |
|                                            | QPSK (50%RB)  | 13.5                  | -1.0 ~ +1.0                  |
|                                            | QPSK (100%RB) | 13.5                  | -1.0 ~ +1.0                  |
| LTE Band 5<br>(Proximity Sensor Active)    | QPSK (1RB)    | 23.0                  | -1.0 ~ +1.0                  |
|                                            | QPSK (50%RB)  | 22.0                  | -1.0 ~ +1.0                  |
|                                            | QPSK (100%RB) | 22.0                  | -1.0 ~ +1.0                  |
| LTE Band 5<br>(Proximity Sensor Inactive)  | QPSK (1RB)    | 16.0                  | -1.0 ~ +1.0                  |
|                                            | QPSK (50%RB)  | 16.0                  | -1.0 ~ +1.0                  |
|                                            | QPSK (100%RB) | 16.0                  | -1.0 ~ +1.0                  |
| LTE Band 13<br>(Proximity Sensor Active)   | QPSK (1RB)    | 23.0                  | -1.0 ~ +1.0                  |
|                                            | QPSK (50%RB)  | 22.0                  | -1.0 ~ +1.0                  |
|                                            | QPSK (100%RB) | 22.0                  | -1.0 ~ +1.0                  |
| LTE Band 13<br>(Proximity Sensor Inactive) | QPSK (1RB)    | 17.0                  | -1.0 ~ +1.0                  |
|                                            | QPSK (50%RB)  | 17.0                  | -1.0 ~ +1.0                  |
|                                            | QPSK (100%RB) | 17.0                  | -1.0 ~ +1.0                  |

**Nominal and Maximum Output Power (Continued)**

|                                            |               | RF Output Power (dBm) |                              |
|--------------------------------------------|---------------|-----------------------|------------------------------|
| RF Air interface                           | Mode          | Target                | Max. tune-up tolerance limit |
| LTE Band 17<br>(Proximity Sensor Active)   | QPSK (1RB)    | 23.0                  | -1.0 ~ +1.0                  |
|                                            | QPSK (50%RB)  | 22.0                  | -1.0 ~ +1.0                  |
|                                            | QPSK (100%RB) | 22.0                  | -1.0 ~ +1.0                  |
| LTE Band 17<br>(Proximity Sensor Inactive) | QPSK (1RB)    | 14.5                  | -1.0 ~ +1.0                  |
|                                            | QPSK (50%RB)  | 14.5                  | -1.0 ~ +1.0                  |
|                                            | QPSK (100%RB) | 14.5                  | -1.0 ~ +1.0                  |
| LTE Band 25<br>(Proximity Sensor Active)   | QPSK (1RB)    | 23.0                  | -1.0 ~ +1.0                  |
|                                            | QPSK (50%RB)  | 22.0                  | -1.0 ~ +1.0                  |
|                                            | QPSK (100%RB) | 22.0                  | -1.0 ~ +1.0                  |
| LTE Band 25<br>(Proximity Sensor Inactive) | QPSK (1RB)    | 13.5                  | -1.0 ~ +1.0                  |
|                                            | QPSK (50%RB)  | 13.5                  | -1.0 ~ +1.0                  |
|                                            | QPSK (100%RB) | 13.5                  | -1.0 ~ +1.0                  |

|                                 |              | RF Output Power (dBm)                   |                     |                       |
|---------------------------------|--------------|-----------------------------------------|---------------------|-----------------------|
| RF Air interface                | Mode         | Maximum Power Including Upper Tolerance |                     |                       |
|                                 |              | SISO<br>Ant 1 (Main)                    | SISO<br>Ant 2 (Aux) | MIMO<br>Ant 1 + Ant 2 |
| Wi-Fi 2.4 GHz                   | 802.11b      | 12.0                                    | 12.0                | 12.0                  |
|                                 | 802.11g      | 12.0                                    | 12.0                | 12.0                  |
|                                 | 802.11n HT20 | 12.0                                    | 12.0                | 12.0                  |
| Wi-Fi 5.2 / 5.3 / 5.5 / 5.8 GHz | 802.11a      | 13.0                                    | 13.0                | 13.0                  |
|                                 | 802.11n HT20 | 12.0                                    | 12.0                | 12.0                  |
|                                 | 802.11n HT40 | 12.0                                    | 12.0                | 12.0                  |
| Bluetooth                       | EDR (GFSK)   | 9.0                                     | -                   | -                     |
|                                 | EDR (DQPSK)  | 6.0                                     | -                   | -                     |
|                                 | EDR (8-PSK)  | 6.0                                     | -                   | -                     |
|                                 | LE           | 8.0                                     | -                   | -                     |

## 7. RF Exposure Conditions

### 7.1. Power Reduction by Proximity Sensing

EUT uses capacitive proximity sensing to reduce the power in the cellular mode. The proximity sensor does have an effect to WLAN and Bluetooth bands. Refer Appendix 12.1 for Antenna schematics.

#### Back and Side Triggering Distances:

The Proximity sensors are located near the cellular main antenna and trigger on the 'Back' and on the 'Top Edge' of the EUT.

SAR proximity sensor's detection distance was determined as described in FCC 616217 D04, SAR v01r01 paragraph 6.2:

| Back side trigger 3mm steps |      |      |      |      |      |      |      |      |      |      |     |     |     |
|-----------------------------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|
| 40mm                        | 37mm | 34mm | 31mm | 28mm | 25mm | 22mm | 19mm | 16mm | 13mm | 10mm | 7mm | 4mm | 0mm |
| OFF                         | OFF  | OFF  | OFF  | OFF  | OFF  | OFF  | OFF  | OFF  | ON   | ON   | ON  | ON  | ON  |

| Back side trigger 1mm steps |      |      |      |      |      |      |      |      |     |     |     |     |     |
|-----------------------------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|
| 18mm                        | 17mm | 16mm | 15mm | 14mm | 13mm | 12mm | 11mm | 10mm | 9mm | 8mm | 7mm | 6mm | 0mm |
| OFF                         | OFF  | OFF  | ON   | ON   | ON   | ON   | ON   | ON   | ON  | ON  | ON  | ON  | ON  |

| Top edge trigger 3mm steps |      |      |      |      |      |      |      |      |      |      |     |     |     |
|----------------------------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|
| 40mm                       | 37mm | 34mm | 31mm | 28mm | 25mm | 22mm | 19mm | 16mm | 13mm | 10mm | 7mm | 4mm | 0mm |
| OFF                        | OFF  | OFF  | OFF  | OFF  | OFF  | OFF  | OFF  | OFF  | ON   | ON   | ON  | ON  | ON  |

| Top edge trigger 1mm steps |      |      |      |      |      |     |     |     |     |     |     |     |     |
|----------------------------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| 15mm                       | 14mm | 13mm | 12mm | 11mm | 10mm | 9mm | 8mm | 7mm | 6mm | 5mm | 4mm | 3mm | 0mm |
| OFF                        | OFF  | ON   | ON   | ON   | ON   | ON  | ON  | ON  | ON  | ON  | ON  | ON  | ON  |

| Tilt angle test, distance 13mm |      |      |      |      |      |    |     |     |     |     |     |     |     |
|--------------------------------|------|------|------|------|------|----|-----|-----|-----|-----|-----|-----|-----|
| -50°                           | -45° | -40° | -30° | -20° | -10° | 0° | 10° | 20° | 30° | 40° | 45° | 50° | 60° |
| OFF                            | ON   | ON   | ON   | ON   | ON   | ON | ON  | ON  | ON  | ON  | ON  | ON  | ON  |

The most conservative human proximity detection distances are 13mm for top edge and 15mm for back side. It is made sure that the tablet can be tilted at least  $\pm 45$  degrees along the top edge at 13mm distance without restoring full output power.

#### SAR Test Distances and Summary:

|         |               | Back Side   | Front Side | Secondary Landscape (top) | Primary Landscape (bottom) | Secondary Portrait (right) | Primary Portrait (left) |
|---------|---------------|-------------|------------|---------------------------|----------------------------|----------------------------|-------------------------|
| 2G/UMTS | Full Power    | Yes<br>12mm | N/A        | Yes<br>14mm               | No<br>>5cm (1)             | No<br>>5cm (1)             | Yes<br>0mm              |
|         | Reduced Power | Yes<br>0mm  | N/A        | Yes<br>0mm                | No<br>>5cm (1)             | No<br>>5cm (1)             | No                      |
| WLAN/BT | Full Power    | Yes<br>0mm  | N/A        | Yes<br>0mm                | Yes<br>0mm                 | Yes<br>0mm                 | No<br>>5cm (1)          |

Note:

- The distance is 0mm to the flat phantom, and SAR evaluation is required for back side and the edges with the antenna within 5cm to the user.

## 7.2. Test Configurations

According to the KDB 447498 D01 v05r02, for standalone SAR evaluation the test exclusion power condition is given by

$$\frac{\text{Max Power, mW}}{\text{test distance, mm}} \cdot \sqrt{f(\text{GHz})} \leq 3.0$$

for test separation distance  $\leq 50\text{mm}$ . For test separation distance  $> 50\text{mm}$ , the SAR test exclusion threshold is:

$$P_{TH} [\text{mW}] = \text{Power allowed at numeric threshold for } 50\text{mm} + (\text{test distance, mm} - 50\text{mm}) \cdot \frac{f[\text{MHz}]}{150},$$

$100\text{MHz} < f < 1500 \text{ MHz}$

$$P_{TH} [\text{mW}] = \text{Power allowed at numeric threshold for } 50\text{mm} + (\text{test distance, mm} - 50\text{mm}) \cdot 10,$$

$1500\text{MHz} < f < 6 \text{ GHz}$

The antenna separation distances from the edges are mentioned in the table below:

|                           | <b>Front</b> | <b>Back</b> | <b>Left</b> | <b>Top</b> | <b>Right</b> | <b>Bottom</b> |
|---------------------------|--------------|-------------|-------------|------------|--------------|---------------|
| <b>Cellular Main</b>      | 3.6 mm       | 2.4 mm      | 42.0 mm     | 2.8 mm     | 132.0 mm     | 135.0 mm      |
| <b>Cellular Diversity</b> | 3.4 mm       | 1.7 mm      | 1.8 mm      | 15.0 mm    | 217.5 mm     | 80.0 mm       |
| <b>WLAN Main</b>          | 7.4 mm       | 2.8 mm      | 218.2 mm    | 19.0 mm    | 3.7 mm       | 120.0 mm      |
| <b>WLAN AUX</b>           | 7.4 mm       | 2.8 mm      | 218.2 mm    | 101.0 mm   | 3.7 mm       | 38.0 mm       |
| <b>GPS</b>                | 7.4 mm       | 2.8 mm      | 181.44 mm   | 4.5 mm     | 35.56 mm     | 140.0 mm      |
| <b>NFC</b>                | 11.00 mm     | 1.3 mm      | 187.0mm     | 21.0 mm    | 15.0 mm      | 83.0 mm       |

## Test Configurations (Continued)

| Band      | Channel | Frequency (GHz) | Max Power (dBm) | Max Power (mW) | Front         |                                     | Back          |                                     | Left          |                                     | Right         |                                     | Top           |                                     | Bottom        |                                     |
|-----------|---------|-----------------|-----------------|----------------|---------------|-------------------------------------|---------------|-------------------------------------|---------------|-------------------------------------|---------------|-------------------------------------|---------------|-------------------------------------|---------------|-------------------------------------|
|           |         |                 |                 |                | Distance (mm) | SAR Test Exclusion Threshold Result | Distance (mm) | SAR Test Exclusion Threshold Result | Distance (mm) | SAR Test Exclusion Threshold Result | Distance (mm) | SAR Test Exclusion Threshold Result | Distance (mm) | SAR Test Exclusion Threshold Result | Distance (mm) | SAR Test Exclusion Threshold Result |
| CELLULAR  |         |                 |                 |                |               |                                     |               |                                     |               |                                     |               |                                     |               |                                     |               |                                     |
| GSM850    | 128     | 0.8242          | 33.0            | 1995.26        | 5.00          | N/A                                 | 5.00          | 362.28                              | 42.00         | 43.13                               | 132.00        | 13.72                               | 5.00          | 362.28                              | 135.00        | 13.42                               |
| PCS1900   | 661     | 1.8800          | 30.0            | 1000.00        | 5.00          | N/A                                 | 5.00          | 274.23                              | 42.00         | 32.65                               | 132.00        | 10.39                               | 5.00          | 274.23                              | 135.00        | 10.16                               |
| UMTS 2    | 9538    | 1.9076          | 24.0            | 251.19         | 5.00          | N/A                                 | 5.00          | 69.39                               | 42.00         | 8.26                                | 132.00        | 2.63                                | 5.00          | 69.39                               | 135.00        | 2.57                                |
| UMTS 4    | 1412    | 1.7324          | 24.0            | 251.19         | 5.00          | N/A                                 | 5.00          | 66.12                               | 42.00         | 7.87                                | 132.00        | 2.50                                | 5.00          | 66.12                               | 135.00        | 2.45                                |
| UMTS 5    | 4233    | 0.8466          | 24.0            | 251.19         | 5.00          | N/A                                 | 5.00          | 46.22                               | 42.00         | 5.50                                | 132.00        | 1.75                                | 5.00          | 46.22                               | 135.00        | 1.71                                |
| CMDA BC0  | 384     | 0.8365          | 24.5            | 281.84         | 5.00          | N/A                                 | 5.00          | 51.55                               | 42.00         | 6.14                                | 132.00        | 1.95                                | 5.00          | 51.55                               | 135.00        | 1.91                                |
| CDMA BC1  | 600     | 0.1880          | 24.5            | 281.84         | 5.00          | N/A                                 | 5.00          | 24.44                               | 42.00         | 2.91                                | 132.00        | 0.93                                | 5.00          | 24.44                               | 135.00        | 0.91                                |
| CDMA BC10 | 580     | 0.8205          | 24.5            | 281.84         | 5.00          | N/A                                 | 5.00          | 51.06                               | 42.00         | 6.08                                | 132.00        | 1.93                                | 5.00          | 51.06                               | 135.00        | 1.89                                |
| LTE 2     | 19100   | 1.9000          | 24.0            | 251.19         | 5.00          | N/A                                 | 5.00          | 69.25                               | 42.00         | 8.24                                | 132.00        | 2.62                                | 5.00          | 69.25                               | 135.00        | 2.56                                |
| LTE 4     | 20050   | 1.7200          | 24.0            | 251.19         | 5.00          | N/A                                 | 5.00          | 65.89                               | 42.00         | 7.84                                | 132.00        | 2.50                                | 5.00          | 65.89                               | 135.00        | 2.44                                |
| LTE 5     | 20450   | 0.8290          | 24.0            | 251.19         | 5.00          | N/A                                 | 5.00          | 45.74                               | 42.00         | 5.45                                | 132.00        | 1.73                                | 5.00          | 45.74                               | 135.00        | 1.69                                |
| LTE 13    | 23230   | 0.7820          | 24.0            | 251.19         | 5.00          | N/A                                 | 5.00          | 44.43                               | 42.00         | 5.29                                | 132.00        | 1.68                                | 5.00          | 44.43                               | 135.00        | 1.65                                |
| LTE 17    | 23790   | 0.7100          | 24.0            | 251.19         | 5.00          | N/A                                 | 5.00          | 42.33                               | 42.00         | 5.04                                | 132.00        | 1.60                                | 5.00          | 42.33                               | 135.00        | 1.57                                |
| LTE 25    | 26365   | 1.8825          | 24.0            | 251.19         | 5.00          | N/A                                 | 5.00          | 68.93                               | 42.00         | 8.21                                | 132.00        | 2.61                                | 5.00          | 68.93                               | 135.00        | 2.55                                |

|                 | Band           | Channel | Frequency (GHz) | Max Power (dBm) | Max Power (mW) | Front         |                                     | Back          |                                     | Left          |                                     | Right         |                                     | Top           |                                     | Bottom        |                                     |
|-----------------|----------------|---------|-----------------|-----------------|----------------|---------------|-------------------------------------|---------------|-------------------------------------|---------------|-------------------------------------|---------------|-------------------------------------|---------------|-------------------------------------|---------------|-------------------------------------|
|                 |                |         |                 |                 |                | Distance (mm) | SAR Test Exclusion Threshold Result | Distance (mm) | SAR Test Exclusion Threshold Result | Distance (mm) | SAR Test Exclusion Threshold Result | Distance (mm) | SAR Test Exclusion Threshold Result | Distance (mm) | SAR Test Exclusion Threshold Result | Distance (mm) | SAR Test Exclusion Threshold Result |
|                 | WLAN / WPAN    |         |                 |                 |                |               |                                     |               |                                     |               |                                     |               |                                     |               |                                     |               |                                     |
| WLAN/ BT (MAIN) | WLAN 2.4       | 11      | 2.4620          | 12.0            | 15.85          | 7.40          | N/A                                 | 5.00          | 4.97                                | 218.20        | 0.11                                | 5.00          | 4.97                                | 19.00         | 1.31                                | 120.00        | 0.21                                |
|                 | WLAN 5.2       | 36      | 5.1800          | 13.0            | 19.95          | 7.40          | N/A                                 | 5.00          | 9.08                                | 218.20        | 0.21                                | 5.00          | 9.08                                | 19.00         | 2.39                                | 120.00        | 0.38                                |
|                 | WLAN 5.3       | 52      | 5.2600          | 13.0            | 19.95          | 7.40          | N/A                                 | 5.00          | 9.15                                | 218.20        | 0.21                                | 5.00          | 9.15                                | 19.00         | 2.41                                | 120.00        | 0.38                                |
|                 | WLAN 5.6       | 100     | 5.5000          | 13.0            | 19.95          | 7.40          | N/A                                 | 5.00          | 9.36                                | 218.20        | 0.21                                | 5.00          | 9.36                                | 19.00         | 2.46                                | 120.00        | 0.39                                |
|                 | WLAN 5.8       | 149     | 5.7450          | 13.0            | 19.95          | 7.40          | N/A                                 | 5.00          | 9.56                                | 218.20        | 0.22                                | 5.00          | 9.56                                | 19.00         | 2.52                                | 120.00        | 0.40                                |
|                 | Bluetooth® 2.4 | 78      | 2.4800          | 9.0             | 7.94           | 7.40          | N/A                                 | 5.00          | 2.50                                | 218.20        | 0.06                                | 5.00          | 2.50                                | 19.00         | 0.66                                | 120.00        | 0.10                                |
| WLAN (AUX)      | WLAN 2.4       | 11      | 2.4620          | 12.0            | 15.85          | 7.40          | N/A                                 | 5.00          | 4.97                                | 218.20        | 0.11                                | 5.00          | 4.97                                | 101.00        | 0.25                                | 38.00         | 0.65                                |
|                 | WLAN 5.2       | 36      | 5.1800          | 13.0            | 19.95          | 7.40          | N/A                                 | 5.00          | 9.08                                | 218.20        | 0.21                                | 5.00          | 9.08                                | 101.00        | 0.45                                | 38.00         | 1.20                                |
|                 | WLAN 5.3       | 52      | 5.2600          | 13.0            | 19.95          | 7.40          | N/A                                 | 5.00          | 9.15                                | 218.20        | 0.21                                | 5.00          | 9.15                                | 101.00        | 0.45                                | 38.00         | 1.20                                |
|                 | WLAN 5.6       | 100     | 5.5000          | 13.0            | 19.95          | 7.40          | N/A                                 | 5.00          | 9.36                                | 218.20        | 0.21                                | 5.00          | 9.36                                | 101.00        | 0.46                                | 38.00         | 1.23                                |
|                 | WLAN 5.8       | 149     | 5.7450          | 13.0            | 19.95          | 7.40          | N/A                                 | 5.00          | 9.56                                | 218.20        | 0.22                                | 5.00          | 9.56                                | 101.00        | 0.47                                | 38.00         | 1.26                                |

Key

Qualified for Test Exclusion.

# Although Bluetooth qualifies for Low Power Exemption, testing was performed on Body configuration to give the exact SAR levels.

## 8. Conducted output power measurements

### 8.1. RF Output Average Power Measurements: GSM850

#### 8.1.1. GSM850 - Proximity Sensor Active

| Voice Mode GSM (GMSK)             |                 |                       |         |               |         |                   |         |               |         |
|-----------------------------------|-----------------|-----------------------|---------|---------------|---------|-------------------|---------|---------------|---------|
| Channel Number                    |                 | Frequency (MHZ)       |         |               |         | Avg Power (dBm)   |         |               |         |
| 128                               |                 | 824.2                 |         |               |         | Not Supported     |         |               |         |
| 190                               |                 | 836.6                 |         |               |         | Not Supported     |         |               |         |
| 251                               |                 | 848.8                 |         |               |         | Not Supported     |         |               |         |
| 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           | 25.8                  | 23.1    | Not Supported |         | 16.8              | 17.1    | Not Supported |         |
| 190                               | 836.6           | 25.7                  | 23.2    |               |         | 16.7              | 17.2    |               |         |
| 251                               | 848.8           | 25.7                  | 23.1    |               |         | 16.7              | 17.1    |               |         |
| EDGE (GMSK) – Coding Scheme: MCS4 |                 |                       |         |               |         |                   |         |               |         |
| Channel Number                    | Frequency (MHZ) | Avg Burst Power (dBm) |         |               |         | Frame Power (dBm) |         |               |         |
|                                   |                 | 1Uplink               | 2Uplink | 3Uplink       | 4Uplink | 1Uplink           | 2Uplink | 3Uplink       | 4Uplink |
| 128                               | 824.2           | 25.8                  | 23.1    | 21.0          | 20.2    | 16.8              | 17.1    | 16.7          | 17.2    |
| 190                               | 836.6           | 25.8                  | 23.1    | 21.3          | 20.2    | 16.8              | 17.1    | 17.0          | 17.2    |
| 251                               | 848.8           | 25.8                  | 23.0    | 21.2          | 20.2    | 16.8              | 17.0    | 16.9          | 17.2    |
| EDGE (8PSK) – Coding Scheme: MCS9 |                 |                       |         |               |         |                   |         |               |         |
| Channel Number                    | Frequency (MHZ) | Avg Burst Power (dBm) |         |               |         | Frame Power (dBm) |         |               |         |
|                                   |                 | 1Uplink               | 2Uplink | 3Uplink       | 4Uplink | 1Uplink           | 2Uplink | 3Uplink       | 4Uplink |
| 128                               | 824.2           | 25.7                  | 22.6    | 21.0          | 20.2    | 16.7              | 16.6    | 16.7          | 17.2    |
| 190                               | 836.6           | 25.7                  | 22.6    | 21.0          | 20.2    | 16.7              | 16.6    | 16.7          | 17.2    |
| 251                               | 848.8           | 25.7                  | 22.6    | 21.0          | 20.1    | 16.7              | 16.6    | 16.7          | 17.1    |
| Note:                             |                 |                       |         |               |         |                   |         |               |         |

#### Scale factor for uplink time slot:

- 1 Uplink: time slot ratio = 8:1 =>  $10 \cdot \log(8/1) = 9.03 \text{ dB}$
- 2 Uplink: time slot ratio = 8:2 =>  $10 \cdot \log(8/2) = 6.02 \text{ dB}$
- 3 Uplink: time slot ratio = 8:3 =>  $10 \cdot \log(8/3) = 4.26 \text{ dB}$
- 4 Uplink: time slot ratio = 8:4 =>  $10 \cdot \log(8/4) = 3.01 \text{ dB}$
- The worst-case configuration and mode for SAR testing is determined to be as follows:
  - Body-worn SAR: GMSK (GPRS) mode with **2 uplink**, based on the output power measurements above

**8.1.2. GSM850 - Proximity Sensor Inactive**

| Voice Mode GSM (GMSK)             |                 |                       |         |               |         |                   |         |               |         |
|-----------------------------------|-----------------|-----------------------|---------|---------------|---------|-------------------|---------|---------------|---------|
| Channel Number                    |                 | Frequency (MHZ)       |         |               |         | Avg Power (dBm)   |         |               |         |
| 128                               |                 | 824.2                 |         |               |         | Not Supported     |         |               |         |
| 190                               |                 | 836.6                 |         |               |         | Not Supported     |         |               |         |
| 251                               |                 | 848.8                 |         |               |         | Not Supported     |         |               |         |
| 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           | 31.9                  | 31.8    | Not supported |         | 22.9              | 25.8    | Not supported |         |
| 190                               | 836.6           | 32.2                  | 32.0    |               |         | 23.2              | 26.0    |               |         |
| 251                               | 848.8           | 32.1                  | 32.0    |               |         | 23.1              | 26.0    |               |         |
| EDGE (GMSK) – Coding Scheme: MCS4 |                 |                       |         |               |         |                   |         |               |         |
| Channel Number                    | Frequency (MHZ) | Avg Burst Power (dBm) |         |               |         | Frame Power (dBm) |         |               |         |
|                                   |                 | 1Uplink               | 2Uplink | 3Uplink       | 4Uplink | 1Uplink           | 2Uplink | 3Uplink       | 4Uplink |
| 128                               | 824.2           | 31.8                  | 32.1    | 28.3          | 26.2    | 22.8              | 26.1    | 24.0          | 23.2    |
| 190                               | 836.6           | 32.1                  | 32.0    | 28.3          | 26.4    | 23.1              | 26.0    | 24.0          | 23.4    |
| 251                               | 848.8           | 32.1                  | 32.0    | 28.4          | 26.3    | 23.1              | 26.0    | 24.1          | 23.3    |
| EDGE (8PSK) – Coding Scheme: MCS9 |                 |                       |         |               |         |                   |         |               |         |
| Channel Number                    | Frequency (MHZ) | Avg Burst Power (dBm) |         |               |         | Frame Power (dBm) |         |               |         |
|                                   |                 | 1Uplink               | 2Uplink | 3Uplink       | 4Uplink | 1Uplink           | 2Uplink | 3Uplink       | 4Uplink |
| 128                               | 824.2           | 26.3                  | 26.1    | 26.0          | 26.0    | 17.3              | 20.1    | 21.7          | 23.0    |
| 190                               | 836.6           | 26.3                  | 26.1    | 26.0          | 26.0    | 17.3              | 20.1    | 21.7          | 23.0    |
| 251                               | 848.8           | 26.3                  | 26.1    | 26.0          | 26.0    | 17.3              | 20.1    | 21.7          | 23.0    |
| Note:                             |                 |                       |         |               |         |                   |         |               |         |

**Scale factor for uplink time slot:**

- 1 Uplink: time slot ratio = 8:1 =>  $10 \cdot \log(8/1) = 9.03 \text{ dB}$
- 2 Uplink: time slot ratio = 8:2 =>  $10 \cdot \log(8/2) = 6.02 \text{ dB}$
- 3 Uplink: time slot ratio = 8:3 =>  $10 \cdot \log(8/3) = 4.26 \text{ dB}$
- 4 Uplink: time slot ratio = 8:4 =>  $10 \cdot \log(8/4) = 3.01 \text{ dB}$
- The worst-case configuration and mode for SAR testing is determined to be as follows:
  - Body-worn SAR: GMSK (GPRS) mode with **2 uplink**, based on the output power measurements above

**8.1.3. PCS1900 - Proximity Sensor Active**

| Voice Mode GSM (GMSK)             |                 |                       |         |               |         |                   |         |               |         |
|-----------------------------------|-----------------|-----------------------|---------|---------------|---------|-------------------|---------|---------------|---------|
| Channel Number                    |                 | Frequency (MHZ)       |         |               |         | Avg Power (dBm)   |         |               |         |
| 512                               |                 | 1850.2                |         |               |         | Not Supported     |         |               |         |
| 661                               |                 | 1880.0                |         |               |         | Not Supported     |         |               |         |
| 810                               |                 | 1909.8                |         |               |         | Not Supported     |         |               |         |
| 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          | 23.4                  | 20.8    | Not supported |         | 14.4              | 14.8    | Not supported |         |
| 661                               | 1880.0          | 23.5                  | 21.0    |               |         | 14.5              | 15.0    |               |         |
| 810                               | 1909.8          | 23.4                  | 20.9    |               |         | 14.4              | 14.9    |               |         |
| EDGE (GMSK) – Coding Scheme: MCS4 |                 |                       |         |               |         |                   |         |               |         |
| Channel Number                    | Frequency (MHZ) | Avg Burst Power (dBm) |         |               |         | Frame Power (dBm) |         |               |         |
|                                   |                 | 1Uplink               | 2Uplink | 3Uplink       | 4Uplink | 1Uplink           | 2Uplink | 3Uplink       | 4Uplink |
| 512                               | 1850.2          | 23.5                  | 20.8    | 19.3          | 18.0    | 14.5              | 14.8    | 15.0          | 15.0    |
| 661                               | 1880.0          | 23.5                  | 21.0    | 19.3          | 18.0    | 14.5              | 15.0    | 15.0          | 15.0    |
| 810                               | 1909.8          | 23.5                  | 20.9    | 19.4          | 18.0    | 14.5              | 14.9    | 15.1          | 15.0    |
| EDGE (8PSK) – Coding Scheme: MCS9 |                 |                       |         |               |         |                   |         |               |         |
| Channel Number                    | Frequency (MHZ) | Avg Burst Power (dBm) |         |               |         | Frame Power (dBm) |         |               |         |
|                                   |                 | 1Uplink               | 2Uplink | 3Uplink       | 4Uplink | 1Uplink           | 2Uplink | 3Uplink       | 4Uplink |
| 512                               | 1850.2          | 23.3                  | 20.8    | 19.3          | 18.0    | 14.3              | 14.8    | 15.0          | 15.0    |
| 661                               | 1880.0          | 23.4                  | 21.0    | 19.4          | 18.0    | 14.4              | 15.0    | 15.1          | 15.0    |
| 810                               | 1909.8          | 23.4                  | 21.1    | 19.4          | 18.0    | 14.4              | 15.1    | 15.1          | 15.0    |
| Note:                             |                 |                       |         |               |         |                   |         |               |         |

**Scale factor for uplink time slot:**

- 1 Uplink: time slot ratio = 8:1 =>  $10 \cdot \log(8/1) = 9.03 \text{ dB}$
- 2 Uplink: time slot ratio = 8:2 =>  $10 \cdot \log(8/2) = 6.02 \text{ dB}$
- 3 Uplink: time slot ratio = 8:3 =>  $10 \cdot \log(8/3) = 4.26 \text{ dB}$
- 4 Uplink: time slot ratio = 8:4 =>  $10 \cdot \log(8/4) = 3.01 \text{ dB}$
- The worst-case configuration and mode for SAR testing is determined to be as follows:
  - Body-worn SAR: GMSK (GPRS) mode with 2 **uplink**, based on the output power measurements above

**8.1.4. PCS1900 - Proximity Sensor Inactive**

| Voice Mode GSM (GMSK)             |                 |                       |         |               |         |                   |         |               |         |
|-----------------------------------|-----------------|-----------------------|---------|---------------|---------|-------------------|---------|---------------|---------|
| Channel Number                    |                 | Frequency (MHZ)       |         |               |         | Avg Power (dBm)   |         |               |         |
| 512                               |                 | 1850.2                |         |               |         | Not Supported     |         |               |         |
| 661                               |                 | 1880.0                |         |               |         | Not Supported     |         |               |         |
| 810                               |                 | 1909.8                |         |               |         | Not Supported     |         |               |         |
| 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          | 29.2                  | 29.0    | Not supported |         | 20.2              | 23.0    | Not supported |         |
| 661                               | 1880.0          | 29.3                  | 29.1    |               |         | 20.3              | 23.1    |               |         |
| 810                               | 1909.8          | 29.2                  | 29.0    |               |         | 20.2              | 23.0    |               |         |
| EDGE (GMSK) – Coding Scheme: MCS4 |                 |                       |         |               |         |                   |         |               |         |
| Channel Number                    | Frequency (MHZ) | Avg Burst Power (dBm) |         |               |         | Frame Power (dBm) |         |               |         |
|                                   |                 | 1Uplink               | 2Uplink | 3Uplink       | 4Uplink | 1Uplink           | 2Uplink | 3Uplink       | 4Uplink |
| 512                               | 1850.2          | 29.2                  | 28.9    | 26.4          | 25.1    | 20.2              | 22.9    | 22.1          | 22.1    |
| 661                               | 1880.0          | 29.3                  | 29.2    | 26.4          | 25.2    | 20.3              | 23.2    | 22.1          | 22.2    |
| 810                               | 1909.8          | 29.2                  | 29.0    | 26.4          | 25.2    | 20.2              | 23.0    | 22.1          | 22.2    |
| EDGE (8PSK) – Coding Scheme: MCS9 |                 |                       |         |               |         |                   |         |               |         |
| Channel Number                    | Frequency (MHZ) | Avg Burst Power (dBm) |         |               |         | Frame Power (dBm) |         |               |         |
|                                   |                 | 1Uplink               | 2Uplink | 3Uplink       | 4Uplink | 1Uplink           | 2Uplink | 3Uplink       | 4Uplink |
| 512                               | 1850.2          | 25.1                  | 25.0    | 25.0          | 25.0    | 16.1              | 19.0    | 20.7          | 22.0    |
| 661                               | 1880.0          | 25.1                  | 25.0    | 25.0          | 25.0    | 16.1              | 19.0    | 20.7          | 22.0    |
| 810                               | 1909.8          | 25.1                  | 25.0    | 25.0          | 25.0    | 16.1              | 19.0    | 20.7          | 22.0    |
| Note:                             |                 |                       |         |               |         |                   |         |               |         |

**Scale factor for uplink time slot:**

- 1 Uplink: time slot ratio = 8:1 =>  $10 \cdot \log(8/1) = 9.03 \text{ dB}$
- 2 Uplink: time slot ratio = 8:2 =>  $10 \cdot \log(8/2) = 6.02 \text{ dB}$
- 3 Uplink: time slot ratio = 8:3 =>  $10 \cdot \log(8/3) = 4.26 \text{ dB}$
- 4 Uplink: time slot ratio = 8:4 =>  $10 \cdot \log(8/4) = 3.01 \text{ dB}$
- The worst-case configuration and mode for SAR testing is determined to be as follows:
  - Body-worn SAR: GMSK (GPRS) mode with **2 uplink**, based on the output power measurements above

## 8.2. RF Output Average Power Measurement: WCDMA

### 8.2.1. RMC / HSDPA / HSUPA - Proximity Sensor Active

| Modes             |                      | HSDPA       |             |             |             | HSUPA       |             |             |             |             | WCDMA        |
|-------------------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| Sets              |                      | 1           | 2           | 3           | 4           | 1           | 2           | 3           | 4           | 5           | RMC 12.2kbps |
| Band              | Channel              | Power [dBm] | Power [dBm] | Power [dBm] | Power [dBm] | Power [dBm] | Power [dBm] | Power [dBm] | Power [dBm] | Power [dBm] | Power [dBm]  |
| Band 2 (1900 MHz) | UL: 9262<br>DL: 9662 | 14.3        | 14.2        | 13.9        | 13.8        | 14.6        | 12.6        | 13.6        | 12.6        | 14.7        | 14.8         |
|                   | UL: 9400<br>DL: 9800 | 14.0        | 14.1        | 13.5        | 13.5        | 14.6        | 12.5        | 13.6        | 12.5        | 14.6        | 14.6         |
|                   | UL: 9538<br>DL: 9938 | 14.4        | 14.5        | 13.9        | 14.0        | 14.6        | 12.6        | 13.6        | 12.6        | 14.8        | 14.9         |
| 1700 (Band 4)     | UL: 1312<br>DL: 1537 | 12.7        | 12.8        | 12.6        | 12.2        | 13.6        | 11.7        | 12.6        | 11.7        | 13.7        | 13.7         |
|                   | UL: 1412<br>DL: 1637 | 12.8        | 12.8        | 12.4        | 12.3        | 13.6        | 11.7        | 12.7        | 11.7        | 13.6        | 13.7         |
|                   | UL: 1513<br>DL: 1738 | 12.8        | 12.9        | 12.5        | 12.4        | 13.5        | 11.6        | 12.6        | 11.6        | 13.6        | 13.6         |
| Band 5 (850 MHz)  | UL: 4132<br>DL: 4357 | 16.3        | 16.3        | 15.7        | 15.8        | 16.7        | 14.6        | 15.8        | 14.6        | 16.7        | 16.8         |
|                   | UL: 4183<br>DL: 4408 | 16.0        | 16.1        | 15.6        | 15.7        | 16.5        | 14.7        | 15.7        | 14.7        | 16.6        | 16.6         |
|                   | UL: 4233<br>DL: 4458 | 16.2        | 16.2        | 15.7        | 15.7        | 16.6        | 14.6        | 15.6        | 14.6        | 16.7        | 16.9         |
| βc                |                      | 2           | 12          | 15          | 15          | 11          | 6           | 15          | 2           | 15          |              |
| βd                |                      | 15          | 15          | 8           | 4           | 15          | 15          | 9           | 15          | 15          |              |
| ΔACK, ΔNACK, ΔCQI |                      | 8           | 8           | 8           | 8           | 8           | 8           | 8           | 8           | 8           |              |
| AGV               |                      | -           | -           | -           | -           | 20          | 12          | 15          | 17          | 21          |              |

### 8.2.2. DC-HSDPA (Cat 24) - Proximity Sensor Active

| Modes             |                      | DC-HSDPA (Cat 24) |             |             |             | WCDMA        |
|-------------------|----------------------|-------------------|-------------|-------------|-------------|--------------|
| Sets              |                      | 1                 | 2           | 3           | 4           | RMC 12.2kbps |
| Band              | Channel              | Power [dBm]       | Power [dBm] | Power [dBm] | Power [dBm] | Power [dBm]  |
| Band 2 (1900 MHz) | UL: 9262<br>DL: 9662 | 12.1              | 12.1        | 12.0        | 12.1        | 14.8         |
|                   | UL: 9400<br>DL: 9800 | 12.1              | 12.1        | 12.0        | 12.1        | 14.6         |
|                   | UL: 9538<br>DL: 9938 | 12.0              | 12.1        | 12.0        | 12.1        | 14.9         |
| 1700 (Band 4)     | UL: 1312<br>DL: 1537 | 11.9              | 12.0        | 11.9        | 12.0        | 14.7         |
|                   | UL: 1412<br>DL: 1637 | 12.0              | 12.1        | 12.0        | 12.0        | 13.7         |
|                   | UL: 1513<br>DL: 1738 | 12.0              | 12.0        | 12.1        | 12.1        | 13.6         |
| Band 5 (850 MHz)  | UL: 4132<br>DL: 4357 | 15.1              | 15.1        | 15.1        | 15.0        | 16.8         |
|                   | UL: 4183<br>DL: 4408 | 15.1              | 15.1        | 15.0        | 15.1        | 16.6         |
|                   | UL: 4233<br>DL: 4458 | 15.0              | 15.0        | 15.0        | 15.0        | 16.9         |
| βc                |                      | 2                 | 12          | 15          | 15          |              |
| βd                |                      | 15                | 15          | 8           | 4           |              |
| ΔACK, ΔNACK, ΔCQI |                      | 8                 | 8           | 8           | 8           |              |
| AGV               |                      | -                 | -           | -           | -           |              |

### 8.3. RF Output Average Power Measurement: WCDMA

#### 8.3.1. RMC / HSDPA / HSUPA - Proximity Sensor Inactive

| Modes                                 |                      | HSDPA       |             |             |             | HSUPA       |             |             |             |             | WCDMA        |
|---------------------------------------|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|
| Sets                                  |                      | 1           | 2           | 3           | 4           | 1           | 2           | 3           | 4           | 5           | RMC 12.2kbps |
| Band                                  | Channel              | Power [dBm] | Power [dBm] | Power [dBm] | Power [dBm] | Power [dBm] | Power [dBm] | Power [dBm] | Power [dBm] | Power [dBm] | Power [dBm]  |
| Band 2 (1900 MHz)                     | UL: 9262<br>DL: 9662 | 22.1        | 22.1        | 21.6        | 21.6        | 21.5        | 20.5        | 21.6        | 20.7        | 22.3        | 22.7         |
|                                       | UL: 9400<br>DL: 9800 | 22.1        | 22.0        | 21.6        | 21.6        | 21.6        | 20.6        | 21.6        | 20.7        | 22.4        | 22.8         |
|                                       | UL: 9538<br>DL: 9938 | 22.2        | 22.1        | 21.6        | 21.6        | 22.1        | 20.6        | 21.7        | 20.7        | 22.2        | 22.8         |
| 1700 (Band 4)                         | UL: 1312<br>DL: 1537 | 21.9        | 21.9        | 21.5        | 21.5        | 22.6        | 20.9        | 21.7        | 21.0        | 22.7        | 22.7         |
|                                       | UL: 1412<br>DL: 1637 | 22.1        | 22.1        | 21.6        | 21.6        | 22.7        | 20.8        | 21.7        | 20.9        | 22.6        | 22.8         |
|                                       | UL: 1513<br>DL: 1738 | 22.1        | 22.1        | 21.6        | 21.6        | 22.7        | 20.7        | 21.6        | 20.8        | 22.7        | 22.8         |
| Band 5 (850 MHz)                      | UL: 4132<br>DL: 4357 | 22.0        | 22.0        | 21.6        | 21.6        | 22.6        | 20.8        | 21.8        | 20.9        | 22.6        | 22.7         |
|                                       | UL: 4183<br>DL: 4408 | 22.0        | 22.0        | 21.5        | 21.5        | 22.6        | 20.8        | 21.7        | 20.8        | 22.6        | 22.6         |
|                                       | UL: 4233<br>DL: 4458 | 22.0        | 22.0        | 21.6        | 21.6        | 22.6        | 20.8        | 21.8        | 20.8        | 22.5        | 22.7         |
| $\beta_c$                             |                      | 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          |              |

#### 8.3.2. DC-HSDPA (Cat 24) - Proximity Sensor Inactive

| Modes                                 |                      | DC-HSDPA (Cat 24) |             |             |             | WCDMA        |
|---------------------------------------|----------------------|-------------------|-------------|-------------|-------------|--------------|
| Sets                                  |                      | 1                 | 2           | 3           | 4           | RMC 12.2kbps |
| Band                                  | Channel              | Power [dBm]       | Power [dBm] | Power [dBm] | Power [dBm] | Power [dBm]  |
| Band 2 (1900 MHz)                     | UL: 9262<br>DL: 9662 | 20.1              | 20.1        | 20.0        | 20.2        | 22.7         |
|                                       | UL: 9400<br>DL: 9800 | 20.0              | 20.2        | 20.0        | 20.2        | 22.8         |
|                                       | UL: 9538<br>DL: 9938 | 20.1              | 20.2        | 20.1        | 19.8        | 22.8         |
| 1700 (Band 4)                         | UL: 1312<br>DL: 1537 | 20.0              | 20.2        | 20.1        | 20.0        | 22.7         |
|                                       | UL: 1412<br>DL: 1637 | 20.1              | 20.1        | 20.2        | 20.0        | 22.8         |
|                                       | UL: 1513<br>DL: 1738 | 20.1              | 20.0        | 20.1        | 20.2        | 22.8         |
| Band 5 (850 MHz)                      | UL: 4132<br>DL: 4357 | 20.0              | 20.1        | 19.8        | 20.0        | 22.7         |
|                                       | UL: 4183<br>DL: 4408 | 19.9              | 19.9        | 19.9        | 19.9        | 22.6         |
|                                       | UL: 4233<br>DL: 4458 | 20.0              | 19.9        | 20.0        | 20.1        | 22.7         |
| $\beta_c$                             |                      | 2                 | 12          | 15          | 15          |              |
| $\beta_d$                             |                      | 15                | 15          | 8           | 4           |              |
| $\Delta ACK, \Delta NACK, \Delta CQI$ |                      | 8                 | 8           | 8           | 8           |              |
| AGV                                   |                      | -                 | -           | -           | -           |              |

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) | $\beta_c/\beta_d$    | $\beta_{hs}^{(1)}$ | 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  $\beta_c/\beta_d = 12/15$ ,  $B_{hs}/\beta_c = 24/15$

Note 3: For subtest 2 the  $\beta_c/\beta_d$  ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 11/15$  and  $\beta_d = 15/15$

### Sub-test Setup for Release 6 HSUPA

| Sub-test | $\beta_c$            | $\beta_d$            | $B_d$<br>(SF) | $\beta_c/\beta_d$    | $\beta_{hs}^{(1)}$ | $B_{oc}$ | $B_{od}$                               | $B_{od}$<br>(SF) | $B_{od}$<br>(codes) | CM <sup>(2)</sup><br>(dB) | MPR<br>(dB) | AG <sup>(4)</sup><br>Index | E-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    | $B_{a11}$ : 47/15<br>$B_{a12}$ : 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  $\beta_c/\beta_d = 12/15$ ,  $B_{hs}/\beta_c = 24/15$ . 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  $\beta_c/\beta_d$  ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 10/15$  and  $\beta_d = 15/15$ .

Note 4: For subtest 5 the  $\beta_c/\beta_d$  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.

**8.4. RF Output Average Power Measurement: CDMA****8.4.1. 1xRTT - Proximity Sensor Active**

| US Band Class 0  |                 |                     |                     |                   |
|------------------|-----------------|---------------------|---------------------|-------------------|
| Channel Number   | Frequency (MHZ) | Avg Power (dBm)     |                     |                   |
|                  |                 | RC1 SO55 (Loopback) | RC3 SO55 (Loopback) | RC3 SO32 (+F-SCH) |
| 1013             | 824.70          | 17.1                | 17.1                | 16.9              |
| 384              | 836.52          | 17.2                | 17.2                | 17.1              |
| 777              | 848.31          | 17.2                | 17.2                | 17.2              |
| US Band Class 1  |                 |                     |                     |                   |
| Channel Number   | Frequency (MHZ) | Avg Power (dBm)     |                     |                   |
|                  |                 | RC1 SO55 (Loopback) | RC3 SO55 (Loopback) | RC3 SO32 (+F-SCH) |
| 25               | 1851.25         | 14.5                | 14.5                | 14.5              |
| 600              | 1880.00         | 14.3                | 14.3                | 14.3              |
| 1175             | 1908.75         | 14.5                | 14.5                | 14.5              |
| US Band Class 10 |                 |                     |                     |                   |
| Channel Number   | Frequency (MHZ) | Avg Power (dBm)     |                     |                   |
|                  |                 | RC1 SO55 (Loopback) | RC3 SO55 (Loopback) | RC3 SO32 (+F-SCH) |
| 476              | 817.90          | 17.0                | 17.0                | 17.3              |
| 580              | 820.50          | 17.0                | 17.1                | 17.3              |
| 684              | 823.10          | 17.1                | 17.3                | 17.3              |

**8.4.2. 1xEv-Do Rel. A - Proximity Sensor Active**

| US Band Class 0  |                 |                                                               |                         |                 |
|------------------|-----------------|---------------------------------------------------------------|-------------------------|-----------------|
| Channel Number   | Frequency (MHZ) | FETAP Traffic Format                                          | RETAP Data Payload Size | Avg Power (dBm) |
| 1013             | 824.70          | 307.2kbps, QPSK / ACK channel is transmitted at all the slots | 4096                    | 17.1            |
| 384              | 836.52          |                                                               |                         | 17.2            |
| 777              | 848.31          |                                                               |                         | 17.2            |
| US Band Class 1  |                 |                                                               |                         |                 |
| Channel Number   | Frequency (MHZ) | FETAP Traffic Format                                          | RETAP Data Payload Size | Avg Power (dBm) |
| 25               | 1851.25         | 307.2kbps, QPSK / ACK channel is transmitted at all the slots | 4096                    | 14.5            |
| 600              | 1880.00         |                                                               |                         | 14.5            |
| 1175             | 1908.75         |                                                               |                         | 14.5            |
| US Band Class 10 |                 |                                                               |                         |                 |
| Channel Number   | Frequency (MHZ) | FETAP Traffic Format                                          | RETAP Data Payload Size | Avg Power (dBm) |
| 476              | 817.90          | 307.2kbps, QPSK / ACK channel is transmitted at all the slots | 4096                    | 17.0            |
| 580              | 820.50          |                                                               |                         | 17.1            |
| 684              | 823.10          |                                                               |                         | 16.8            |

**8.4.3. 1xRTT - Proximity Sensor Inactive**

| US Band Class 0  |                 |                     |                     |                   |
|------------------|-----------------|---------------------|---------------------|-------------------|
| Channel Number   | Frequency (MHZ) | Avg Power (dBm)     |                     |                   |
|                  |                 | RC1 SO55 (Loopback) | RC3 SO55 (Loopback) | RC3 SO32 (+F-SCH) |
| 1013             | 824.70          | 23.4                | 23.4                | 23.4              |
| 384              | 836.52          | 23.6                | 23.6                | 23.6              |
| 777              | 848.31          | 23.4                | 23.4                | 23.4              |
| US Band Class 1  |                 |                     |                     |                   |
| Channel Number   | Frequency (MHZ) | Avg Power (dBm)     |                     |                   |
|                  |                 | RC1 SO55 (Loopback) | RC3 SO55 (Loopback) | RC3 SO32 (+F-SCH) |
| 25               | 1851.25         | 23.6                | 23.6                | 23.6              |
| 600              | 1880.00         | 23.6                | 23.6                | 23.5              |
| 1175             | 1908.75         | 23.6                | 23.6                | 23.5              |
| US Band Class 10 |                 |                     |                     |                   |
| Channel Number   | Frequency (MHZ) | Avg Power (dBm)     |                     |                   |
|                  |                 | RC1 SO55 (Loopback) | RC3 SO55 (Loopback) | RC3 SO32 (+F-SCH) |
| 476              | 817.90          | 23.5                | 23.5                | 23.5              |
| 580              | 820.50          | 23.4                | 23.4                | 23.5              |
| 684              | 823.10          | 23.6                | 23.6                | 23.6              |

**8.4.4. 1xEv-Do Rel. A - Proximity Sensor Inactive**

| US Band Class 0  |                 |                                                                     |                            |                 |
|------------------|-----------------|---------------------------------------------------------------------|----------------------------|-----------------|
| Channel Number   | Frequency (MHZ) | FETAP<br>Traffic Format                                             | RETAP<br>Data Payload Size | Avg Power (dBm) |
| 1013             | 824.70          | 307.2kbps, QPSK / ACK<br>channel is transmitted at<br>all the slots | 4096                       | 23.5            |
| 384              | 836.52          |                                                                     |                            | 23.6            |
| 777              | 848.31          |                                                                     |                            | 23.4            |
| US Band Class 1  |                 |                                                                     |                            |                 |
| Channel Number   | Frequency (MHZ) | FETAP<br>Traffic Format                                             | RETAP<br>Data Payload Size | Avg Power (dBm) |
| 25               | 1851.25         | 307.2kbps, QPSK / ACK<br>channel is transmitted at<br>all the slots | 4096                       | 23.6            |
| 600              | 1880.00         |                                                                     |                            | 23.6            |
| 1175             | 1908.75         |                                                                     |                            | 23.6            |
| US Band Class 10 |                 |                                                                     |                            |                 |
| Channel Number   | Frequency (MHZ) | FETAP<br>Traffic Format                                             | RETAP<br>Data Payload Size | Avg Power (dBm) |
| 476              | 817.90          | 307.2kbps, QPSK / ACK<br>channel is transmitted at<br>all the slots | 4096                       | 23.6            |
| 580              | 820.50          |                                                                     |                            | 23.5            |
| 684              | 823.10          |                                                                     |                            | 23.6            |

**8.5. RF Output Average Power Measurement: LTE****8.5.1. LTE Band 2 (1900 MHz)****Proximity Sensor Active**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm). |            |            |
|--------|-------------|-----------|-----------------|----|---------------------------|------------|------------|
|        |             |           |                 |    | 1860.0 MHz                | 1880.0 MHz | 1900.0 MHz |
| 20 MHz | QPSK        | 1         | Low             | 0  | 14.0                      | 13.5       | 14.7       |
|        |             | 1         | Mid             | 49 | 14.0                      | 13.5       | 14.6       |
|        |             | 1         | High            | 99 | 13.9                      | 13.5       | 14.6       |
|        |             | 50        | low             | 0  | 14.1                      | 13.7       | 14.0       |
|        |             | 50        | Mid             | 24 | 14.1                      | 13.8       | 13.7       |
|        |             | 50        | High            | 49 | 13.9                      | 14.1       | 13.8       |
|        |             | 100       | -               | 0  | 13.9                      | 14.0       | 13.6       |
|        | 16QAM       | 1         | Low             | 0  | 13.7                      | 13.3       | 14.8       |
|        |             | 1         | Mid             | 49 | 14.0                      | 13.7       | 13.7       |
|        |             | 1         | High            | 99 | 13.3                      | 14.3       | 14.8       |
|        |             | 50        | low             | 0  | 13.8                      | 13.4       | 13.5       |
|        |             | 50        | Mid             | 24 | 13.8                      | 13.5       | 13.3       |
|        |             | 50        | High            | 49 | 13.6                      | 14.1       | 13.5       |
|        |             | 100       | -               | 0  | 13.7                      | 13.7       | 13.6       |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm). |            |            |
|        |             |           |                 |    | 1857.5 MHz                | 1880.0 MHz | 1902.5 MHz |
| 15 MHz | QPSK        | 1         | Low             | 0  | 13.4                      | 13.2       | 14.0       |
|        |             | 1         | Mid             | 37 | 13.9                      | 13.6       | 13.2       |
|        |             | 1         | High            | 74 | 13.4                      | 14.0       | 14.4       |
|        |             | 36        | low             | 0  | 13.6                      | 13.4       | 13.6       |
|        |             | 36        | Mid             | 19 | 13.8                      | 13.5       | 13.3       |
|        |             | 36        | High            | 39 | 13.7                      | 13.8       | 13.5       |
|        |             | 75        | -               | 0  | 13.8                      | 13.6       | 13.4       |
|        | 16QAM       | 1         | Low             | 0  | 13.5                      | 13.2       | 14.0       |
|        |             | 1         | Mid             | 37 | 14.2                      | 13.6       | 13.5       |
|        |             | 1         | High            | 74 | 13.7                      | 14.2       | 14.7       |
|        |             | 36        | low             | 0  | 13.6                      | 13.2       | 13.2       |
|        |             | 36        | Mid             | 19 | 13.7                      | 13.4       | 13.1       |
|        |             | 36        | High            | 39 | 13.6                      | 13.6       | 13.4       |
|        |             | 75        | -               | 0  | 13.6                      | 13.4       | 13.2       |

**LTE Band 2 (1900 MHz)****Proximity Sensor Active**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm). |            |            |
|--------|-------------|-----------|-----------------|----|---------------------------|------------|------------|
|        |             |           |                 |    | 1855.0 MHz                | 1880.0 MHz | 1905.0 MHz |
| 10 MHz | QPSK        | 1         | Low             | 0  | 13.6                      | 13.6       | 13.3       |
|        |             | 1         | Mid             | 24 | 13.7                      | 13.5       | 13.2       |
|        |             | 1         | High            | 49 | 14.0                      | 14.2       | 14.6       |
|        |             | 25        | Low             | 0  | 13.8                      | 13.4       | 13.4       |
|        |             | 25        | Mid             | 12 | 13.8                      | 13.6       | 13.4       |
|        |             | 25        | High            | 25 | 14.0                      | 13.8       | 13.7       |
|        |             | 50        | -               | 0  | 13.8                      | 13.6       | 13.6       |
|        | 16QAM       | 1         | Low             | 0  | 13.7                      | 13.7       | 13.4       |
|        |             | 1         | mid             | 24 | 14.1                      | 13.6       | 13.3       |
|        |             | 1         | High            | 49 | 14.3                      | 14.3       | 14.7       |
|        |             | 25        | Low             | 0  | 13.4                      | 13.3       | 13.2       |
|        |             | 25        | Mid             | 12 | 13.7                      | 13.4       | 13.4       |
|        |             | 25        | High            | 25 | 13.9                      | 13.7       | 13.7       |
|        |             | 50        | -               | 0  | 13.8                      | 13.4       | 13.5       |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm). |            |            |
|        |             |           |                 |    | 1852.5 MHz                | 1880.0 MHz | 1907.5 MHz |
| 5 MHz  | QPSK        | 1         | Low             | 0  | 13.3                      | 13.2       | 13.1       |
|        |             | 1         | Mid             | 12 | 13.3                      | 13.2       | 13.6       |
|        |             | 1         | High            | 24 | 13.3                      | 13.2       | 14.0       |
|        |             | 12        | low             | 0  | 13.5                      | 13.3       | 13.3       |
|        |             | 12        | Mid             | 6  | 13.6                      | 13.4       | 13.8       |
|        |             | 12        | High            | 13 | 13.6                      | 13.5       | 13.9       |
|        |             | 25        | -               | 0  | 13.7                      | 13.5       | 13.6       |
|        | 16QAM       | 1         | Low             | 0  | 13.6                      | 13.2       | 13.2       |
|        |             | 1         | Mid             | 12 | 13.9                      | 13.5       | 13.8       |
|        |             | 1         | High            | 24 | 14.2                      | 13.6       | 14.4       |
|        |             | 12        | low             | 0  | 13.1                      | 13.2       | 13.4       |
|        |             | 12        | Mid             | 6  | 13.2                      | 13.3       | 13.7       |
|        |             | 12        | High            | 13 | 13.6                      | 13.4       | 14.0       |
|        |             | 25        | -               | 0  | 13.4                      | 13.3       | 13.7       |

**LTE Band 2 (1900 MHz)****Proximity Sensor Active**

| Ch. BW  | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm). |           |            |
|---------|-------------|-----------|-----------------|----|---------------------------|-----------|------------|
|         |             |           |                 |    | 1851.5 MHz                | 1880 MHz  | 1908.5 MHz |
| 3 MHz   | QPSK        | 1         | Low             | 0  | 13.2                      | 13.3      | 13.4       |
|         |             | 1         | Mid             | 7  | 13.2                      | 13.3      | 13.4       |
|         |             | 1         | High            | 14 | 13.2                      | 13.3      | 13.4       |
|         |             | 8         | Low             | 0  | 13.4                      | 13.3      | 13.8       |
|         |             | 8         | Mid             | 4  | 13.6                      | 13.5      | 14.1       |
|         |             | 8         | High            | 7  | 13.6                      | 13.5      | 14.3       |
|         |             | 15        | -               | 0  | 13.5                      | 13.4      | 14.0       |
|         | 16QAM       | 1         | Low             | 0  | 13.2                      | 13.4      | 13.7       |
|         |             | 1         | Mid             | 7  | 13.6                      | 13.6      | 14.3       |
|         |             | 1         | High            | 14 | 13.5                      | 13.5      | 14.6       |
|         |             | 8         | Low             | 0  | 13.1                      | 13.3      | 13.8       |
|         |             | 8         | Mid             | 4  | 13.3                      | 13.4      | 14.2       |
|         |             | 8         | High            | 7  | 13.3                      | 13.4      | 14.3       |
|         |             | 15        | -               | 0  | 13.2                      | 13.3      | 14.0       |
| Ch. BW  | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm). |           |            |
|         |             |           |                 |    | 1850.7 MHz                | 1880 MHz) | 1909.3 MHz |
| 1.4 MHz | QPSK        | 1         | Low             | 0  | 13.1                      | 13.3      | 14.1       |
|         |             | 1         | Mid             | 3  | 13.3                      | 13.5      | 14.4       |
|         |             | 1         | High            | 5  | 13.3                      | 13.4      | 14.5       |
|         |             | 3         | Low             | 0  | 13.2                      | 13.4      | 14.2       |
|         |             | 3         | Mid             | 1  | 13.3                      | 13.4      | 14.3       |
|         |             | 3         | high            | 3  | 13.4                      | 13.4      | 14.5       |
|         |             | 6         | -               | 0  | 13.3                      | 13.4      | 14.3       |
|         | 16QAM       | 1         | Low             | 0  | 13.2                      | 13.4      | 14.1       |
|         |             | 1         | Mid             | 3  | 13.4                      | 13.5      | 14.4       |
|         |             | 1         | High            | 5  | 13.3                      | 13.5      | 14.5       |
|         |             | 3         | Low             | 0  | 13.3                      | 13.4      | 14.1       |
|         |             | 3         | Mid             | 1  | 13.4                      | 13.4      | 14.2       |
|         |             | 3         | high            | 3  | 13.4                      | 13.4      | 14.4       |
|         |             | 6         | -               | 0  | 13.1                      | 13.4      | 14.4       |

**8.5.2. LTE Band 2 (1900 MHz)****Proximity Sensor Inactive**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm). |            |            |
|--------|-------------|-----------|-----------------|----|---------------------------|------------|------------|
|        |             |           |                 |    | 1860.0 MHz                | 1880.0 MHz | 1900.0 MHz |
| 20 MHz | QPSK        | 1         | Low             | 0  | 22.9                      | 22.8       | 22.7       |
|        |             | 1         | Mid             | 49 | 22.7                      | 22.7       | 22.8       |
|        |             | 1         | High            | 99 | 22.9                      | 22.5       | 22.7       |
|        |             | 50        | low             | 0  | 21.6                      | 21.5       | 21.4       |
|        |             | 50        | Mid             | 24 | 21.5                      | 21.5       | 21.6       |
|        |             | 50        | High            | 49 | 21.5                      | 21.5       | 21.5       |
|        |             | 100       | -               | 0  | 21.5                      | 21.5       | 21.6       |
|        | 16QAM       | 1         | Low             | 0  | 21.6                      | 21.9       | 21.6       |
|        |             | 1         | Mid             | 49 | 21.4                      | 21.9       | 21.7       |
|        |             | 1         | High            | 99 | 21.6                      | 21.7       | 21.7       |
|        |             | 50        | low             | 0  | 20.5                      | 20.5       | 20.4       |
|        |             | 50        | Mid             | 24 | 20.4                      | 20.4       | 20.5       |
|        |             | 50        | High            | 49 | 20.4                      | 20.4       | 20.5       |
|        |             | 100       | -               | 0  | 20.4                      | 20.4       | 20.5       |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm). |            |            |
|        |             |           |                 |    | 1857.5 MHz                | 1880.0 MHz | 1902.5 MHz |
| 15 MHz | QPSK        | 1         | Low             | 0  | 22.7                      | 22.7       | 22.6       |
|        |             | 1         | Mid             | 37 | 22.7                      | 22.8       | 22.6       |
|        |             | 1         | High            | 74 | 22.6                      | 22.7       | 22.7       |
|        |             | 36        | low             | 0  | 21.5                      | 21.5       | 21.4       |
|        |             | 36        | Mid             | 19 | 21.5                      | 21.5       | 21.5       |
|        |             | 36        | High            | 39 | 21.5                      | 21.5       | 21.5       |
|        |             | 75        | -               | 0  | 21.4                      | 21.4       | 21.4       |
|        | 16QAM       | 1         | Low             | 0  | 21.7                      | 21.5       | 21.7       |
|        |             | 1         | Mid             | 37 | 21.6                      | 21.5       | 21.8       |
|        |             | 1         | High            | 74 | 21.6                      | 21.3       | 21.7       |
|        |             | 36        | low             | 0  | 20.5                      | 20.4       | 20.5       |
|        |             | 36        | Mid             | 19 | 20.5                      | 20.5       | 20.5       |
|        |             | 36        | High            | 39 | 20.5                      | 20.5       | 20.4       |
|        |             | 75        | -               | 0  | 20.5                      | 20.4       | 20.4       |

**LTE Band 2 (1900 MHz)****Proximity Sensor Inactive**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm). |            |            |
|--------|-------------|-----------|-----------------|----|---------------------------|------------|------------|
|        |             |           |                 |    | 1855.0 MHz                | 1880.0 MHz | 1905.0 MHz |
| 10 MHz | QPSK        | 1         | Low             | 0  | 22.9                      | 22.7       | 22.7       |
|        |             | 1         | Mid             | 24 | 22.9                      | 22.8       | 22.7       |
|        |             | 1         | High            | 49 | 22.8                      | 22.6       | 22.7       |
|        |             | 25        | Low             | 0  | 21.6                      | 21.6       | 21.6       |
|        |             | 25        | Mid             | 12 | 21.6                      | 21.6       | 21.6       |
|        |             | 25        | High            | 25 | 21.7                      | 21.6       | 21.5       |
|        |             | 50        | -               | 0  | 21.5                      | 21.5       | 21.5       |
|        | 16QAM       | 1         | Low             | 0  | 21.7                      | 21.6       | 21.8       |
|        |             | 1         | mid             | 24 | 21.6                      | 21.6       | 21.8       |
|        |             | 1         | High            | 49 | 21.6                      | 21.5       | 21.8       |
|        |             | 25        | Low             | 0  | 20.7                      | 20.7       | 20.6       |
|        |             | 25        | Mid             | 12 | 20.7                      | 20.6       | 20.6       |
|        |             | 25        | High            | 25 | 20.6                      | 20.6       | 20.6       |
|        |             | 50        | -               | 0  | 20.5                      | 20.5       | 20.5       |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm). |            |            |
|        |             |           |                 |    | 1852.5 MHz                | 1880.0 MHz | 1907.5 MHz |
| 5 MHz  | QPSK        | 1         | Low             | 0  | 22.8                      | 22.7       | 22.7       |
|        |             | 1         | Mid             | 12 | 22.8                      | 22.8       | 22.6       |
|        |             | 1         | High            | 24 | 22.8                      | 22.7       | 22.7       |
|        |             | 12        | low             | 0  | 21.8                      | 21.8       | 21.6       |
|        |             | 12        | Mid             | 6  | 21.8                      | 21.8       | 21.7       |
|        |             | 12        | High            | 13 | 21.8                      | 21.7       | 21.7       |
|        |             | 25        | -               | 0  | 21.7                      | 21.6       | 21.6       |
|        | 16QAM       | 1         | Low             | 0  | 21.8                      | 21.6       | 21.6       |
|        |             | 1         | Mid             | 12 | 21.8                      | 21.6       | 21.5       |
|        |             | 1         | High            | 24 | 21.8                      | 21.5       | 21.6       |
|        |             | 12        | low             | 0  | 20.8                      | 20.9       | 20.7       |
|        |             | 12        | Mid             | 6  | 20.7                      | 20.8       | 20.7       |
|        |             | 12        | High            | 13 | 20.8                      | 20.7       | 20.7       |
|        |             | 25        | -               | 0  | 20.7                      | 20.6       | 20.6       |

**LTE Band 2 (1900 MHz)****Proximity Sensor Inactive**

| Ch. BW  | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm). |           |            |
|---------|-------------|-----------|-----------------|----|---------------------------|-----------|------------|
|         |             |           |                 |    | 1851.5 MHz                | 1880 MHz  | 1908.5 MHz |
| 3 MHz   | QPSK        | 1         | Low             | 0  | 22.9                      | 22.8      | 22.6       |
|         |             | 1         | Mid             | 7  | 22.9                      | 22.8      | 22.7       |
|         |             | 1         | High            | 14 | 22.9                      | 22.7      | 22.7       |
|         |             | 8         | Low             | 0  | 21.7                      | 21.8      | 21.7       |
|         |             | 8         | Mid             | 4  | 21.8                      | 21.8      | 21.7       |
|         |             | 8         | High            | 7  | 21.8                      | 21.8      | 21.7       |
|         |             | 15        | -               | 0  | 21.7                      | 21.8      | 21.7       |
|         | 16QAM       | 1         | Low             | 0  | 21.7                      | 21.7      | 21.8       |
|         |             | 1         | Mid             | 7  | 21.7                      | 21.7      | 21.8       |
|         |             | 1         | High            | 14 | 21.7                      | 21.6      | 21.8       |
|         |             | 8         | Low             | 0  | 20.7                      | 20.8      | 20.8       |
|         |             | 8         | Mid             | 4  | 20.8                      | 20.8      | 20.9       |
|         |             | 8         | High            | 7  | 20.8                      | 20.8      | 20.9       |
|         |             | 15        | -               | 0  | 20.8                      | 20.7      | 20.8       |
| Ch. BW  | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm). |           |            |
|         |             |           |                 |    | 1850.7 MHz                | 1880 MHz) | 1909.3 MHz |
| 1.4 MHz | QPSK        | 1         | Low             | 0  | 22.9                      | 22.8      | 22.7       |
|         |             | 1         | Mid             | 3  | 22.9                      | 22.8      | 22.7       |
|         |             | 1         | High            | 5  | 22.9                      | 22.9      | 22.7       |
|         |             | 3         | Low             | 0  | 22.8                      | 22.8      | 22.7       |
|         |             | 3         | Mid             | 1  | 22.8                      | 22.7      | 22.7       |
|         |             | 3         | high            | 3  | 22.8                      | 22.8      | 22.7       |
|         |             | 6         | -               | 0  | 21.7                      | 21.8      | 21.8       |
|         | 16QAM       | 1         | Low             | 0  | 21.7                      | 21.6      | 21.6       |
|         |             | 1         | Mid             | 3  | 21.7                      | 21.7      | 21.6       |
|         |             | 1         | High            | 5  | 21.7                      | 21.7      | 21.6       |
|         |             | 3         | Low             | 0  | 21.4                      | 21.9      | 21.7       |
|         |             | 3         | Mid             | 1  | 21.4                      | 21.9      | 21.7       |
|         |             | 3         | high            | 3  | 21.4                      | 21.9      | 21.7       |
|         |             | 6         | -               | 0  | 20.7                      | 20.8      | 20.8       |

**8.5.3. LTE Band 4 (1700 MHz)****Proximity Sensor Active**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | 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  | 13.2                       | 13.3                          | 12.8                        |
|        |             | 1         | Mid             | 49 | 13.5                       | 13.0                          | 13.1                        |
|        |             | 1         | High            | 99 | 13.1                       | 13.1                          | 13.3                        |
|        |             | 50        | low             | 0  | 13.0                       | 13.2                          | 13.3                        |
|        |             | 50        | Mid             | 24 | 13.6                       | 13.4                          | 13.3                        |
|        |             | 50        | High            | 49 | 13.1                       | 13.3                          | 13.2                        |
|        |             | 100       | -               | 0  | 13.0                       | 13.2                          | 13.3                        |
|        | 16QAM       | 1         | Low             | 0  | 13.2                       | 13.8                          | 13.3                        |
|        |             | 1         | Mid             | 49 | 13.3                       | 13.5                          | 13.2                        |
|        |             | 1         | High            | 99 | 13.0                       | 13.2                          | 13.2                        |
|        |             | 50        | low             | 0  | 13.2                       | 13.1                          | 13.1                        |
|        |             | 50        | Mid             | 24 | 13.2                       | 13.0                          | 13.1                        |
|        |             | 50        | High            | 49 | 13.2                       | 13.1                          | 13.3                        |
|        |             | 100       | -               | 0  | 13.1                       | 13.1                          | 13.1                        |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | 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  | 13.3                       | 13.4                          | 13.3                        |
|        |             | 1         | Mid             | 37 | 13.8                       | 13.2                          | 13.3                        |
|        |             | 1         | High            | 74 | 13.3                       | 13.1                          | 13.7                        |
|        |             | 36        | low             | 0  | 13.2                       | 13.3                          | 13.4                        |
|        |             | 36        | Mid             | 19 | 13.3                       | 13.2                          | 13.5                        |
|        |             | 36        | High            | 39 | 13.2                       | 13.3                          | 13.7                        |
|        |             | 75        | -               | 0  | 13.2                       | 13.3                          | 13.6                        |
|        | 16QAM       | 1         | Low             | 0  | 13.4                       | 13.4                          | 13.3                        |
|        |             | 1         | Mid             | 37 | 13.6                       | 13.2                          | 13.8                        |
|        |             | 1         | High            | 74 | 13.3                       | 12.8                          | 13.7                        |
|        |             | 36        | low             | 0  | 13.2                       | 13.1                          | 12.9                        |
|        |             | 36        | Mid             | 19 | 13.4                       | 13.0                          | 13.5                        |
|        |             | 36        | High            | 39 | 13.3                       | 13.1                          | 13.1                        |
|        |             | 75        | -               | 0  | 13.1                       | 13.1                          | 13.1                        |

**LTE Band 4 (1700 MHz)****Proximity Sensor Active**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm).  |                               |                             |
|--------|-------------|-----------|-----------------|----|----------------------------|-------------------------------|-----------------------------|
|        |             |           |                 |    | Frequency 1715.0 MHz (Low) | Frequency 1732.5 MHz (Middle) | Frequency 1750 MHz (High)   |
| 10 MHz | QPSK        | 1         | Low             | 0  | 13.5                       | 13.6                          | 13.6                        |
|        |             | 1         | Mid             | 24 | 13.8                       | 13.2                          | 13.5                        |
|        |             | 1         | High            | 49 | 13.7                       | 13.4                          | 13.9                        |
|        |             | 25        | Low             | 0  | 13.2                       | 13.4                          | 13.5                        |
|        |             | 25        | Mid             | 12 | 13.3                       | 13.4                          | 13.6                        |
|        |             | 25        | High            | 25 | 13.5                       | 13.4                          | 13.7                        |
|        |             | 50        | -               | 0  | 13.3                       | 13.4                          | 13.6                        |
|        | 16QAM       | 1         | Low             | 0  | 13.6                       | 13.6                          | 13.5                        |
|        |             | 1         | mid             | 24 | 13.6                       | 13.3                          | 14.0                        |
|        |             | 1         | High            | 49 | 14.0                       | 13.2                          | 13.8                        |
|        |             | 25        | Low             | 0  | 13.3                       | 13.2                          | 13.1                        |
|        |             | 25        | Mid             | 12 | 13.5                       | 13.2                          | 13.2                        |
|        |             | 25        | High            | 25 | 13.6                       | 13.3                          | 13.3                        |
|        |             | 50        | -               | 0  | 13.4                       | 13.2                          | 13.1                        |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | 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  | 13.2                       | 13.2                          | 13.6                        |
|        |             | 1         | Mid             | 12 | 13.3                       | 13.3                          | 13.6                        |
|        |             | 1         | High            | 24 | 13.3                       | 13.2                          | 13.6                        |
|        |             | 12        | low             | 0  | 13.2                       | 13.3                          | 13.6                        |
|        |             | 12        | Mid             | 6  | 13.2                       | 13.3                          | 13.7                        |
|        |             | 12        | High            | 13 | 13.2                       | 13.3                          | 13.6                        |
|        |             | 25        | -               | 0  | 13.3                       | 13.3                          | 13.7                        |
|        | 16QAM       | 1         | Low             | 0  | 13.6                       | 13.2                          | 13.4                        |
|        |             | 1         | Mid             | 12 | 14.0                       | 13.2                          | 13.9                        |
|        |             | 1         | High            | 24 | 13.9                       | 13.2                          | 13.4                        |
|        |             | 12        | low             | 0  | 13.0                       | 13.1                          | 13.2                        |
|        |             | 12        | Mid             | 6  | 13.3                       | 13.2                          | 13.7                        |
|        |             | 12        | High            | 13 | 13.3                       | 13.1                          | 13.6                        |
|        |             | 25        | -               | 0  | 13.4                       | 13.1                          | 13.2                        |

**LTE Band 4 (1700 MHz)****Proximity Sensor Active**

| Ch. BW  | Modulations | RB Config | Start RB Offset |    | 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  | 13.3                       | 13.2                          | 13.4                        |
|         |             | 1         | Mid             | 7  | 13.4                       | 13.3                          | 13.7                        |
|         |             | 1         | High            | 14 | 13.2                       | 13.2                          | 13.4                        |
|         |             | 8         | Low             | 0  | 13.2                       | 13.3                          | 13.5                        |
|         |             | 8         | Mid             | 4  | 13.2                       | 13.4                          | 13.8                        |
|         |             | 8         | High            | 7  | 13.2                       | 13.3                          | 13.7                        |
|         |             | 15        | -               | 0  | 13.2                       | 13.3                          | 13.5                        |
|         | 16QAM       | 1         | Low             | 0  | 13.3                       | 13.3                          | 13.4                        |
|         |             | 1         | Mid             | 7  | 13.7                       | 13.3                          | 13.9                        |
|         |             | 1         | High            | 14 | 13.6                       | 13.3                          | 13.9                        |
|         |             | 8         | Low             | 0  | 13.1                       | 13.2                          | 13.7                        |
|         |             | 8         | Mid             | 4  | 13.4                       | 13.2                          | 13.8                        |
|         |             | 8         | High            | 7  | 13.4                       | 13.2                          | 13.7                        |
|         |             | 15        | -               | 0  | 13.3                       | 13.1                          | 13.7                        |
| Ch. BW  | Modulations | RB Config | Start RB Offset |    | 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  | 13.2                       | 13.2                          | 13.7                        |
|         |             | 1         | Mid             | 3  | 13.2                       | 13.3                          | 13.8                        |
|         |             | 1         | High            | 5  | 13.1                       | 13.2                          | 13.7                        |
|         |             | 3         | Low             | 0  | 12.9                       | 13.3                          | 13.8                        |
|         |             | 3         | Mid             | 1  | 13.1                       | 13.3                          | 13.8                        |
|         |             | 3         | high            | 3  | 13.1                       | 13.3                          | 13.8                        |
|         |             | 6         | -               | 0  | 13.0                       | 13.3                          | 13.8                        |
|         | 16QAM       | 1         | Low             | 0  | 13.5                       | 13.3                          | 13.7                        |
|         |             | 1         | Mid             | 3  | 13.6                       | 13.3                          | 13.8                        |
|         |             | 1         | High            | 5  | 13.5                       | 13.3                          | 13.7                        |
|         |             | 3         | Low             | 0  | 12.8                       | 13.2                          | 13.6                        |
|         |             | 3         | Mid             | 1  | 13.0                       | 13.2                          | 13.6                        |
|         |             | 3         | high            | 3  | 13.0                       | 13.2                          | 13.7                        |
|         |             | 6         | -               | 0  | 13.2                       | 13.2                          | 13.8                        |

**8.5.4. LTE Band 4 (1700 MHz)****Proximity Sensor Inactive**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | 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  | 22.7                         | 22.9                          | 23.0                        |
|        |             | 1         | Mid             | 49 | 22.8                         | 22.9                          | 23.1                        |
|        |             | 1         | High            | 99 | 23.0                         | 22.8                          | 23.1                        |
|        |             | 50        | low             | 0  | 21.6                         | 21.7                          | 21.7                        |
|        |             | 50        | Mid             | 24 | 21.6                         | 21.6                          | 21.7                        |
|        |             | 50        | High            | 49 | 21.7                         | 21.6                          | 21.6                        |
|        |             | 100       | -               | 0  | 21.6                         | 21.7                          | 21.8                        |
|        | 16QAM       | 1         | Low             | 0  | 21.7                         | 21.9                          | 21.8                        |
|        |             | 1         | Mid             | 49 | 21.6                         | 22.0                          | 21.9                        |
|        |             | 1         | High            | 99 | 21.9                         | 21.8                          | 21.8                        |
|        |             | 50        | low             | 0  | 20.6                         | 20.7                          | 20.7                        |
|        |             | 50        | Mid             | 24 | 20.6                         | 20.6                          | 20.7                        |
|        |             | 50        | High            | 49 | 20.6                         | 20.6                          | 20.7                        |
|        |             | 100       | -               | 0  | 20.6                         | 20.6                          | 20.7                        |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm).    |                               |                             |
|        |             |           |                 |    | Frequency 1717.5.0 MHz (Low) | Frequency 1732.5 MHz (Middle) | Frequency 1747.5 MHz (High) |
| 15 MHz | QPSK        | 1         | Low             | 0  | 22.9                         | 22.8                          | 22.9                        |
|        |             | 1         | Mid             | 37 | 23.0                         | 22.8                          | 23.1                        |
|        |             | 1         | High            | 74 | 22.9                         | 22.8                          | 22.9                        |
|        |             | 36        | low             | 0  | 21.5                         | 21.7                          | 21.7                        |
|        |             | 36        | Mid             | 19 | 21.6                         | 21.6                          | 21.7                        |
|        |             | 36        | High            | 39 | 21.5                         | 21.7                          | 21.9                        |
|        |             | 75        | -               | 0  | 21.5                         | 21.5                          | 21.6                        |
|        | 16QAM       | 1         | Low             | 0  | 21.8                         | 21.6                          | 21.7                        |
|        |             | 1         | Mid             | 37 | 21.7                         | 21.6                          | 22.0                        |
|        |             | 1         | High            | 74 | 21.8                         | 21.5                          | 22.0                        |
|        |             | 36        | low             | 0  | 20.6                         | 20.7                          | 20.7                        |
|        |             | 36        | Mid             | 19 | 20.4                         | 20.6                          | 20.7                        |
|        |             | 36        | High            | 39 | 20.6                         | 20.6                          | 20.9                        |
|        |             | 75        | -               | 0  | 20.6                         | 20.5                          | 20.7                        |

**LTE Band 4 (1700 MHz)****Proximity Sensor Inactive**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm).  |                               |                             |
|--------|-------------|-----------|-----------------|----|----------------------------|-------------------------------|-----------------------------|
|        |             |           |                 |    | Frequency 1715.0 MHz (Low) | Frequency 1732.5 MHz (Middle) | Frequency 1750 MHz (High)   |
| 10 MHz | QPSK        | 1         | Low             | 0  | 22.9                       | 23.1                          | 22.9                        |
|        |             | 1         | Mid             | 24 | 22.9                       | 22.9                          | 23.2                        |
|        |             | 1         | High            | 49 | 22.9                       | 23.0                          | 22.9                        |
|        |             | 25        | Low             | 0  | 21.6                       | 21.8                          | 21.8                        |
|        |             | 25        | Mid             | 12 | 21.7                       | 21.8                          | 21.9                        |
|        |             | 25        | High            | 25 | 21.7                       | 21.8                          | 22.0                        |
|        |             | 50        | -               | 0  | 21.6                       | 21.6                          | 21.7                        |
|        | 16QAM       | 1         | Low             | 0  | 21.8                       | 21.9                          | 21.9                        |
|        |             | 1         | mid             | 24 | 21.7                       | 21.7                          | 22.1                        |
|        |             | 1         | High            | 49 | 21.7                       | 21.8                          | 21.9                        |
|        |             | 25        | Low             | 0  | 20.7                       | 20.9                          | 20.8                        |
|        |             | 25        | Mid             | 12 | 20.7                       | 20.8                          | 21.0                        |
|        |             | 25        | High            | 25 | 20.7                       | 20.9                          | 20.9                        |
|        |             | 50        | -               | 0  | 20.5                       | 20.6                          | 20.7                        |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | 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  | 22.8                       | 23.0                          | 23.1                        |
|        |             | 1         | Mid             | 12 | 22.8                       | 22.8                          | 23.2                        |
|        |             | 1         | High            | 24 | 22.8                       | 22.9                          | 23.0                        |
|        |             | 12        | low             | 0  | 21.8                       | 21.9                          | 22.0                        |
|        |             | 12        | Mid             | 6  | 21.8                       | 21.9                          | 22.1                        |
|        |             | 12        | High            | 13 | 21.8                       | 21.9                          | 22.0                        |
|        |             | 25        | -               | 0  | 21.7                       | 21.8                          | 21.8                        |
|        | 16QAM       | 1         | Low             | 0  | 21.9                       | 21.8                          | 21.9                        |
|        |             | 1         | Mid             | 12 | 21.8                       | 21.7                          | 21.9                        |
|        |             | 1         | High            | 24 | 21.9                       | 21.8                          | 21.8                        |
|        |             | 12        | low             | 0  | 20.7                       | 21.0                          | 21.1                        |
|        |             | 12        | Mid             | 6  | 20.7                       | 20.9                          | 21.0                        |
|        |             | 12        | High            | 13 | 20.7                       | 21.0                          | 21.0                        |
|        |             | 25        | -               | 0  | 20.7                       | 20.8                          | 21.0                        |

**LTE Band 4 (1700 MHz)****Proximity Sensor Inactive**

| Ch. BW  | Modulations | RB Config | Start RB Offset |    | 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  | 22.7                       | 23.1                          | 23.1                        |
|         |             | 1         | Mid             | 7  | 22.7                       | 23.0                          | 23.0                        |
|         |             | 1         | High            | 14 | 22.7                       | 23.0                          | 23.0                        |
|         |             | 8         | Low             | 0  | 21.8                       | 21.9                          | 22.1                        |
|         |             | 8         | Mid             | 4  | 21.8                       | 22.0                          | 22.0                        |
|         |             | 8         | High            | 7  | 21.8                       | 21.9                          | 22.1                        |
|         |             | 15        | -               | 0  | 21.8                       | 21.9                          | 21.9                        |
|         | 16QAM       | 1         | Low             | 0  | 21.8                       | 21.9                          | 22.2                        |
|         |             | 1         | Mid             | 7  | 21.8                       | 21.8                          | 22.0                        |
|         |             | 1         | High            | 14 | 21.7                       | 21.8                          | 22.0                        |
|         |             | 8         | Low             | 0  | 20.8                       | 20.8                          | 21.3                        |
|         |             | 8         | Mid             | 4  | 20.7                       | 20.8                          | 21.1                        |
|         |             | 8         | High            | 7  | 20.7                       | 20.9                          | 21.1                        |
|         |             | 15        | -               | 0  | 20.8                       | 20.9                          | 21.1                        |
| Ch. BW  | Modulations | RB Config | Start RB Offset |    | 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  | 22.9                       | 23.0                          | 23.0                        |
|         |             | 1         | Mid             | 3  | 22.9                       | 23.0                          | 23.0                        |
|         |             | 1         | High            | 5  | 22.9                       | 23.0                          | 22.9                        |
|         |             | 3         | Low             | 0  | 22.8                       | 22.9                          | 23.1                        |
|         |             | 3         | Mid             | 1  | 22.8                       | 22.9                          | 22.9                        |
|         |             | 3         | high            | 3  | 22.8                       | 22.9                          | 23.0                        |
|         |             | 6         | -               | 0  | 21.8                       | 22.0                          | 22.0                        |
|         | 16QAM       | 1         | Low             | 0  | 21.8                       | 21.7                          | 21.9                        |
|         |             | 1         | Mid             | 3  | 21.8                       | 21.8                          | 21.9                        |
|         |             | 1         | High            | 5  | 21.7                       | 21.8                          | 21.8                        |
|         |             | 3         | Low             | 0  | 21.4                       | 21.9                          | 22.0                        |
|         |             | 3         | Mid             | 1  | 21.5                       | 22.0                          | 21.9                        |
|         |             | 3         | high            | 3  | 21.4                       | 22.0                          | 21.9                        |
|         |             | 6         | -               | 0  | 20.8                       | 20.9                          | 21.1                        |

**8.5.5.LTE Band 5 (850 MHz)****Proximity Sensor Active**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | 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  | 15.6                      | 15.9                         | 15.8                       |
|        |             | 1         | Mid             | 24 | 15.7                      | 15.9                         | 16.2                       |
|        |             | 1         | High            | 49 | 15.8                      | 16.0                         | 15.5                       |
|        |             | 25        | Low             | 0  | 15.7                      | 15.9                         | 16.1                       |
|        |             | 25        | Mid             | 12 | 15.8                      | 15.9                         | 16.1                       |
|        |             | 25        | High            | 25 | 15.7                      | 15.8                         | 15.7                       |
|        |             | 50        | -               | 0  | 15.6                      | 15.8                         | 15.5                       |
|        | 16QAM       | 1         | Low             | 0  | 16.0                      | 15.6                         | 15.5                       |
|        |             | 1         | mid             | 24 | 16.1                      | 16.1                         | 15.9                       |
|        |             | 1         | High            | 49 | 15.7                      | 15.6                         | 15.2                       |
|        |             | 25        | Low             | 0  | 15.7                      | 15.3                         | 15.5                       |
|        |             | 25        | Mid             | 12 | 15.9                      | 15.9                         | 15.7                       |
|        |             | 25        | High            | 25 | 15.2                      | 15.3                         | 15.2                       |
|        |             | 50        | -               | 0  | 15.6                      | 15.3                         | 15.5                       |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | 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  | 15.2                      | 15.4                         | 15.7                       |
|        |             | 1         | Mid             | 12 | 15.6                      | 15.7                         | 16.1                       |
|        |             | 1         | High            | 24 | 15.2                      | 15.4                         | 15.6                       |
|        |             | 12        | low             | 0  | 15.4                      | 15.5                         | 15.8                       |
|        |             | 12        | Mid             | 6  | 15.6                      | 15.7                         | 16.0                       |
|        |             | 12        | High            | 13 | 15.4                      | 15.4                         | 15.8                       |
|        |             | 25        | -               | 0  | 15.4                      | 15.6                         | 15.8                       |
|        | 16QAM       | 1         | Low             | 0  | 15.7                      | 15.4                         | 15.4                       |
|        |             | 1         | Mid             | 12 | 16.2                      | 15.9                         | 15.9                       |
|        |             | 1         | High            | 24 | 15.2                      | 15.1                         | 15.4                       |
|        |             | 12        | low             | 0  | 15.4                      | 15.6                         | 15.4                       |
|        |             | 12        | Mid             | 6  | 15.5                      | 15.8                         | 15.6                       |
|        |             | 12        | High            | 13 | 15.4                      | 15.6                         | 15.4                       |
|        |             | 25        | -               | 0  | 15.5                      | 15.6                         | 15.4                       |

**LTE Band 5 (850 MHz)****Proximity Sensor Active**

| Ch. BW  | Modulations | RB Config | Start RB Offset |    | 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  | 15.4                      | 15.4                         | 15.6                       |
|         |             | 1         | Mid             | 7  | 15.5                      | 15.6                         | 15.9                       |
|         |             | 1         | High            | 14 | 15.4                      | 15.5                         | 15.5                       |
|         |             | 8         | Low             | 0  | 15.3                      | 15.5                         | 15.9                       |
|         |             | 8         | Mid             | 4  | 15.4                      | 15.7                         | 15.8                       |
|         |             | 8         | High            | 7  | 15.4                      | 15.6                         | 15.7                       |
|         |             | 15        | -               | 0  | 15.3                      | 15.6                         | 15.9                       |
|         | 16QAM       | 1         | Low             | 0  | 15.7                      | 15.2                         | 15.7                       |
|         |             | 1         | Mid             | 7  | 15.8                      | 16.0                         | 15.9                       |
|         |             | 1         | High            | 14 | 15.7                      | 15.2                         | 15.6                       |
|         |             | 8         | Low             | 0  | 15.4                      | 15.7                         | 15.6                       |
|         |             | 8         | Mid             | 4  | 15.5                      | 15.8                         | 15.6                       |
|         |             | 8         | High            | 7  | 15.5                      | 15.7                         | 15.4                       |
|         |             | 15        | -               | 0  | 15.3                      | 15.7                         | 15.5                       |
| Ch. BW  | Modulations | RB Config | Start RB Offset |    | 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  | 16.3                      | 15.4                         | 15.6                       |
|         |             | 1         | Mid             | 3  | 15.3                      | 15.6                         | 15.7                       |
|         |             | 1         | High            | 5  | 15.4                      | 15.6                         | 15.6                       |
|         |             | 3         | Low             | 0  | 15.4                      | 15.5                         | 15.5                       |
|         |             | 3         | Mid             | 1  | 15.3                      | 15.5                         | 15.7                       |
|         |             | 3         | high            | 3  | 15.3                      | 15.5                         | 15.5                       |
|         |             | 6         | -               | 0  | 15.3                      | 15.6                         | 15.5                       |
|         | 16QAM       | 1         | Low             | 0  | 15.7                      | 15.8                         | 15.4                       |
|         |             | 1         | Mid             | 3  | 15.7                      | 15.9                         | 15.4                       |
|         |             | 1         | High            | 5  | 15.7                      | 15.8                         | 15.3                       |
|         |             | 3         | Low             | 0  | 15.2                      | 15.7                         | 15.2                       |
|         |             | 3         | Mid             | 1  | 15.2                      | 15.7                         | 15.3                       |
|         |             | 3         | high            | 3  | 15.1                      | 15.7                         | 15.2                       |
|         |             | 6         | -               | 0  | 15.5                      | 15.7                         | 15.3                       |

**8.5.6.LTE Band 5 (850 MHz)****Proximity Sensor Inactive**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | 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  | 22.8                      | 22.8                         | 22.7                       |
|        |             | 1         | Mid             | 24 | 22.9                      | 22.7                         | 22.8                       |
|        |             | 1         | High            | 49 | 22.8                      | 22.8                         | 22.8                       |
|        |             | 25        | Low             | 0  | 21.8                      | 21.7                         | 21.6                       |
|        |             | 25        | Mid             | 12 | 21.8                      | 21.8                         | 21.6                       |
|        |             | 25        | High            | 25 | 21.7                      | 21.6                         | 21.6                       |
|        |             | 50        | -               | 0  | 21.6                      | 21.6                         | 21.6                       |
|        | 16QAM       | 1         | Low             | 0  | 21.6                      | 21.8                         | 21.6                       |
|        |             | 1         | mid             | 24 | 21.6                      | 21.8                         | 21.6                       |
|        |             | 1         | High            | 49 | 21.5                      | 21.9                         | 21.6                       |
|        |             | 25        | Low             | 0  | 20.8                      | 20.8                         | 20.7                       |
|        |             | 25        | Mid             | 12 | 20.7                      | 20.7                         | 20.6                       |
|        |             | 25        | High            | 25 | 20.7                      | 20.7                         | 20.6                       |
|        |             | 50        | -               | 0  | 20.6                      | 20.5                         | 20.5                       |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | 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  | 22.7                      | 22.8                         | 22.7                       |
|        |             | 1         | Mid             | 12 | 22.8                      | 22.7                         | 22.8                       |
|        |             | 1         | High            | 24 | 22.8                      | 22.6                         | 22.7                       |
|        |             | 12        | low             | 0  | 21.8                      | 21.9                         | 21.7                       |
|        |             | 12        | Mid             | 6  | 21.8                      | 21.8                         | 21.8                       |
|        |             | 12        | High            | 13 | 21.8                      | 21.8                         | 21.6                       |
|        |             | 25        | -               | 0  | 21.7                      | 21.7                         | 21.7                       |
|        | 16QAM       | 1         | Low             | 0  | 21.8                      | 21.7                         | 21.5                       |
|        |             | 1         | Mid             | 12 | 21.8                      | 21.6                         | 21.6                       |
|        |             | 1         | High            | 24 | 21.9                      | 21.5                         | 21.5                       |
|        |             | 12        | low             | 0  | 20.8                      | 20.9                         | 20.7                       |
|        |             | 12        | Mid             | 6  | 20.8                      | 20.9                         | 20.8                       |
|        |             | 12        | High            | 13 | 20.8                      | 20.7                         | 20.7                       |
|        |             | 25        | -               | 0  | 20.8                      | 20.7                         | 20.8                       |

**LTE Band 5 (850 MHz)****Proximity Sensor Inactive**

| Ch. BW  | Modulations | RB Config | Start RB Offset |    | 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  | 22.8                      | 22.9                         | 22.6                       |
|         |             | 1         | Mid             | 7  | 22.7                      | 22.8                         | 22.7                       |
|         |             | 1         | High            | 14 | 22.9                      | 22.7                         | 22.6                       |
|         |             | 8         | Low             | 0  | 21.7                      | 21.8                         | 21.7                       |
|         |             | 8         | Mid             | 4  | 21.8                      | 21.9                         | 21.7                       |
|         |             | 8         | High            | 7  | 21.8                      | 21.6                         | 21.7                       |
|         |             | 15        | -               | 0  | 21.7                      | 21.8                         | 21.7                       |
|         | 16QAM       | 1         | Low             | 0  | 21.6                      | 21.7                         | 21.8                       |
|         |             | 1         | Mid             | 7  | 21.6                      | 21.6                         | 21.7                       |
|         |             | 1         | High            | 14 | 21.7                      | 21.5                         | 21.7                       |
|         |             | 8         | Low             | 0  | 20.7                      | 20.9                         | 20.8                       |
|         |             | 8         | Mid             | 4  | 20.7                      | 20.9                         | 20.8                       |
|         |             | 8         | High            | 7  | 20.7                      | 20.7                         | 20.8                       |
|         |             | 15        | -               | 0  | 20.8                      | 20.7                         | 20.7                       |
| Ch. BW  | Modulations | RB Config | Start RB Offset |    | 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  | 22.7                      | 23.0                         | 22.7                       |
|         |             | 1         | Mid             | 3  | 22.8                      | 22.8                         | 22.6                       |
|         |             | 1         | High            | 5  | 22.8                      | 22.8                         | 22.6                       |
|         |             | 3         | Low             | 0  | 22.7                      | 22.8                         | 22.6                       |
|         |             | 3         | Mid             | 1  | 22.6                      | 22.8                         | 22.7                       |
|         |             | 3         | high            | 3  | 22.6                      | 22.8                         | 22.6                       |
|         |             | 6         | -               | 0  | 21.7                      | 21.9                         | 21.7                       |
|         | 16QAM       | 1         | Low             | 0  | 21.7                      | 21.7                         | 21.5                       |
|         |             | 1         | Mid             | 3  | 21.7                      | 21.6                         | 21.5                       |
|         |             | 1         | High            | 5  | 21.6                      | 21.6                         | 21.5                       |
|         |             | 3         | Low             | 0  | 21.3                      | 21.9                         | 21.6                       |
|         |             | 3         | Mid             | 1  | 21.3                      | 21.8                         | 21.6                       |
|         |             | 3         | high            | 3  | 21.3                      | 21.8                         | 21.6                       |
|         |             | 6         | -               | 0  | 20.6                      | 20.8                         | 20.8                       |

**LTE Band 13 (750 MHz)****Proximity Sensor Active**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm). |                              |                            |
|--------|-------------|-----------|-----------------|----|---------------------------|------------------------------|----------------------------|
|        |             |           |                 |    | Low                       | Frequency 782.0 MHz (Middle) | High                       |
| 10 MHz | QPSK        | 1         | Low             | 0  | Not Supported             | 16.7                         | Not Supported              |
|        |             | 1         | Mid             | 24 |                           | 16.9                         |                            |
|        |             | 1         | High            | 49 |                           | 17.0                         |                            |
|        |             | 25        | Low             | 0  |                           | 16.9                         |                            |
|        |             | 25        | Mid             | 12 |                           | 17.0                         |                            |
|        |             | 25        | High            | 25 |                           | 17.0                         |                            |
|        |             | 50        | -               | 0  |                           | 16.9                         |                            |
|        | 16QAM       | 1         | Low             | 0  |                           | 16.8                         |                            |
|        |             | 1         | mid             | 24 |                           | 17.0                         |                            |
|        |             | 1         | High            | 49 |                           | 17.0                         |                            |
|        |             | 25        | Low             | 0  |                           | 16.9                         |                            |
|        |             | 25        | Mid             | 12 |                           | 17.0                         |                            |
|        |             | 25        | High            | 25 |                           | 17.0                         |                            |
|        |             | 50        | -               | 0  |                           | 16.8                         |                            |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | 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  | 16.8                      | 16.8                         | 17.0                       |
|        |             | 1         | Mid             | 12 | 16.9                      | 16.9                         | 17.0                       |
|        |             | 1         | High            | 24 | 16.9                      | 17.0                         | 17.0                       |
|        |             | 12        | low             | 0  | 16.7                      | 17.0                         | 17.1                       |
|        |             | 12        | Mid             | 6  | 16.9                      | 16.9                         | 17.0                       |
|        |             | 12        | High            | 13 | 17.0                      | 17.1                         | 16.9                       |
|        |             | 25        | -               | 0  | 16.8                      | 16.9                         | 16.9                       |
|        | 16QAM       | 1         | Low             | 0  | 16.9                      | 16.6                         | 16.8                       |
|        |             | 1         | Mid             | 12 | 16.9                      | 16.7                         | 16.8                       |
|        |             | 1         | High            | 24 | 17.0                      | 16.8                         | 16.8                       |
|        |             | 12        | low             | 0  | 16.7                      | 17.0                         | 17.1                       |
|        |             | 12        | Mid             | 6  | 16.8                      | 17.0                         | 17.0                       |
|        |             | 12        | High            | 13 | 16.9                      | 17.1                         | 16.9                       |
|        |             | 25        | -               | 0  | 16.8                      | 16.9                         | 17.0                       |

**LTE Band 13 (750 MHz)****Proximity Sensor Inactive**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm). |                              |                            |
|--------|-------------|-----------|-----------------|----|---------------------------|------------------------------|----------------------------|
|        |             |           |                 |    | Low                       | Frequency 782.0 MHz (Middle) | High                       |
| 10 MHz | QPSK        | 1         | Low             | 0  | Not Supported             | 22.6                         | Not Supported              |
|        |             | 1         | Mid             | 24 |                           | 22.8                         |                            |
|        |             | 1         | High            | 49 |                           | 22.8                         |                            |
|        |             | 25        | Low             | 0  |                           | 21.6                         |                            |
|        |             | 25        | Mid             | 12 |                           | 21.8                         |                            |
|        |             | 25        | High            | 25 |                           | 21.8                         |                            |
|        |             | 50        | -               | 0  |                           | 21.6                         |                            |
|        | 16QAM       | 1         | Low             | 0  |                           | 21.5                         |                            |
|        |             | 1         | mid             | 24 |                           | 21.7                         |                            |
|        |             | 1         | High            | 49 |                           | 21.6                         |                            |
|        |             | 25        | Low             | 0  |                           | 20.7                         |                            |
|        |             | 25        | Mid             | 12 |                           | 20.8                         |                            |
|        |             | 25        | High            | 25 |                           | 20.8                         |                            |
|        |             | 50        | -               | 0  |                           | 20.6                         |                            |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | 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  | 22.5                      | 22.6                         | 22.8                       |
|        |             | 1         | Mid             | 12 | 22.6                      | 22.7                         | 22.8                       |
|        |             | 1         | High            | 24 | 22.7                      | 22.8                         | 22.8                       |
|        |             | 12        | low             | 0  | 21.6                      | 21.8                         | 21.9                       |
|        |             | 12        | Mid             | 6  | 21.7                      | 21.8                         | 21.8                       |
|        |             | 12        | High            | 13 | 21.8                      | 21.9                         | 21.7                       |
|        |             | 25        | -               | 0  | 21.6                      | 21.7                         | 21.7                       |
|        | 16QAM       | 1         | Low             | 0  | 21.7                      | 21.5                         | 21.7                       |
|        |             | 1         | Mid             | 12 | 21.7                      | 21.6                         | 21.6                       |
|        |             | 1         | High            | 24 | 21.8                      | 21.8                         | 21.6                       |
|        |             | 12        | low             | 0  | 20.6                      | 20.8                         | 20.9                       |
|        |             | 12        | Mid             | 6  | 20.6                      | 20.9                         | 20.9                       |
|        |             | 12        | High            | 13 | 20.7                      | 20.9                         | 20.8                       |
|        |             | 25        | -               | 0  | 20.6                      | 20.7                         | 20.9                       |

**LTE Band 17 (700 MHz)****Proximity Sensor Active**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | 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  | 14.7                      | 14.6                         | 14.6                       |
|        |             | 1         | Mid             | 24 | 15.4                      | 15.3                         | 15.2                       |
|        |             | 1         | High            | 49 | 14.8                      | 14.6                         | 14.1                       |
|        |             | 25        | Low             | 0  | 14.8                      | 15.0                         | 15.2                       |
|        |             | 25        | Mid             | 12 | 15.2                      | 15.1                         | 15.2                       |
|        |             | 25        | High            | 25 | 15.1                      | 14.9                         | 14.6                       |
|        |             | 50        | -               | 0  | 15.0                      | 15.0                         | 15.0                       |
|        | 16QAM       | 1         | Low             | 0  | 14.9                      | 15.0                         | 15.2                       |
|        |             | 1         | mid             | 24 | 15.5                      | 15.5                         | 15.5                       |
|        |             | 1         | High            | 49 | 15.0                      | 14.8                         | 14.5                       |
|        |             | 25        | Low             | 0  | 14.9                      | 15.1                         | 15.2                       |
|        |             | 25        | Mid             | 12 | 15.2                      | 15.2                         | 15.2                       |
|        |             | 25        | High            | 25 | 15.2                      | 15.0                         | 14.6                       |
|        |             | 50        | -               | 0  | 15.0                      | 15.0                         | 15.0                       |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | 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  | 14.4                      | 14.9                         | 14.8                       |
|        |             | 1         | Mid             | 12 | 14.5                      | 15.3                         | 14.5                       |
|        |             | 1         | High            | 24 | 15.2                      | 14.8                         | 13.7                       |
|        |             | 12        | low             | 0  | 14.4                      | 15.2                         | 14.6                       |
|        |             | 12        | Mid             | 6  | 14.5                      | 15.3                         | 14.4                       |
|        |             | 12        | High            | 13 | 14.8                      | 15.1                         | 14.4                       |
|        |             | 25        | -               | 0  | 14.6                      | 15.2                         | 14.5                       |
|        | 16QAM       | 1         | Low             | 0  | 15.0                      | 14.9                         | 15.2                       |
|        |             | 1         | Mid             | 12 | 15.1                      | 15.2                         | 15.5                       |
|        |             | 1         | High            | 24 | 14.7                      | 15.5                         | 15.1                       |
|        |             | 12        | low             | 0  | 14.3                      | 14.5                         | 15.2                       |
|        |             | 12        | Mid             | 6  | 14.6                      | 14.6                         | 15.3                       |
|        |             | 12        | High            | 13 | 14.3                      | 14.8                         | 15.2                       |
|        |             | 25        | -               | 0  | 14.8                      | 14.7                         | 15.2                       |

**LTE Band 17 (700 MHz)****Proximity Sensor Inactive**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | 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  | 22.3                      | 22.5                         | 22.3                       |
|        |             | 1         | Mid             | 24 | 22.4                      | 22.7                         | 22.6                       |
|        |             | 1         | High            | 49 | 22.4                      | 22.4                         | 22.2                       |
|        |             | 25        | Low             | 0  | 21.3                      | 21.4                         | 21.4                       |
|        |             | 25        | Mid             | 12 | 21.4                      | 21.4                         | 21.4                       |
|        |             | 25        | High            | 25 | 21.4                      | 21.4                         | 21.3                       |
|        |             | 50        | -               | 0  | 21.4                      | 21.3                         | 21.2                       |
|        | 16QAM       | 1         | Low             | 0  | 21.4                      | 21.3                         | 21.2                       |
|        |             | 1         | mid             | 24 | 21.5                      | 21.4                         | 21.4                       |
|        |             | 1         | High            | 49 | 21.5                      | 21.3                         | 21.0                       |
|        |             | 25        | Low             | 0  | 20.3                      | 20.4                         | 20.4                       |
|        |             | 25        | Mid             | 12 | 20.4                      | 20.4                         | 20.4                       |
|        |             | 25        | High            | 25 | 20.4                      | 20.4                         | 20.4                       |
|        |             | 50        | -               | 0  | 20.3                      | 20.2                         | 20.2                       |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | 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  | 22.4                      | 22.5                         | 22.4                       |
|        |             | 1         | Mid             | 12 | 22.3                      | 22.5                         | 22.4                       |
|        |             | 1         | High            | 24 | 22.4                      | 22.3                         | 22.4                       |
|        |             | 12        | low             | 0  | 21.3                      | 21.5                         | 21.4                       |
|        |             | 12        | Mid             | 6  | 21.3                      | 21.5                         | 21.2                       |
|        |             | 12        | High            | 13 | 21.4                      | 21.5                         | 21.6                       |
|        |             | 25        | -               | 0  | 21.4                      | 21.5                         | 21.8                       |
|        | 16QAM       | 1         | Low             | 0  | 21.6                      | 21.4                         | 21.3                       |
|        |             | 1         | Mid             | 12 | 21.2                      | 21.4                         | 21.4                       |
|        |             | 1         | High            | 24 | 21.1                      | 21.4                         | 21.2                       |
|        |             | 12        | low             | 0  | 20.9                      | 20.2                         | 20.5                       |
|        |             | 12        | Mid             | 6  | 20.4                      | 20.3                         | 20.6                       |
|        |             | 12        | High            | 13 | 20.3                      | 20.3                         | 20.5                       |
|        |             | 25        | -               | 0  | 20.6                      | 20.3                         | 20.4                       |

**8.5.7. LTE Band 25 (1900 MHz)****Proximity Sensor Active**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm).  |                               |                             |
|--------|-------------|-----------|-----------------|----|----------------------------|-------------------------------|-----------------------------|
|        |             |           |                 |    | Frequency 1860.0 MHz (Low) | Frequency 1882.5 MHz (Middle) | Frequency 1905.0 MHz (High) |
| 20 MHz | QPSK        | 1         | Low             | 0  | 13.3                       | 13.3                          | 13.3                        |
|        |             | 1         | Mid             | 49 | 13.4                       | 13.4                          | 13.4                        |
|        |             | 1         | High            | 99 | 14.2                       | 14.2                          | 14.2                        |
|        |             | 50        | low             | 0  | 13.1                       | 13.1                          | 13.1                        |
|        |             | 50        | Mid             | 24 | 13.4                       | 13.4                          | 13.3                        |
|        |             | 50        | High            | 49 | 13.7                       | 13.7                          | 13.7                        |
|        |             | 100       | -               | 0  | 13.5                       | 13.5                          | 13.5                        |
|        | 16QAM       | 1         | Low             | 0  | 13.1                       | 13.1                          | 13.1                        |
|        |             | 1         | Mid             | 49 | 13.4                       | 13.4                          | 13.4                        |
|        |             | 1         | High            | 99 | 14.0                       | 14.0                          | 14.0                        |
|        |             | 50        | low             | 0  | 13.0                       | 13.0                          | 13.0                        |
|        |             | 50        | Mid             | 24 | 13.2                       | 13.2                          | 13.2                        |
|        |             | 50        | High            | 49 | 13.7                       | 13.7                          | 13.7                        |
|        |             | 100       | -               | 0  | 13.3                       | 13.3                          | 13.3                        |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm).  |                               |                             |
|        |             |           |                 |    | Frequency 1857.5 MHz (Low) | Frequency 1882.5 MHz (Middle) | Frequency 1907.5 MHz (High) |
| 15 MHz | QPSK        | 1         | Low             | 0  | 12.8                       | 12.8                          | 12.8                        |
|        |             | 1         | Mid             | 37 | 13.2                       | 13.2                          | 13.2                        |
|        |             | 1         | High            | 74 | 13.7                       | 13.7                          | 13.7                        |
|        |             | 36        | low             | 0  | 13.1                       | 13.1                          | 13.1                        |
|        |             | 36        | Mid             | 19 | 13.3                       | 13.3                          | 13.3                        |
|        |             | 36        | High            | 39 | 13.6                       | 13.6                          | 13.6                        |
|        |             | 75        | -               | 0  | 13.4                       | 13.3                          | 13.3                        |
|        | 16QAM       | 1         | Low             | 0  | 13.1                       | 13.1                          | 13.1                        |
|        |             | 1         | Mid             | 37 | 13.6                       | 13.6                          | 13.6                        |
|        |             | 1         | High            | 74 | 14.2                       | 14.2                          | 14.2                        |
|        |             | 36        | low             | 0  | 12.9                       | 12.9                          | 12.9                        |
|        |             | 36        | Mid             | 19 | 13.1                       | 13.1                          | 13.1                        |
|        |             | 36        | High            | 39 | 13.4                       | 13.4                          | 13.4                        |
|        |             | 75        | -               | 0  | 13.4                       | 13.2                          | 13.2                        |

**LTE Band 25 (1900 MHz)****Proximity Sensor Active**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm).  |                               |                             |
|--------|-------------|-----------|-----------------|----|----------------------------|-------------------------------|-----------------------------|
|        |             |           |                 |    | Frequency 1855.0 MHz (Low) | Frequency 1882.5 MHz (Middle) | Frequency 1910.0 MHz (High) |
| 10 MHz | QPSK        | 1         | Low             | 0  | 13.3                       | 13.3                          | 13.3                        |
|        |             | 1         | Mid             | 24 | 13.2                       | 13.2                          | 13.2                        |
|        |             | 1         | High            | 49 | 13.9                       | 13.9                          | 13.9                        |
|        |             | 25        | Low             | 0  | 13.3                       | 13.3                          | 13.3                        |
|        |             | 25        | Mid             | 12 | 13.4                       | 13.4                          | 13.4                        |
|        |             | 25        | High            | 25 | 13.6                       | 13.6                          | 13.6                        |
|        |             | 50        | -               | 0  | 13.5                       | 13.5                          | 13.5                        |
|        | 16QAM       | 1         | Low             | 0  | 13.6                       | 13.6                          | 13.6                        |
|        |             | 1         | mid             | 24 | 13.6                       | 13.6                          | 13.6                        |
|        |             | 1         | High            | 49 | 14.2                       | 14.2                          | 14.2                        |
|        |             | 25        | Low             | 0  | 13.1                       | 13.1                          | 13.1                        |
|        |             | 25        | Mid             | 12 | 13.3                       | 13.3                          | 13.3                        |
|        |             | 25        | High            | 25 | 13.5                       | 13.5                          | 13.5                        |
|        |             | 50        | -               | 0  | 13.3                       | 13.3                          | 13.3                        |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm).  |                               |                             |
|        |             |           |                 |    | Frequency 1852.5 MHz (Low) | Frequency 1882.5 MHz (Middle) | Frequency 1912.5 MHz (High) |
| 5 MHz  | QPSK        | 1         | Low             | 0  | 13.1                       | 13.0                          | 13.0                        |
|        |             | 1         | Mid             | 12 | 13.3                       | 13.3                          | 13.3                        |
|        |             | 1         | High            | 24 | 13.4                       | 13.4                          | 13.4                        |
|        |             | 12        | low             | 0  | 13.2                       | 13.2                          | 13.1                        |
|        |             | 12        | Mid             | 6  | 13.2                       | 13.2                          | 13.2                        |
|        |             | 12        | High            | 13 | 13.3                       | 13.3                          | 13.3                        |
|        |             | 25        | -               | 0  | 13.3                       | 13.3                          | 13.3                        |
|        | 16QAM       | 1         | Low             | 0  | 13.2                       | 13.1                          | 13.1                        |
|        |             | 1         | Mid             | 12 | 13.4                       | 13.5                          | 13.4                        |
|        |             | 1         | High            | 24 | 13.5                       | 13.5                          | 13.5                        |
|        |             | 12        | low             | 0  | 13.0                       | 13.0                          | 13.0                        |
|        |             | 12        | Mid             | 6  | 13.1                       | 13.1                          | 13.1                        |
|        |             | 12        | High            | 13 | 13.2                       | 13.2                          | 13.2                        |
|        |             | 25        | -               | 0  | 13.2                       | 13.2                          | 13.2                        |

**LTE Band 25 (1900 MHz)****Proximity Sensor Active**

| Ch. BW  | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm).  |                               |                             |
|---------|-------------|-----------|-----------------|----|----------------------------|-------------------------------|-----------------------------|
|         |             |           |                 |    | Frequency 1851.5 MHz (Low) | Frequency 1882.5 MHz (Middle) | Frequency 1915.5 MHz (High) |
| 3 MHz   | QPSK        | 1         | Low             | 0  | 13.0                       | 13.0                          | 13.0                        |
|         |             | 1         | Mid             | 7  | 13.2                       | 13.2                          | 13.2                        |
|         |             | 1         | High            | 14 | 13.2                       | 13.2                          | 13.2                        |
|         |             | 8         | Low             | 0  | 13.2                       | 13.2                          | 13.2                        |
|         |             | 8         | Mid             | 4  | 13.3                       | 13.3                          | 13.3                        |
|         |             | 8         | High            | 7  | 13.3                       | 13.3                          | 13.3                        |
|         |             | 15        | -               | 0  | 13.2                       | 13.2                          | 13.2                        |
|         | 16QAM       | 1         | Low             | 0  | 13.4                       | 13.4                          | 13.4                        |
|         |             | 1         | Mid             | 7  | 13.6                       | 13.6                          | 13.6                        |
|         |             | 1         | High            | 14 | 13.5                       | 13.5                          | 13.5                        |
|         |             | 8         | Low             | 0  | 13.2                       | 13.2                          | 13.2                        |
|         |             | 8         | Mid             | 4  | 13.4                       | 13.4                          | 13.4                        |
|         |             | 8         | High            | 7  | 13.4                       | 13.4                          | 13.4                        |
|         |             | 15        | -               | 0  | 13.2                       | 13.2                          | 13.2                        |
| Ch. BW  | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm).  |                               |                             |
|         |             |           |                 |    | Frequency 1850.7 MHz (Low) | Frequency 1882.5 MHz (Middle) | Frequency 1914.3 MHz (High) |
| 1.4 MHz | QPSK        | 1         | Low             | 0  | 13.1                       | 13.1                          | 13.1                        |
|         |             | 1         | Mid             | 3  | 13.2                       | 13.2                          | 13.2                        |
|         |             | 1         | High            | 5  | 13.2                       | 13.2                          | 13.2                        |
|         |             | 3         | Low             | 0  | 13.2                       | 13.2                          | 13.2                        |
|         |             | 3         | Mid             | 1  | 13.3                       | 13.3                          | 13.3                        |
|         |             | 3         | high            | 3  | 13.3                       | 13.3                          | 13.3                        |
|         |             | 6         | -               | 0  | 13.3                       | 13.3                          | 13.3                        |
|         | 16QAM       | 1         | Low             | 0  | 13.2                       | 13.2                          | 13.2                        |
|         |             | 1         | Mid             | 3  | 13.4                       | 13.4                          | 13.4                        |
|         |             | 1         | High            | 5  | 13.3                       | 13.3                          | 13.3                        |
|         |             | 3         | Low             | 0  | 13.2                       | 13.2                          | 13.2                        |
|         |             | 3         | Mid             | 1  | 13.2                       | 13.2                          | 13.2                        |
|         |             | 3         | high            | 3  | 13.2                       | 13.2                          | 13.2                        |
|         |             | 6         | -               | 0  | 13.3                       | 13.3                          | 13.3                        |

**8.5.8. LTE Band 25 (1900 MHz)****Proximity Sensor Inactive**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm).  |                               |                             |
|--------|-------------|-----------|-----------------|----|----------------------------|-------------------------------|-----------------------------|
|        |             |           |                 |    | Frequency 1860.0 MHz (Low) | Frequency 1882.5 MHz (Middle) | Frequency 1905.0 MHz (High) |
| 20 MHz | QPSK        | 1         | Low             | 0  | 22.9                       | 23.0                          | 23.0                        |
|        |             | 1         | Mid             | 49 | 22.9                       | 22.9                          | 22.9                        |
|        |             | 1         | High            | 99 | 22.7                       | 22.7                          | 22.7                        |
|        |             | 50        | low             | 0  | 21.5                       | 21.5                          | 21.5                        |
|        |             | 50        | Mid             | 24 | 21.5                       | 21.5                          | 21.5                        |
|        |             | 50        | High            | 49 | 21.5                       | 21.5                          | 21.5                        |
|        |             | 100       | -               | 0  | 21.5                       | 21.5                          | 21.5                        |
|        | 16QAM       | 1         | Low             | 0  | 21.9                       | 21.9                          | 21.9                        |
|        |             | 1         | Mid             | 49 | 21.8                       | 21.8                          | 21.8                        |
|        |             | 1         | High            | 99 | 21.6                       | 21.7                          | 21.6                        |
|        |             | 50        | low             | 0  | 20.6                       | 20.5                          | 20.5                        |
|        |             | 50        | Mid             | 24 | 20.5                       | 20.5                          | 20.6                        |
|        |             | 50        | High            | 49 | 20.5                       | 20.5                          | 20.5                        |
|        |             | 100       | -               | 0  | 20.5                       | 20.5                          | 20.5                        |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm).  |                               |                             |
|        |             |           |                 |    | Frequency 1857.5 MHz (Low) | Frequency 1882.5 MHz (Middle) | Frequency 1907.5 MHz (High) |
| 15 MHz | QPSK        | 1         | Low             | 0  | 22.9                       | 22.8                          | 22.8                        |
|        |             | 1         | Mid             | 37 | 22.9                       | 22.8                          | 22.8                        |
|        |             | 1         | High            | 74 | 22.6                       | 22.7                          | 22.7                        |
|        |             | 36        | low             | 0  | 21.6                       | 21.6                          | 21.6                        |
|        |             | 36        | Mid             | 19 | 21.6                       | 21.6                          | 21.6                        |
|        |             | 36        | High            | 39 | 21.6                       | 21.6                          | 21.6                        |
|        |             | 75        | -               | 0  | 21.5                       | 21.5                          | 21.5                        |
|        | 16QAM       | 1         | Low             | 0  | 21.9                       | 21.9                          | 21.9                        |
|        |             | 1         | Mid             | 37 | 21.9                       | 21.9                          | 21.9                        |
|        |             | 1         | High            | 74 | 21.8                       | 21.8                          | 21.7                        |
|        |             | 36        | low             | 0  | 20.6                       | 20.5                          | 20.6                        |
|        |             | 36        | Mid             | 19 | 20.6                       | 20.6                          | 20.6                        |
|        |             | 36        | High            | 39 | 20.5                       | 20.5                          | 20.5                        |
|        |             | 75        | -               | 0  | 20.5                       | 20.5                          | 20.4                        |

**LTE Band 25 (1900 MHz)**  
**Proximity Sensor Inactive**

| Ch. BW | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm).  |                               |                             |
|--------|-------------|-----------|-----------------|----|----------------------------|-------------------------------|-----------------------------|
|        |             |           |                 |    | Frequency 1855.0 MHz (Low) | Frequency 1882.5 MHz (Middle) | Frequency 1910.0 MHz (High) |
| 10 MHz | QPSK        | 1         | Low             | 0  | 22.7                       | 22.7                          | 22.7                        |
|        |             | 1         | Mid             | 24 | 22.8                       | 22.8                          | 22.8                        |
|        |             | 1         | High            | 49 | 22.7                       | 22.7                          | 22.7                        |
|        |             | 25        | Low             | 0  | 21.6                       | 21.6                          | 21.6                        |
|        |             | 25        | Mid             | 12 | 21.6                       | 21.6                          | 21.6                        |
|        |             | 25        | High            | 25 | 21.6                       | 21.6                          | 21.6                        |
|        |             | 50        | -               | 0  | 21.5                       | 21.6                          | 21.6                        |
|        | 16QAM       | 1         | Low             | 0  | 21.8                       | 21.8                          | 21.8                        |
|        |             | 1         | mid             | 24 | 21.9                       | 21.9                          | 21.9                        |
|        |             | 1         | High            | 49 | 21.7                       | 21.8                          | 21.7                        |
|        |             | 25        | Low             | 0  | 20.7                       | 20.7                          | 20.7                        |
|        |             | 25        | Mid             | 12 | 20.7                       | 20.7                          | 20.7                        |
|        |             | 25        | High            | 25 | 20.7                       | 20.7                          | 20.6                        |
|        |             | 50        | -               | 0  | 20.5                       | 20.5                          | 20.5                        |
| Ch. BW | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm).  |                               |                             |
|        |             |           |                 |    | Frequency 1852.5 MHz (Low) | Frequency 1882.5 MHz (Middle) | Frequency 1912.5 MHz (High) |
| 5 MHz  | QPSK        | 1         | Low             | 0  | 22.8                       | 22.8                          | 22.8                        |
|        |             | 1         | Mid             | 12 | 22.9                       | 22.9                          | 22.9                        |
|        |             | 1         | High            | 24 | 22.8                       | 22.7                          | 22.8                        |
|        |             | 12        | low             | 0  | 21.9                       | 21.9                          | 21.9                        |
|        |             | 12        | Mid             | 6  | 21.9                       | 21.9                          | 21.9                        |
|        |             | 12        | High            | 13 | 21.8                       | 21.8                          | 21.8                        |
|        |             | 25        | -               | 0  | 21.7                       | 21.7                          | 21.7                        |
|        | 16QAM       | 1         | Low             | 0  | 21.6                       | 21.7                          | 21.6                        |
|        |             | 1         | Mid             | 12 | 21.7                       | 21.8                          | 21.8                        |
|        |             | 1         | High            | 24 | 21.6                       | 21.6                          | 21.6                        |
|        |             | 12        | low             | 0  | 20.9                       | 20.9                          | 20.9                        |
|        |             | 12        | Mid             | 6  | 20.8                       | 20.8                          | 20.8                        |
|        |             | 12        | High            | 13 | 20.7                       | 20.7                          | 20.7                        |
|        |             | 25        | -               | 0  | 20.7                       | 20.7                          | 20.7                        |

**LTE Band 25 (1900 MHz)**  
**Proximity Sensor Inactive**

| Ch. BW  | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm).  |                               |                             |
|---------|-------------|-----------|-----------------|----|----------------------------|-------------------------------|-----------------------------|
|         |             |           |                 |    | Frequency 1851.5 MHz (Low) | Frequency 1882.5 MHz (Middle) | Frequency 1915.5 MHz (High) |
| 3 MHz   | QPSK        | 1         | Low             | 0  | 22.7                       | 22.8                          | 22.8                        |
|         |             | 1         | Mid             | 7  | 22.8                       | 22.8                          | 22.8                        |
|         |             | 1         | High            | 14 | 22.6                       | 22.6                          | 22.6                        |
|         |             | 8         | Low             | 0  | 21.8                       | 21.8                          | 21.8                        |
|         |             | 8         | Mid             | 4  | 21.8                       | 21.8                          | 21.8                        |
|         |             | 8         | High            | 7  | 21.8                       | 21.8                          | 21.8                        |
|         |             | 15        | -               | 0  | 21.8                       | 21.8                          | 21.8                        |
|         | 16QAM       | 1         | Low             | 0  | 21.9                       | 22.0                          | 21.9                        |
|         |             | 1         | Mid             | 7  | 21.9                       | 21.9                          | 21.9                        |
|         |             | 1         | High            | 14 | 21.8                       | 21.8                          | 21.8                        |
|         |             | 8         | Low             | 0  | 20.9                       | 20.9                          | 20.9                        |
|         |             | 8         | Mid             | 4  | 21.0                       | 21.0                          | 21.0                        |
|         |             | 8         | High            | 7  | 20.9                       | 21.0                          | 21.0                        |
|         |             | 15        | -               | 0  | 20.9                       | 20.9                          | 20.9                        |
| Ch. BW  | Modulations | RB Config | Start RB Offset |    | Measured Avg Power (dBm).  |                               |                             |
|         |             |           |                 |    | Frequency 1850.7 MHz (Low) | Frequency 1882.5 MHz (Middle) | Frequency 1914.3 MHz (High) |
| 1.4 MHz | QPSK        | 1         | Low             | 0  | 22.8                       | 22.8                          | 22.9                        |
|         |             | 1         | Mid             | 3  | 22.8                       | 22.8                          | 22.7                        |
|         |             | 1         | High            | 5  | 22.8                       | 22.8                          | 22.8                        |
|         |             | 3         | Low             | 0  | 22.8                       | 22.8                          | 22.8                        |
|         |             | 3         | Mid             | 1  | 22.9                       | 22.9                          | 22.9                        |
|         |             | 3         | high            | 3  | 22.9                       | 22.8                          | 22.8                        |
|         |             | 6         | -               | 0  | 21.9                       | 21.9                          | 21.9                        |
|         | 16QAM       | 1         | Low             | 0  | 21.7                       | 21.7                          | 21.7                        |
|         |             | 1         | Mid             | 3  | 21.7                       | 21.7                          | 21.7                        |
|         |             | 1         | High            | 5  | 21.7                       | 21.7                          | 21.7                        |
|         |             | 3         | Low             | 0  | 21.8                       | 21.8                          | 21.8                        |
|         |             | 3         | Mid             | 1  | 21.8                       | 21.8                          | 21.8                        |
|         |             | 3         | high            | 3  | 21.8                       | 21.8                          | 21.9                        |
|         |             | 6         | -               | 0  | 20.9                       | 20.9                          | 20.9                        |

**8.6. RF Output Average Power Measurement: Wi-Fi****8.6.1. WiFi 802.11b/g/n (2.4 GHz) - SISO**

|                |                 | Avg Power (dBm)  |                 |                 |
|----------------|-----------------|------------------|-----------------|-----------------|
|                |                 | Antenna 1 (Main) | Antenna 2 (Aux) |                 |
| Channel Number | Frequency (MHZ) | (1Mbps)          | (1Mbps)         | Operating Mode  |
| 1              | 2412.0          | 11.3             | 11.4            | 802.11b         |
| 6              | 2437.0          | 11.5             | 11.7            |                 |
| 11             | 2462.0          | 11.7             | 11.7            |                 |
| Channel Number | Frequency (MHZ) | (6Mbps)          | (6Mbps)         | Operating Mode  |
| 1              | 2412.0          | 10.8             | 11.1            | 802.11g         |
| 6              | 2437.0          | 11.1             | 11.2            |                 |
| 11             | 2462.0          | 11.3             | 11.4            |                 |
| Channel Number | Frequency (MHZ) | (6.5Mbps)        | (6.5Mbps)       | Operating Mode  |
| 1              | 2412.0          | 10.8             | 10.9            | 802.11n<br>HT20 |
| 6              | 2437.0          | 11.0             | 11.2            |                 |
| 11             | 2462.0          | 11.1             | 11.3            |                 |

**8.6.2. WiFi 802.11b/g/n (2.4 GHz) - MIMO**

| Channel Number |                 | Avg Power (dBm)  |                 | Operating Mode          |
|----------------|-----------------|------------------|-----------------|-------------------------|
|                |                 | Antenna 1 (Main) | Antenna 2 (Aux) |                         |
|                |                 | (6Mbps)          | (6Mbps)         |                         |
| 1              | 2412.0          | 11.0             | 11.2            | 802.11g<br>(CDD)        |
| 6              | 2437.0          | 11.2             | 11.6            |                         |
| 11             | 2462.0          | 11.4             | 11.5            |                         |
| Channel Number | Frequency (MHZ) | (6.5Mbps)        | (6.5Mbps)       | Operating Mode          |
| 1              | 2412.0          | 11.1             | 10.9            | 802.11n, HT20<br>(CDD)  |
| 6              | 2437.0          | 11.1             | 11.2            |                         |
| 11             | 2462.0          | 11.2             | 11.2            |                         |
| 1              | 2412.0          | 10.9             | 11.0            | 802.11n, HT20<br>(STBC) |
| 6              | 2437.0          | 11.1             | 11.1            |                         |
| 11             | 2462.0          | 11.1             | 11.2            |                         |

**8.6.3. Wi-Fi802.11a/n (5.0 GHz) – SISO Sub Band U-NII-1 (5.2 GHz)**

|                |                 | Avg Power (dBm)  |                 |                |
|----------------|-----------------|------------------|-----------------|----------------|
|                |                 | Antenna 1 (Main) | Antenna 2 (Aux) |                |
| Channel Number | Frequency (MHZ) | 6 Mbps           | 6 Mbps          | Operating Mode |
| 36             | 5180.0          | 12.8             | 12.5            | 802.11a        |
| 40             | 5200.0          | 12.7             | 12.5            |                |
| 44             | 5220.0          | 12.8             | 12.5            |                |
| 48             | 5240.0          | 12.7             | 12.7            |                |
| Channel Number | Frequency (MHZ) | 6 Mbps           | 6 Mbps          | Operating Mode |
| 36             | 5180.0          | 11.7             | 11.5            | 802.11n, HT20  |
| 40             | 5200.0          | 11.8             | 11.3            |                |
| 44             | 5220.0          | 11.7             | 11.4            |                |
| 48             | 5240.0          | 11.8             | 11.5            |                |
| Channel Number | Frequency (MHZ) | 13.5 Mbps        | 13.5 Mbps       | Operating Mode |
| 38             | 5190.0          | 11.7             | 11.6            | 802.11n, HT40  |
| 46             | 5230.0          | 11.8             | 11.6            |                |

**8.6.4. Wi-Fi802.11a/n (5.0 GHz) – MIMO Sub Band U-NII-1 (5.2 GHz)**

|                |                 | Avg Power (dBm)  |                 |                       |
|----------------|-----------------|------------------|-----------------|-----------------------|
|                |                 | Antenna 1 (Main) | Antenna 2 (Aux) |                       |
| Channel Number | Frequency (MHZ) | 6 Mbps           | 6 Mbps          | Operating Mode        |
| 36             | 5180.0          | 12.8             | 12.8            | 802.11a<br>CDD        |
| 40             | 5200.0          | 12.8             | 12.8            |                       |
| 44             | 5220.0          | 12.8             | 12.8            |                       |
| 48             | 5240.0          | 12.8             | 12.7            |                       |
| Channel Number | Frequency (MHZ) | 6.5 Mbps         | 6.5 Mbps        | Operating Mode        |
| 36             | 5180.0          | 12.0             | 11.3            | 802.11n, HT20<br>CDD  |
| 40             | 5200.0          | 11.9             | 11.4            |                       |
| 44             | 5220.0          | 11.8             | 11.4            |                       |
| 48             | 5240.0          | 11.8             | 11.5            |                       |
| 36             | 5180.0          | 11.9             | 11.3            | 802.11n, HT20<br>STBC |
| 40             | 5200.0          | 11.9             | 11.4            |                       |
| 44             | 5220.0          | 11.9             | 11.4            |                       |
| 48             | 5240.0          | 11.8             | 11.4            |                       |
| Channel Number | Frequency (MHZ) | 13.5 Mbps        | 13.5 Mbps       | Operating Mode        |
| 38             | 5190.0          | 11.8             | 11.6            | 802.11n, HT40<br>CDD  |
| 46             | 5230.0          | 11.8             | 11.7            |                       |
| 38             | 5190.0          | 11.8             | 11.7            | 802.11n, HT40<br>STBC |
| 46             | 5230.0          | 11.8             | 11.6            |                       |

**8.6.5. Wi-Fi802.11a/n (5.0 GHz) – SISO Sub Band U-NII-2A (5.3 GHz)**

|                |                 | Avg Power (dBm)  |                 |                |
|----------------|-----------------|------------------|-----------------|----------------|
|                |                 | Antenna 1 (Main) | Antenna 2 (Aux) |                |
| Channel Number | Frequency (MHZ) | 6 Mbps           | 6 Mbps          | Operating Mode |
| 52             | 5260.0          | 12.7             | 12.6            | 802.11a        |
| 56             | 5280.0          | 12.7             | 12.6            |                |
| 60             | 5300.0          | 12.6             | 12.7            |                |
| 64             | 5320.0          | 12.7             | 12.7            |                |
| Channel Number | Frequency (MHZ) | 6 Mbps           | 6 Mbps          | Operating Mode |
| 52             | 5260.0          | 11.8             | 11.6            | 802.11n, HT20  |
| 56             | 5280.0          | 11.8             | 11.6            |                |
| 60             | 5300.0          | 11.8             | 11.6            |                |
| 64             | 5320.0          | 11.6             | 11.6            |                |
| Channel Number | Frequency (MHZ) | 13.5 Mbps        | 13.5 Mbps       | Operating Mode |
| 54             | 5270.0          | 11.7             | 11.7            | 802.11n, HT40  |
| 62             | 5310.0          | 11.6             | 11.7            |                |

**8.6.6. Wi-Fi802.11a/n (5.0 GHz) – MIMO Sub Band U-NII-2A (5.3 GHz)**

|                |                 | Avg Power (dBm)  |                 |                       |
|----------------|-----------------|------------------|-----------------|-----------------------|
|                |                 | Antenna 1 (Main) | Antenna 2 (Aux) |                       |
| Channel Number | Frequency (MHZ) | 6 Mbps           | 6 Mbps          | Operating Mode        |
| 52             | 5260.0          | 12.7             | 12.8            | 802.11a<br>CDD        |
| 56             | 5280.0          | 12.7             | 12.8            |                       |
| 60             | 5300.0          | 12.7             | 12.8            |                       |
| 64             | 5320.0          | 12.7             | 12.8            |                       |
| Channel Number | Frequency (MHZ) | 6.5 Mbps         | 6.5 Mbps        | Operating Mode        |
| 52             | 5260.0          | 11.8             | 11.5            | 802.11n, HT20<br>CDD  |
| 56             | 5280.0          | 11.9             | 11.6            |                       |
| 60             | 5300.0          | 11.9             | 11.7            |                       |
| 64             | 5320.0          | 11.8             | 11.7            |                       |
| 52             | 5260.0          | 11.7             | 11.5            | 802.11n, HT20<br>STBC |
| 56             | 5280.0          | 11.8             | 11.6            |                       |
| 60             | 5300.0          | 11.8             | 11.5            |                       |
| 64             | 5320.0          | 11.8             | 11.6            |                       |
| Channel Number | Frequency (MHZ) | 13.5 Mbps        | 13.5 Mbps       | Operating Mode        |
| 54             | 5270.0          | 11.7             | 11.7            | 802.11n, HT40<br>CDD  |
| 62             | 5310.0          | 11.7             | 11.7            |                       |
| 54             | 5270.0          | 11.8             | 11.8            | 802.11n, HT40<br>STBC |
| 62             | 5310.0          | 11.7             | 11.8            |                       |

**8.6.7. Wi-Fi802.11a/n (5.0 GHz) – SISO Sub Band U-NII-2C (5.5 GHz)**

|                |                 | Avg Power (dBm)  |                 |                |
|----------------|-----------------|------------------|-----------------|----------------|
|                |                 | Antenna 1 (Main) | Antenna 2 (Aux) |                |
| Channel Number | Frequency (MHZ) | 6 Mbps           | 6 Mbps          | Operating Mode |
| 100            | 5500.0          | 12.0             | 12.4            | 802.11a        |
| 104            | 5520.0          | 12.0             | 12.4            |                |
| 108            | 5540.0          | 11.9             | 12.3            |                |
| 112            | 5560.0          | 11.9             | 12.1            |                |
| 116            | 5580.0          | 11.8             | 12.1            |                |
| 132            | 5660.0          | 11.8             | 11.9            |                |
| 136            | 5680.0          | 11.7             | 11.7            |                |
| 140            | 5700.0          | 11.7             | 11.7            |                |
| Channel Number | Frequency (MHZ) | 6.5 Mbps         | 6.5 Mbps        | Operating Mode |
| 100            | 5500.0          | 11.5             | 12.0            | 802.11n, HT20  |
| 104            | 5520.0          | 11.4             | 12.0            |                |
| 108            | 5540.0          | 11.4             | 11.9            |                |
| 112            | 5560.0          | 11.6             | 11.8            |                |
| 116            | 5580.0          | 11.6             | 11.7            |                |
| 132            | 5660.0          | 11.7             | 11.6            |                |
| 136            | 5680.0          | 11.4             | 11.7            |                |
| 140            | 5700.0          | 11.3             | 11.6            |                |
| Channel Number | Frequency (MHZ) | 13.5 Mbps        | 13.5 Mbps       | Operating Mode |
| 102            | 5510.0          | 10.9             | 11.4            | 802.11n, HT40  |
| 110            | 5550.0          | 11.2             | 11.4            |                |
| 134            | 5670.0          | 11.2             | 10.8            |                |

**8.6.8. Wi-Fi802.11a/n (5.0 GHz) – MIMO Sub Band U-NII-2C (5.5 GHz)**

|                |                 | Avg Power (dBm)  |                 |                               |
|----------------|-----------------|------------------|-----------------|-------------------------------|
|                |                 | Antenna 1 (Main) | Antenna 2 (Aux) |                               |
| Channel Number | Frequency (MHZ) | 6 Mbps           | 6 Mbps          | Operating Mode                |
| 100            | 5500.0          | 12.0             | 12.6            | <b>802.11a<br/>CDD</b>        |
| 104            | 5520.0          | 12.0             | 12.6            |                               |
| 108            | 5540.0          | 12.0             | 12.4            |                               |
| 112            | 5560.0          | 12.0             | 12.3            |                               |
| 116            | 5580.0          | 12.0             | 12.3            |                               |
| 132            | 5660.0          | 11.8             | 12.0            |                               |
| 136            | 5680.0          | 11.8             | 11.9            |                               |
| 140            | 5700.0          | 11.7             | 11.9            |                               |
| Channel Number | Frequency (MHZ) | 6.5 Mbps         | 6.5 Mbps        | Operating Mode                |
| 100            | 5500.0          | 11.5             | 12.0            | <b>802.11n, HT20<br/>CDD</b>  |
| 104            | 5520.0          | 11.4             | 12.0            |                               |
| 108            | 5540.0          | 11.4             | 11.9            |                               |
| 112            | 5560.0          | 11.4             | 11.9            |                               |
| 116            | 5580.0          | 11.4             | 11.7            |                               |
| 132            | 5660.0          | 11.4             | 11.6            |                               |
| 136            | 5680.0          | 11.4             | 11.6            |                               |
| 140            | 5700.0          | 11.3             | 11.6            |                               |
| 100            | 5500.0          | 11.5             | 12.0            | <b>802.11n, HT20<br/>STBC</b> |
| 104            | 5520.0          | 11.5             | 12.0            |                               |
| 108            | 5540.0          | 11.4             | 11.9            |                               |
| 112            | 5560.0          | 11.4             | 11.9            |                               |
| 116            | 5580.0          | 11.4             | 11.8            |                               |
| 132            | 5660.0          | 11.4             | 11.6            |                               |
| 136            | 5680.0          | 11.3             | 11.6            |                               |
| 140            | 5700.0          | 11.3             | 11.6            |                               |
| Channel Number | Frequency (MHZ) | 13.5 Mbps        | 13.5 Mbps       | Operating Mode                |
| 102            | 5510.0          | 10.8             | 11.5            | <b>802.11n, HT40<br/>CDD</b>  |
| 110            | 5550.0          | 10.8             | 11.3            |                               |
| 134            | 5670.0          | 10.8             | 10.9            |                               |
| 102            | 5510.0          | 10.9             | 11.5            | <b>802.11n, HT40<br/>STBC</b> |
| 110            | 5550.0          | 10.8             | 11.4            |                               |
| 134            | 5670.0          | 10.7             | 10.9            |                               |

**8.6.9. Wi-Fi802.11a/n (5.0 GHz) – SISO Sub Band U-NII-3 (5.8 GHz)**

|                |                 | Avg Power (dBm)  |                 |                |
|----------------|-----------------|------------------|-----------------|----------------|
|                |                 | Antenna 1 (Main) | Antenna 2 (Aux) |                |
| Channel Number | Frequency (MHZ) | 6 Mbps           | 6 Mbps          | Operating Mode |
| 149            | 5745.0          | 11.6             | 11.5            | 802.11a        |
| 153            | 5765.0          | 11.6             | 11.4            |                |
| 157            | 5785.0          | 11.6             | 11.4            |                |
| 161            | 5805.0          | 11.7             | 11.3            |                |
| 165            | 5825.0          | 11.7             | 11.3            |                |
| Channel Number | Frequency (MHZ) | 6.5 Mbps         | 6.5 Mbps        | Operating Mode |
| 149            | 5745.0          | 11.3             | 11.4            | 802.11n, HT20  |
| 153            | 5765.0          | 11.2             | 11.4            |                |
| 157            | 5785.0          | 11.2             | 11.2            |                |
| 161            | 5805.0          | 11.2             | 11.1            |                |
| 165            | 5825.0          | 11.1             | 11.1            |                |
| Channel Number | Frequency (MHZ) | 13.5 Mbps        | 13.5 Mbps       | Operating Mode |
| 151            | 5755.0          | 10.6             | 10.6            | 802.11n, HT40  |
| 159            | 5795.0          | 10.5             | 10.5            |                |

**8.6.10. Wi-Fi802.11a/n (5.0 GHz) – MIMO Sub Band U-NII-3 (5.8 GHz)**

|                |                 | Avg Power (dBm)  |                 |                       |
|----------------|-----------------|------------------|-----------------|-----------------------|
|                |                 | Antenna 1 (Main) | Antenna 2 (Aux) |                       |
| Channel Number | Frequency (MHZ) | 6 Mbps           | 6 Mbps          | Operating Mode        |
| 149            | 5745.0          | 11.7             | 11.5            | 802.11a<br>CDD        |
| 153            | 5765.0          | 11.7             | 11.5            |                       |
| 157            | 5785.0          | 11.7             | 11.4            |                       |
| 161            | 5805.0          | 11.7             | 11.2            |                       |
| 165            | 5825.0          | 11.7             | 11.3            |                       |
| Channel Number | Frequency (MHZ) | 6.5 Mbps         | 6.5 Mbps        | Operating Mode        |
| 149            | 5745.0          | 11.4             | 11.5            | 802.11n, HT20<br>CDD  |
| 153            | 5765.0          | 11.3             | 11.5            |                       |
| 157            | 5785.0          | 11.4             | 11.5            |                       |
| 161            | 5805.0          | 11.4             | 11.4            |                       |
| 165            | 5825.0          | 11.4             | 11.5            |                       |
| 149            | 5745.0          | 11.3             | 11.4            | 802.11n, HT20<br>STBC |
| 153            | 5765.0          | 11.3             | 11.4            |                       |
| 157            | 5785.0          | 11.4             | 11.5            |                       |
| 161            | 5805.0          | 11.3             | 11.4            |                       |
| 165            | 5825.0          | 11.4             | 11.5            |                       |
| Channel Number | Frequency (MHZ) | 13.5 Mbps        | 13.5 Mbps       | Operating Mode        |
| 151            | 5755.0          | 10.7             | 10.6            | 802.11n, HT40<br>CDD  |
| 159            | 5795.0          | 10.8             | 10.4            |                       |
| 151            | 5755.0          | 10.3             | 10.3            | 802.11n, HT40<br>STBC |
| 159            | 5795.0          | 10.1             | 10.0            |                       |

**8.7.RF Output Average Power Measurement: Bluetooth****8.7.1. Bluetooth**

|                |                 | Avg Power (dBm)  |                           |                    |               |
|----------------|-----------------|------------------|---------------------------|--------------------|---------------|
| Channel Number | Frequency (MHZ) | V3.0 + EDR, GFSK | V3.0 + EDR, $\pi/4$ DQPSK | V3.0 + EDR, 8-DPSK | V4.0 LE, GFSK |
| 0              | 2402.0          | 7.8              | 5.2                       | 5.2                | 6.1           |
| 39             | 2441.0          | 8.1              | 5.3                       | 5.1                | 6.6           |
| 78             | 2480.0          | 8.0              | 4.7                       | 4.8                | 6.8           |

## 9. Dielectric Property Measurements & System Check

### 9.1. Tissue Dielectric Parameters

The temperature of the tissue-equivalent medium used during measurement must also be within 18°C to 25°C and within  $\pm 2^\circ\text{C}$  of the temperature when the tissue parameters are characterized.

The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements. The parameters should be re-measured after each 3 – 4 days of use; or earlier if the dielectric parameters can become out of tolerance; for example, when the parameters are marginal at the beginning of the measurement series.

Tissue dielectric parameters were measured at the low, middle and high frequency of each operating frequency range of the test device.

#### FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz; IEEE1528:2013

| Target Frequency (MHz) | Head         |                | Body (FCC Only) |                |
|------------------------|--------------|----------------|-----------------|----------------|
|                        | $\epsilon_r$ | $\sigma$ (S/m) | $\epsilon_r$    | $\sigma$ (S/m) |
| 150                    | 52.3         | 0.76           | 61.9            | 0.80           |
| 300                    | 45.3         | 0.87           | 58.2            | 0.92           |
| 450                    | 43.5         | 0.87           | 56.7            | 0.94           |
| 750                    | 41.9         | 0.89           | -               | -              |
| 835                    | 41.5         | 0.90           | 55.2            | 0.97           |
| 900                    | 41.5         | 0.97           | 55.0            | 1.05           |
| 915                    | 41.5         | 0.98           | 55.0            | 1.06           |
| 1450                   | 40.5         | 1.20           | 54.0            | 1.30           |
| 1500                   | 40.4         | 1.23           | -               | -              |
| 1610                   | 40.3         | 1.29           | 53.8            | 1.40           |
| 1640                   | 40.2         | 1.31           | -               | -              |
| 1750                   | 40.1         | 1.37           | -               | -              |
| 1800                   | 40           | 1.40           | 53.3            | 1.52           |
| 1900                   | 40           | 1.40           | 53.3            | 1.52           |
| 2000                   | 40           | 1.40           | 53.3            | 1.52           |
| 2100                   | 39.8         | 1.49           | -               | -              |
| 2300                   | 39.5         | 1.67           | -               | -              |
| 2450                   | 39.2         | 1.80           | 52.7            | 1.95           |
| 2600                   | 39           | 1.96           | -               | -              |
| 3000                   | 38.5         | 2.40           | 52.0            | 2.73           |
| 3500                   | 37.9         | 2.91           | -               | -              |
| 4000                   | 37.4         | 3.43           | -               | -              |
| 4500                   | 36.8         | 3.94           | -               | -              |
| 5000                   | 36.2         | 4.45           | 49.3            | 5.07           |
| 5100                   | 36.1         | 4.55           | 49.1            | 5.18           |
| 5200                   | 36.0         | 4.66           | 49.0            | 5.30           |
| 5300                   | 35.9         | 4.76           | 48.9            | 5.42           |
| 5400                   | 35.8         | 4.86           | 48.7            | 5.53           |
| 5500                   | 35.6         | 4.96           | 48.6            | 5.65           |
| 5600                   | 35.5         | 5.07           | 48.5            | 5.77           |
| 5700                   | 35.4         | 5.17           | 48.3            | 5.88           |
| 5800                   | 35.3         | 5.27           | 48.2            | 6.00           |
| 6000                   | 35.1         | 5.48           | -               | -              |

**NOTE:** For convenience, permittivity and conductivity values at some frequencies that are not part of the original data from Drossos et al. [B60] or the extension to 5800 MHz are provided (i.e., the values shown in italics). These values were linearly interpolated between the values in this table that are immediately above and below these values, except the values at 6000 MHz that were linearly extrapolated from the values at 3000 MHz and 5800 MHz.

## 9.2. System Check

SAR system verification is required to confirm measurement accuracy, according to the tissue dielectric media, probe calibration points and other system operating parameters required for measuring the SAR of a test device. The system verification must be performed for each frequency band and within the valid range of each probe calibration point required for testing the device. The same SAR probe(s) and tissue-equivalent media combinations used with each specific SAR system for system verification must be used for device testing. When multiple probe calibration points are required to cover substantially large transmission bands, independent system verifications are required for each probe calibration point. A system verification must be performed before each series of SAR measurements using the same probe calibration point and tissue-equivalent medium. Additional system verification should be considered according to the conditions of the tissue-equivalent medium and measured tissue dielectric parameters, typically every three to four days when the liquid parameters are re-measured or sooner when marginal liquid parameters are used at the beginning of a series of measurements.

## 9.3. Reference Target SAR Values

The reference SAR values are obtained from the calibration certificate of system validation dipoles. The measured values are normalised to 1 Watt.

| System Dipole | Serial No. | Cal. Date  | Freq. (MHz) | Target SAR Values (mW/g) |       |
|---------------|------------|------------|-------------|--------------------------|-------|
|               |            |            |             | 1g/10g                   | Head  |
| D750V3        | 1011       | 16/01/2015 | 750         | 1g                       | 8.09  |
|               |            |            |             | 10g                      | 5.32  |
| D900V2        | 1d168      | 14/05/2014 | 900         | 1g                       | 10.30 |
|               |            |            |             | 10g                      | 6.60  |
| D1800V2       | 264        | 18/08/2014 | 1800        | 1g                       | 38.60 |
|               |            |            |             | 10g                      | 20.30 |
| D1900V2       | 540        | 08/12/2014 | 1900        | 1g                       | 40.10 |
|               |            |            |             | 10g                      | 20.90 |
| D2300V2       | 1036       | 25/02/2015 | 2300        | 1g                       | 48.50 |
|               |            |            |             | 10g                      | 23.40 |
| D2450V2       | 725        | 08/12/2014 | 2450        | 1g                       | 50.80 |
|               |            |            |             | 10g                      | 49.90 |
| D2600V2       | 1046       | 18/08/2014 | 2600        | 1g                       | 58.30 |
|               |            |            |             | 10g                      | 26.10 |
| D5GHzV2       | 1016       | 24/02/2015 | 5250        | 1g                       | 79.00 |
|               |            |            |             | 10g                      | 22.70 |
|               |            |            | 5600        | 1g                       | 80.90 |
|               |            |            |             | 10g                      | 23.00 |
|               |            |            | 5750        | 1g                       | 79.10 |
|               |            |            |             | 10g                      | 22.50 |

## 9.4. Dielectric Property Measurements & System Check Results

The 1-g SAR and 10-g SAR measured with a reference dipole, using the required tissue-equivalent medium at the test frequency, must be within 10% of the manufacturer calibrated dipole SAR target. The internal limit is set to 5%.

### SAR Lab 57

#### System Check 1900 Body

Date: 20/04/2015

Validation Dipole and Serial Number: D1900V2 SN: 540

| Simulant       | Frequency (MHz) | Room Temp           | Liquid Temp | Parameters   | Target Value | Measured Value | Deviation (%) | Limit (%) |
|----------------|-----------------|---------------------|-------------|--------------|--------------|----------------|---------------|-----------|
| Body           | 1900            | 23.0                | 22.3        | $\epsilon_r$ | 53.30        | 52.09          | -2.27         | 5.00      |
|                |                 |                     |             | $\sigma$     | 1.52         | 1.52           | 0.07          | 5.00      |
|                |                 |                     |             | 1g SAR       | 40.00        | 40.40          | 1.00          | 5.00      |
|                |                 |                     |             | 10g SAR      | 21.10        | 21.40          | 1.42          | 5.00      |
| Channel Number |                 | Channel Description |             | Frequency    |              | Parameters     |               |           |
|                |                 |                     |             | (MHz)        |              |                |               |           |
| 18700          |                 | Low                 |             | 1860.0       |              | $\epsilon_r$   | 52.20         |           |
|                |                 |                     |             |              |              | $\sigma$       | 1.48          |           |
| 18900          |                 | Middle              |             | 1880.0       |              | $\epsilon_r$   | 52.20         |           |
|                |                 |                     |             |              |              | $\sigma$       | 1.50          |           |
| 19100          |                 | High                |             | 1900.0       |              | $\epsilon_r$   | 52.10         |           |
|                |                 |                     |             |              |              | $\sigma$       | 1.52          |           |
| 26140          |                 | Low                 |             | 1860.0       |              | $\epsilon_r$   | 52.70         |           |
|                |                 |                     |             |              |              | $\sigma$       | 1.48          |           |
| 26365          |                 | Middle              |             | 1882.5       |              | $\epsilon_r$   | 52.60         |           |
|                |                 |                     |             |              |              | $\sigma$       | 1.50          |           |
| 26.590         |                 | High                |             | 1905.0       |              | $\epsilon_r$   | 52.60         |           |
|                |                 |                     |             |              |              | $\sigma$       | 1.52          |           |

#### System Check 1900 Body

Date: 23/04/2015

Validation Dipole and Serial Number: D1900V2 SN: 540

| Simulant       | Frequency (MHz) | Room Temp           | Liquid Temp | Parameters   | Target Value | Measured Value | Deviation (%) | Limit (%) |
|----------------|-----------------|---------------------|-------------|--------------|--------------|----------------|---------------|-----------|
| Body           | 1900            | 23.0                | 22.4        | $\epsilon_r$ | 53.30        | 52.58          | -1.35         | 5.00      |
|                |                 |                     |             | $\sigma$     | 1.52         | 1.52           | -0.21         | 5.00      |
|                |                 |                     |             | 1g SAR       | 40.00        | 40.40          | 1.00          | 5.00      |
|                |                 |                     |             | 10g SAR      | 21.10        | 21.56          | 2.18          | 5.00      |
| Channel Number |                 | Channel Description |             | Frequency    |              | Parameters     |               |           |
|                |                 |                     |             | (MHz)        |              |                |               |           |
| 9262           |                 | Low                 |             | 1852.4       |              | $\epsilon_r$   | 52.80         |           |
|                |                 |                     |             |              |              | $\sigma$       | 1.47          |           |
| 9400           |                 | Middle              |             | 1880.0       |              | $\epsilon_r$   | 52.7          |           |
|                |                 |                     |             |              |              | $\sigma$       | 1.50          |           |
| 9538           |                 | High                |             | 1907.6       |              | $\epsilon_r$   | 52.60         |           |
|                |                 |                     |             |              |              | $\sigma$       | 1.53          |           |

**SAR Lab 57 (Continued)****System Check 1900 Body****Date: 27/04/2015****Validation Dipole and Serial Number: D1900V2 SN: 540**

| Simulant       | Frequency (MHz) | Room Temp           | Liquid Temp | Parameters   | Target Value | Measured Value | Deviation (%) | Limit (%) |
|----------------|-----------------|---------------------|-------------|--------------|--------------|----------------|---------------|-----------|
| Body           | 1900            | 23.0                | 22.8        | $\epsilon_r$ | 53.30        | 52.69          | -1.14         | 5.00      |
|                |                 |                     |             | $\sigma$     | 1.52         | 1.53           | 0.69          | 5.00      |
|                |                 |                     |             | 1g SAR       | 40.00        | 40.80          | 2.00          | 5.00      |
|                |                 |                     |             | 10g SAR      | 21.10        | 21.84          | 3.51          | 5.00      |
| Channel Number |                 | Channel Description |             | Frequency    |              | Parameters     |               |           |
|                |                 |                     |             | (MHz)        |              |                |               |           |
| 512            | Low             |                     | 1850.2      | $\epsilon_r$ | 52.90        |                |               |           |
|                |                 |                     |             | $\sigma$     | 1.48         |                |               |           |
| 661            | Middle          |                     | 1880.0      | $\epsilon_r$ | 52.80        |                |               |           |
|                |                 |                     |             | $\sigma$     | 1.51         |                |               |           |
| 810            | High            |                     | 1909.8      | $\epsilon_r$ | 52.70        |                |               |           |
|                |                 |                     |             | $\sigma$     | 1.54         |                |               |           |
| 25             | Low             |                     | 1851.25     | $\epsilon_r$ | 52.80        |                |               |           |
|                |                 |                     |             | $\sigma$     | 1.48         |                |               |           |
| 600            | Middle          |                     | 1880.0      | $\epsilon_r$ | 52.80        |                |               |           |
|                |                 |                     |             | $\sigma$     | 1.51         |                |               |           |
| 1175           | High            |                     | 1908.75     | $\epsilon_r$ | 52.70        |                |               |           |
|                |                 |                     |             | $\sigma$     | 1.54         |                |               |           |

**System Check 2450 Body****Date: 25/03/2015****Validation Dipole and Serial Number: D2450V2 SN: 725**

| Simulant       | Frequency (MHz) | Room Temp           | Liquid Temp | Parameters   | Target Value | Measured Value | Deviation (%) | Limit (%) |
|----------------|-----------------|---------------------|-------------|--------------|--------------|----------------|---------------|-----------|
| Body           | 2450            | 23.0                | 23.0        | $\epsilon_r$ | 52.70        | 51.27          | -2.71         | 5.00      |
|                |                 |                     |             | $\sigma$     | 1.95         | 1.92           | -1.37         | 5.00      |
|                |                 |                     |             | 1g SAR       | 49.90        | 50.00          | 0.20          | 5.00      |
|                |                 |                     |             | 10g SAR      | 23.20        | 22.84          | -1.55         | 5.00      |
| Channel Number |                 | Channel Description |             | Frequency    |              | Parameters     |               |           |
|                |                 |                     |             | (MHz)        |              |                |               |           |
| 1              |                 | Low                 |             | 2412.0       |              | $\epsilon_r$   | 51.35         |           |
|                |                 |                     |             |              |              | $\sigma$       | 1.87          |           |
| 6              |                 | Middle              |             | 2437.0       |              | $\epsilon_r$   | 51.30         |           |
|                |                 |                     |             |              |              | $\sigma$       | 1.91          |           |
| 11             |                 | High                |             | 2462.0       |              | $\epsilon_r$   | 51.20         |           |
|                |                 |                     |             |              |              | $\sigma$       | 1.94          |           |

**SAR Lab 57 (Continued)****System Check 2450 Body****Date: 14/04/2015****Validation Dipole and Serial Number: D2450V2 SN: 725**

| Simulant       | Frequency (MHz) | Room Temp           | Liquid Temp  | Parameters   | Target Value | Measured Value | Deviation (%) | Limit (%) |
|----------------|-----------------|---------------------|--------------|--------------|--------------|----------------|---------------|-----------|
| Body           | 2450            | 23.0                | 23.9         | $\epsilon_r$ | 52.70        | 52.04          | -1.25         | 5.00      |
|                |                 |                     |              | $\sigma$     | 1.95         | 2.02           | 3.65          | 5.00      |
|                |                 |                     |              | 1g SAR       | 49.90        | 50.00          | 0.20          | 5.00      |
|                |                 |                     |              | 10g SAR      | 23.20        | 23.32          | 0.52          | 5.00      |
| Channel Number |                 | Channel Description | Frequency    |              | Parameters   |                |               |           |
|                |                 |                     | (MHz)        |              |              |                |               |           |
| 1              | Low             | 2412.0              | $\epsilon_r$ | 51.30        |              |                |               |           |
|                |                 |                     | $\sigma$     | 1.87         |              |                |               |           |
| 6              | Middle          | 2437.0              | $\epsilon_r$ | 51.30        |              |                |               |           |
|                |                 |                     | $\sigma$     | 1.91         |              |                |               |           |
| 11             | High            | 2462.0              | $\epsilon_r$ | 51.24        |              |                |               |           |
|                |                 |                     | $\sigma$     | 1.94         |              |                |               |           |
| 0              | Low             | 2402.0              | $\epsilon_r$ | 51.40        |              |                |               |           |
|                |                 |                     | $\sigma$     | 1.86         |              |                |               |           |
| 39             | Middle          | 2441.0              | $\epsilon_r$ | 51.30        |              |                |               |           |
|                |                 |                     | $\sigma$     | 1.91         |              |                |               |           |
| 78             | High            | 2480.0              | $\epsilon_r$ | 51.20        |              |                |               |           |
|                |                 |                     | $\sigma$     | 1.96         |              |                |               |           |

**SAR Lab 59****System Check 1800 Body****Date: 20/04/2015****Validation Dipole and Serial Number: D1800V2 SN: 264**

| Simulant       | Frequency (MHz) | Room Temp           | Liquid Temp  | Parameters   | Target Value | Measured Value | Deviation (%) | Limit (%) |
|----------------|-----------------|---------------------|--------------|--------------|--------------|----------------|---------------|-----------|
| Body           | 1800            | 23.0                | 23.0         | $\epsilon_r$ | 53.30        | 52.99          | -0.58         | 5.00      |
|                |                 |                     |              | $\sigma$     | 1.52         | 1.55           | 1.84          | 5.00      |
|                |                 |                     |              | 1g SAR       | 37.80        | 39.16          | 3.60          | 5.00      |
|                |                 |                     |              | 10g SAR      | 20.10        | 20.40          | 1.49          | 5.00      |
| Channel Number |                 | Channel Description | Frequency    |              | Parameters   |                |               |           |
|                |                 |                     | (MHz)        |              |              |                |               |           |
| 1312           | Low             | 1712.4              | $\epsilon_r$ | 53.27        |              |                |               |           |
|                |                 |                     | $\sigma$     | 1.47         |              |                |               |           |
| 1412           | Middle          | 1732.4              | $\epsilon_r$ | 53.21        |              |                |               |           |
|                |                 |                     | $\sigma$     | 1.49         |              |                |               |           |
| 1513           | High            | 1752.6              | $\epsilon_r$ | 53.15        |              |                |               |           |
|                |                 |                     | $\sigma$     | 1.51         |              |                |               |           |
| 20050          | Low             | 1720.0              | $\epsilon_r$ | 53.24        |              |                |               |           |
|                |                 |                     | $\sigma$     | 1.48         |              |                |               |           |
| 20175          | Middle          | 1732.5              | $\epsilon_r$ | 53.21        |              |                |               |           |
|                |                 |                     | $\sigma$     | 1.49         |              |                |               |           |
| 20300          | High            | 1745.0              | $\epsilon_r$ | 53.17        |              |                |               |           |
|                |                 |                     | $\sigma$     | 1.50         |              |                |               |           |

**SAR Lab 60****System Check 900 Body****Date: 13/04/2015****Validation Dipole and Serial Number: D900V2 SN: 1d168**

| Validation Report and Channel Number 000001-000120 |                 |                     |             |              |              |                |               |           |
|----------------------------------------------------|-----------------|---------------------|-------------|--------------|--------------|----------------|---------------|-----------|
| Simulant                                           | Frequency (MHz) | Room Temp           | Liquid Temp | Parameters   | Target Value | Measured Value | Deviation (%) | Limit (%) |
| Body                                               | 900             | 24.0                | 23.0        | $\epsilon_r$ | 55.00        | 53.44          | -2.84         | 5.00      |
|                                                    |                 |                     |             | $\sigma$     | 1.05         | 1.03           | -2.38         | 5.00      |
|                                                    |                 |                     |             | 1g SAR       | 10.60        | 10.88          | 2.64          | 5.00      |
|                                                    |                 |                     |             | 10g SAR      | 6.87         | 7.08           | 3.06          | 5.00      |
| Channel Number                                     |                 | Channel Description |             | Frequency    |              | Parameters     |               |           |
|                                                    |                 |                     |             | (MHz)        |              |                |               |           |
| 4132                                               |                 | Low                 |             | 826.4        |              | $\epsilon_r$   | 53.45         |           |
|                                                    |                 |                     |             |              |              | $\sigma$       | 0.97          |           |
| 4183                                               |                 | Middle              |             | 836.6        |              | $\epsilon_r$   | 53.72         |           |
|                                                    |                 |                     |             |              |              | $\sigma$       | 0.99          |           |
| 4233                                               |                 | High                |             | 846.6        |              | $\epsilon_r$   | 53.35         |           |
|                                                    |                 |                     |             |              |              | $\sigma$       | 0.98          |           |

**System Check 900 Body****Date: 20/04/2015****Validation Dipole and Serial Number: D900V2 SN: 1d168**

| Simulant       | Frequency (MHz) | Room Temp           | Liquid Temp | Parameters   | Target Value | Measured Value | Deviation (%) | Limit (%) |
|----------------|-----------------|---------------------|-------------|--------------|--------------|----------------|---------------|-----------|
| Body           | 900             | 23.0                | 23.0        | $\epsilon_r$ | 55.00        | 53.15          | -3.36         | 5.00      |
|                |                 |                     |             | $\sigma$     | 1.05         | 1.01           | -3.86         | 5.00      |
|                |                 |                     |             | 1g SAR       | 10.60        | 10.36          | -2.26         | 5.00      |
|                |                 |                     |             | 10g SAR      | 6.87         | 6.84           | -0.44         | 5.00      |
| Channel Number |                 | Channel Description |             | Frequency    |              | Parameters     |               |           |
|                |                 |                     |             | (MHz)        |              |                |               |           |
| 4132           |                 | Low                 |             | 826.4        |              | $\epsilon_r$   | 53.45         |           |
|                |                 |                     |             |              |              | $\sigma$       | 0.97          |           |
| 4183           |                 | Middle              |             | 836.6        |              | $\epsilon_r$   | 53.40         |           |
|                |                 |                     |             |              |              | $\sigma$       | 0.97          |           |
| 4233           |                 | High                |             | 846.6        |              | $\epsilon_r$   | 53.35         |           |
|                |                 |                     |             |              |              | $\sigma$       | 0.98          |           |
| 20450          |                 | Low                 |             | 829.0        |              | $\epsilon_r$   | 53.44         |           |
|                |                 |                     |             |              |              | $\sigma$       | 0.97          |           |
| 20525          |                 | Middle              |             | 836.5        |              | $\epsilon_r$   | 53.40         |           |
|                |                 |                     |             |              |              | $\sigma$       | 0.97          |           |
| 20600          |                 | High                |             | 844.0        |              | $\epsilon_r$   | 53.37         |           |
|                |                 |                     |             |              |              | $\sigma$       | 0.98          |           |

**SAR Lab 60 (Continued)****System Check 900 Body****Date: 23/04/2015****Validation Dipole and Serial Number: D900V2 SN: 1d168**

| Simulant       | Frequency (MHz) | Room Temp           | Liquid Temp | Parameters   | Target Value | Measured Value | Deviation (%) | Limit (%) |
|----------------|-----------------|---------------------|-------------|--------------|--------------|----------------|---------------|-----------|
| Body           | 900             | 23.0                | 23.4        | $\epsilon_r$ | 55.00        | 53.19          | -3.29         | 5.00      |
|                |                 |                     |             | $\sigma$     | 1.05         | 1.03           | -2.24         | 5.00      |
|                |                 |                     |             | 1g SAR       | 10.60        | 10.76          | 1.51          | 5.00      |
|                |                 |                     |             | 10g SAR      | 6.87         | 7.16           | 4.22          | 5.00      |
| Channel Number |                 | Channel Description | Frequency   |              | Parameters   |                |               |           |
|                |                 |                     | (MHz)       |              |              |                |               |           |
| 1013           | Low             |                     | 824.70      | $\epsilon_r$ | 53.54        |                |               |           |
|                |                 |                     |             | $\sigma$     | 0.98         |                |               |           |
| 384            | Middle          |                     | 836.52      | $\epsilon_r$ | 53.48        |                |               |           |
|                |                 |                     |             | $\sigma$     | 0.99         |                |               |           |
| 777            | High            |                     | 848.31      | $\epsilon_r$ | 53.43        |                |               |           |
|                |                 |                     |             | $\sigma$     | 1.00         |                |               |           |
| 476            | Low             |                     | 817.9       | $\epsilon_r$ | 53.57        |                |               |           |
|                |                 |                     |             | $\sigma$     | 0.98         |                |               |           |
| 580            | Middle          |                     | 820.5       | $\epsilon_r$ | 53.55        |                |               |           |
|                |                 |                     |             | $\sigma$     | 0.98         |                |               |           |
| 684            | High            |                     | 823.1       | $\epsilon_r$ | 53.54        |                |               |           |
|                |                 |                     |             | $\sigma$     | 0.98         |                |               |           |

**System Check 900 Body****Date: 27/04/2015****Validation Dipole and Serial Number: D900V2 SN: 1d168**

| Validation Dipoles and Channel Number D000V2 SW: 1d100 |                 |                     |             |              |              |                |               |           |
|--------------------------------------------------------|-----------------|---------------------|-------------|--------------|--------------|----------------|---------------|-----------|
| Simulant                                               | Frequency (MHz) | Room Temp           | Liquid Temp | Parameters   | Target Value | Measured Value | Deviation (%) | Limit (%) |
| Body                                                   | 900             | 23.0                | 22.5        | $\epsilon_r$ | 55.00        | 52.97          | -3.69         | 5.00      |
|                                                        |                 |                     |             | $\sigma$     | 1.05         | 1.02           | -3.05         | 5.00      |
|                                                        |                 |                     |             | 1g SAR       | 10.60        | 10.68          | 0.75          | 5.00      |
|                                                        |                 |                     |             | 10g SAR      | 6.87         | 7.12           | 3.64          | 5.00      |
| Channel Number                                         |                 | Channel Description |             | Frequency    |              | Parameters     |               |           |
|                                                        |                 |                     |             | (MHz)        |              |                |               |           |
| 20450                                                  |                 | Low                 |             | 829.0        |              | $\epsilon_r$   | 53.30         |           |
|                                                        |                 |                     |             |              |              | $\sigma$       | 0.97          |           |
| 20525                                                  |                 | Middle              |             | 836.5        |              | $\epsilon_r$   | 53.27         |           |
|                                                        |                 |                     |             |              |              | $\sigma$       | 0.97          |           |
| 20600                                                  |                 | High                |             | 844.0        |              | $\epsilon_r$   | 53.27         |           |
|                                                        |                 |                     |             |              |              | $\sigma$       | 0.97          |           |

**SAR Lab 61****System Check 750 Body****Date: 27/04/2015****Validation Dipole and Serial Number: D750V3 SN: 1011**

| Simulant       | Frequency (MHz) | Room Temp           | Liquid Temp  | Parameters   | Target Value | Measured Value | Deviation (%) | Limit (%) |
|----------------|-----------------|---------------------|--------------|--------------|--------------|----------------|---------------|-----------|
| Head           | 750             | 23.0                | 22.1         | $\epsilon_r$ | 55.55        | 55.75          | 0.36          | 5.00      |
|                |                 |                     |              | $\sigma$     | 0.96         | 0.93           | -3.60         | 5.00      |
|                |                 |                     |              | 1g SAR       | 8.54         | 8.52           | -0.23         | 5.00      |
|                |                 |                     |              | 10g SAR      | 5.66         | 5.76           | 1.77          | 5.00      |
| Channel Number |                 | Channel Description |              | Frequency    |              | Parameters     |               |           |
|                |                 |                     |              | (MHz)        |              |                |               |           |
| 23230          | Middle          | 782.0               | $\epsilon_r$ | 55.64        |              |                |               |           |
|                |                 |                     | $\sigma$     | 0.95         |              |                |               |           |
| 23780          | Low             | 709.0               | $\epsilon_r$ | 55.97        |              |                |               |           |
|                |                 |                     | $\sigma$     | 0.90         |              |                |               |           |
| 23790          | Middle          | 710.0               | $\epsilon_r$ | 55.96        |              |                |               |           |
|                |                 |                     | $\sigma$     | 0.90         |              |                |               |           |
| 23800          | High            | 711.0               | $\epsilon_r$ | 55.95        |              |                |               |           |
|                |                 |                     | $\sigma$     | 0.91         |              |                |               |           |

**System Check 5.25 GHz Body****Date: 17/04/2015****Validation Dipole and Serial Number: D1016V2 SN: 1016**

| Simulant       | Frequency (MHz) | Room Temp | Liquid Temp | Parameters   | Target Value | Measured Value | Deviation (%) | Limit (%) |
|----------------|-----------------|-----------|-------------|--------------|--------------|----------------|---------------|-----------|
| Body           | 5250            | 24.0      | 24.0        | $\epsilon_r$ | 48.90        | 47.76          | -2.33         | 5.00      |
|                |                 |           |             | $\sigma$     | 5.36         | 5.39           | 0.61          | 5.00      |
|                |                 |           |             | 1g SAR       | 76.00        | 75.00          | -1.18         | 5.00      |
|                |                 |           |             | 10g SAR      | 21.20        | 20.50          | -3.30         | 5.00      |
| Channel Number |                 | Frequency |             | Parameters   |              |                |               |           |
|                |                 | (MHz)     |             |              |              |                |               |           |
| 36             |                 | 5180      |             | $\epsilon_r$ | 47.97        |                |               |           |
|                |                 |           |             | $\sigma$     | 5.29         |                |               |           |
| 48             |                 | 5240      |             | $\epsilon_r$ | 47.80        |                |               |           |
|                |                 |           |             | $\sigma$     | 5.38         |                |               |           |

**SAR Lab 61 (Continued)****System Check 5.25/5.6/5.75 GHz Body****Date: 20/04/2015****Validation Dipole and Serial Number: D1016V2 SN: 1016**

| Simulant       | Frequency (MHz) | Room Temp | Liquid Temp | Parameters   | Target Value | Measured Value | Deviation (%) | Limit (%) |
|----------------|-----------------|-----------|-------------|--------------|--------------|----------------|---------------|-----------|
| Body           | 5250            | 24.0      | 24.0        | $\epsilon_r$ | 48.90        | 47.12          | -3.64         | 5.00      |
|                |                 |           |             | $\sigma$     | 5.36         | 5.34           | -0.42         | 5.00      |
|                |                 |           |             | 1g SAR       | 76.00        | 76.70          | 0.92          | 5.00      |
|                |                 |           |             | 10g SAR      | 21.20        | 21.00          | -0.94         | 5.00      |
| Body           | 5600            | 23.0      | 23.0        | $\epsilon_r$ | 48.50        | 46.35          | -4.43         | 5.00      |
|                |                 |           |             | $\sigma$     | 5.77         | 5.93           | 2.82          | 5.00      |
|                |                 |           |             | 1g SAR       | 77.70        | 79.00          | 1.67          | 5.00      |
|                |                 |           |             | 10g SAR      | 21.40        | 21.50          | 0.47          | 5.00      |
| Body           | 5750            | 23.0      | 22.0        | $\epsilon_r$ | 48.30        | 45.96          | -4.84         | 5.00      |
|                |                 |           |             | $\sigma$     | 5.94         | 6.17           | 3.79          | 5.00      |
|                |                 |           |             | 1g SAR       | 74.40        | 77.80          | 4.57          | 5.00      |
|                |                 |           |             | 10g SAR      | 20.50        | 21.10          | 2.93          | 5.00      |
| Channel Number |                 | Frequency |             | Parameters   |              |                |               |           |
|                |                 | (MHz)     |             |              |              |                |               |           |
| 36             |                 |           | 5180        | $\epsilon_r$ | 47.27        |                |               |           |
|                |                 |           |             | $\sigma$     | 5.21         |                |               |           |
| 48             |                 |           | 5240        | $\epsilon_r$ | 47.14        |                |               |           |
|                |                 |           |             | $\sigma$     | 5.32         |                |               |           |
| 52             |                 |           | 5260        | $\epsilon_r$ | 47.10        |                |               |           |
|                |                 |           |             | $\sigma$     | 5.36         |                |               |           |
| 64             |                 |           | 5260        | $\epsilon_r$ | 46.99        |                |               |           |
|                |                 |           |             | $\sigma$     | 5.46         |                |               |           |
| 104            |                 |           | 5520        | $\epsilon_r$ | 46.54        |                |               |           |
|                |                 |           |             | $\sigma$     | 5.79         |                |               |           |
| 116            |                 |           | 5580        | $\epsilon_r$ | 46.40        |                |               |           |
|                |                 |           |             | $\sigma$     | 5.90         |                |               |           |
| 136            |                 |           | 5680        | $\epsilon_r$ | 46.15        |                |               |           |
|                |                 |           |             | $\sigma$     | 6.05         |                |               |           |
| 149            |                 |           | 5745        | $\epsilon_r$ | 45.97        |                |               |           |
|                |                 |           |             | $\sigma$     | 6.17         |                |               |           |
| 165            |                 |           | 5825        | $\epsilon_r$ | 45.81        |                |               |           |
|                |                 |           |             | $\sigma$     | 6.28         |                |               |           |

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

### **10.1. 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 8 for details of measurement uncertainties.

**10.2. Specific Absorption Rate - Test Results****For All SAR measurement in this report the 1g-SAR limit tested to is 1.6 W/Kg****10.2.1. GSM850 – Body Configuration 1g – Proximity Sensor Inactive****Max Reported SAR = 0.551 (W/kg)**

|                     |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |                 | Scan No. |
|---------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|-----------------|----------|
| Mode or Modulation  | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | <u>Reported</u> |          |
| GMSK (Data 2 Slots) | 12        | Back          | 190         | 836.6      | N/A           | N/A      | 33.0          | 32.0  | 0.395                   | 0.497           | 1        |
| GMSK (Data 2 Slots) | 14        | Top           | 190         | 836.6      | N/A           | N/A      | 33.0          | 32.0  | 0.376                   | 0.473           | 2        |
| GMSK (Data 2 Slots) | 0         | Left          | 190         | 836.6      | N/A           | N/A      | 33.0          | 32.0  | 0.380                   | 0.478           | 3        |
| GMSK (Data 2 Slots) | 12        | Back          | 128         | 824.2      | N/A           | N/A      | 33.0          | 31.8  | 0.418                   | 0.551           | 4        |
| GMSK (Data 2 Slots) | 12        | Back          | 251         | 848.8      | N/A           | N/A      | 33.0          | 32.0  | 0.270                   | 0.340           | 5        |

**10.2.2. GSM850 – Body Configuration 1g – Proximity Sensor Active****Max Reported SAR = 0.466 (W/kg)**

|                     |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |                 | Scan No. |
|---------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|-----------------|----------|
| Mode or Modulation  | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | <u>Reported</u> |          |
| GMSK (Data 2 Slots) | 0         | Back          | 190         | 836.6      | N/A           | N/A      | 23.5          | 23.2  | 0.435                   | 0.466           | 6        |
| GMSK (Data 2 Slots) | 0         | Top           | 190         | 836.6      | N/A           | N/A      | 23.5          | 23.2  | 0.339                   | 0.363           | 7        |

**10.2.3. PCS1900 – Body Configuration 1g – Proximity Sensor Inactive****Max Reported SAR = 0.324 (W/kg)**

|                     |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |                 | Scan No. |
|---------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|-----------------|----------|
| Mode or Modulation  | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | <u>Reported</u> |          |
| GMSK (Data 2 Slots) | 12        | Back          | 661         | 1880.0     | N/A           | N/A      | 30.0          | 29.1  | 0.263                   | 0.324           | 8        |
| GMSK (Data 2 Slots) | 14        | Top           | 661         | 1880.0     | N/A           | N/A      | 30.0          | 29.1  | 0.205                   | 0.252           | 9        |
| GMSK (Data 2 Slots) | 0         | Left          | 661         | 1880.0     | N/A           | N/A      | 30.0          | 29.1  | 0.105                   | 0.129           | 10       |

**10.2.4. PCS1900 – Body Configuration 1g – Proximity Sensor Active****Max Reported SAR = 0.669 (W/kg)**

|                     |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |                 | Scan No. |
|---------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|-----------------|----------|
| Mode or Modulation  | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | <u>Reported</u> |          |
| GMSK (Data 2 Slots) | 0         | Back          | 661         | 1880.0     | N/A           | N/A      | 22.0          | 21.0  | 0.449                   | 0.565           | 11       |
| GMSK (Data 2 Slots) | 0         | Top           | 661         | 1880.0     | N/A           | N/A      | 22.0          | 21.0  | 0.498                   | 0.627           | 12       |
| GMSK (Data 2 Slots) | 0         | Top           | 512         | 1850.2     | N/A           | N/A      | 22.0          | 20.8  | 0.479                   | 0.631           | 13       |
| GMSK (Data 2 Slots) | 0         | Top           | 810         | 1909.8     | N/A           | N/A      | 22.0          | 20.9  | 0.519                   | 0.669           | 14       |

**10.2.5. WCDMA FDD 2– Body Configuration 1g – Proximity Sensor Inactive****Max Reported SAR = 0.732 (W/kg)**

|                    |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |                 | Scan No. |
|--------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|-----------------|----------|
| Mode or Modulation | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | <u>Reported</u> |          |
| QPSK               | 12        | Back          | 9400        | 1880.0     | N/A           | N/A      | 24.0          | 22.8  | 0.555                   | 0.732           | 15       |
| QPSK               | 14        | Top           | 9400        | 1880.0     | N/A           | N/A      | 24.0          | 22.8  | 0.454                   | 0.598           | 16       |
| QPSK               | 0         | Left          | 9400        | 1880.0     | N/A           | N/A      | 24.0          | 22.8  | 0.216                   | 0.285           | 17       |

**10.2.6. WCDMA FDD 2 – Body Configuration 1g – Proximity Sensor Active****Max Reported SAR = 0.835 (W/kg)**

|                    |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |                 | Scan No. |
|--------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|-----------------|----------|
| Mode or Modulation | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | <u>Reported</u> |          |
| QPSK               | 0         | Back          | 9400        | 1880.0     | N/A           | N/A      | 16.0          | 14.6  | 0.605                   | 0.835           | 18       |
| QPSK               | 0         | Top           | 9400        | 1880.0     | N/A           | N/A      | 16.0          | 14.6  | 0.555                   | 0.766           | 19       |
| QPSK               | 0         | Back          | 9262        | 1852.4     | N/A           | N/A      | 16.0          | 14.8  | 0.568                   | 0.749           | 20       |
| QPSK               | 0         | Back          | 9538        | 1907.6     | N/A           | N/A      | 16.0          | 14.9  | 0.543                   | 0.700           | 21       |

**10.2.7. WCDMA FDD 4– Body Configuration 1g – Proximity Sensor Inactive****Max Reported SAR = 1.318 (W/kg)**

|                    |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |                 | Scan No. |
|--------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|-----------------|----------|
| Mode or Modulation | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | <u>Reported</u> |          |
| QPSK               | 12        | Back          | 1412        | 1732.4     | N/A           | N/A      | 24.0          | 22.8  | 0.887                   | 1.169           | 22       |
| QPSK               | 12        | Back          | 1312        | 1712.4     | N/A           | N/A      | 24.0          | 22.7  | 0.825                   | 1.113           | 23       |
| QPSK               | 12        | Back          | 1513        | 1752.6     | N/A           | N/A      | 24.0          | 22.8  | 1.000                   | 1.318           | 24*      |
| QPSK               | 14        | Top           | 1412        | 1732.4     | N/A           | N/A      | 24.0          | 22.8  | 0.759                   | 1.001           | 25       |
| QPSK               | 14        | Top           | 1312        | 1712.4     | N/A           | N/A      | 24.0          | 22.7  | 0.729                   | 0.983           | 26       |
| QPSK               | 14        | Top           | 1513        | 1752.6     | N/A           | N/A      | 24.0          | 22.8  | 0.673                   | 0.887           | 27       |
| QPSK               | 0         | Left          | 1412        | 1732.4     | N/A           | N/A      | 24.0          | 22.8  | 0.243                   | 0.320           | 28       |

\*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.

**10.2.8. WCDMA FDD 4 – Body Configuration 1g – Proximity Sensor Active****Max Reported SAR = 0.776 (W/kg)**

|                    |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |                 | Scan No. |
|--------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|-----------------|----------|
| Mode or Modulation | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | <u>Reported</u> |          |
| QPSK               | 0         | Back          | 1412        | 1732.4     | N/A           | N/A      | 15.0          | 13.7  | 0.575                   | 0.776           | 29       |
| QPSK               | 0         | Top           | 1412        | 1732.4     | N/A           | N/A      | 15.0          | 13.7  | 0.430                   | 0.580           | 30       |

**10.2.9. WCDMA FDD 5– Body Configuration 1g – Proximity Sensor Inactive****Max Reported SAR = 0.433 (W/kg)**

|                    |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |                 | Scan No. |
|--------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|-----------------|----------|
| Mode or Modulation | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | <u>Reported</u> |          |
| QPSK               | 12        | Back          | 4183        | 836.6      | N/A           | N/A      | 24.0          | 22.6  | 0.314                   | 0.433           | 31       |
| QPSK               | 14        | Top           | 4183        | 836.6      | N/A           | N/A      | 24.0          | 22.6  | 0.191                   | 0.264           | 32       |
| QPSK               | 0         | Left          | 4183        | 836.60     | N/A           | N/A      | 24.0          | 22.6  | 0.052                   | 0.072           | 33       |

**10.2.10. WCDMA FDD 5 – Body Configuration 1g – Proximity Sensor Active****Max Reported SAR = 0.504 (W/kg)**

|                    |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |                 | Scan No. |
|--------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|-----------------|----------|
| Mode or Modulation | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | <u>Reported</u> |          |
| QPSK               | 0         | Back          | 4183        | 836.6      | N/A           | N/A      | 18.0          | 16.6  | 0.357                   | 0.493           | 34       |
| QPSK               | 0         | Top           | 4183        | 836.6      | N/A           | N/A      | 18.0          | 16.6  | 0.291                   | 0.402           | 35       |
| QPSK               | 0         | Back          | 4132        | 826.4      | N/A           | N/A      | 18.0          | 16.8  | 0.382                   | 0.504           | 36       |
| QPSK               | 0         | Back          | 4233        | 846.6      | N/A           | N/A      | 18.0          | 16.9  | 0.331                   | 0.426           | 37       |

**10.2.11. CDMA BC0 Body Configuration 1g – Proximity Sensor Inactive****Max Reported SAR = 0.482 (W/kg)**

|                    |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |                 | Scan No. |
|--------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|-----------------|----------|
| Mode or Modulation | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | <u>Reported</u> |          |
| QPSK               | 12        | Back          | 384         | 836.52     | N/A           | N/A      | 24.5          | 23.6  | 0.392                   | 0.482           | 38       |
| QPSK               | 14        | Top           | 384         | 836.52     | N/A           | N/A      | 24.5          | 23.6  | 0.277                   | 0.341           | 39       |
| QPSK               | 0         | Left          | 384         | 836.52     | N/A           | N/A      | 24.5          | 23.6  | 0.218                   | 0.268           | 40       |

**10.2.12. CDMA BC0 – Body Configuration 1g – Proximity Sensor Active****Max Reported SAR = 0.463 (W/kg)**

|                    |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |                 | Scan No. |
|--------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|-----------------|----------|
| Mode or Modulation | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | <u>Reported</u> |          |
| QPSK               | 0         | Back          | 384         | 836.52     | N/A           | N/A      | 17.5          | 17.1  | 0.422                   | 0.463           | 41       |
| QPSK               | 0         | Top           | 384         | 836.52     | N/A           | N/A      | 17.5          | 17.1  | 0.292                   | 0.320           | 42       |
| QPSK               | 0         | Back          | 1013        | 824.70     | N/A           | N/A      | 17.5          | 16.9  | 0.314                   | 0.361           | 43       |
| QPSK               | 0         | Back          | 777         | 848.31     | N/A           | N/A      | 17.5          | 17.2  | 0.259                   | 0.278           | 44       |

**10.2.13. CDMA BC1 Body Configuration 1g – Proximity Sensor Inactive****Max Reported SAR = 0.762 (W/kg)**

|                    |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |                 | Scan No. |
|--------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|-----------------|----------|
| Mode or Modulation | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | <u>Reported</u> |          |
| QPSK               | 12        | Back          | 600         | 1880.0     | N/A           | N/A      | 24.5          | 23.5  | 0.605                   | 0.762           | 45       |
| QPSK               | 14        | Top           | 600         | 1880.0     | N/A           | N/A      | 24.5          | 23.5  | 0.492                   | 0.619           | 46       |
| QPSK               | 0         | Left          | 600         | 1880.0     | N/A           | N/A      | 24.5          | 23.5  | 0.256                   | 0.322           | 47       |
| QPSK               | 12        | Back          | 25          | 1851.25    | N/A           | N/A      | 24.5          | 23.6  | 0.597                   | 0.734           | 48       |
| QPSK               | 12        | Back          | 1175        | 1908.75    | N/A           | N/A      | 24.5          | 23.5  | 0.544                   | 0.685           | 49       |

**10.2.14. CDMA BC1 – Body Configuration 1g – Proximity Sensor Active****Max Reported SAR = 0.684 (W/kg)**

|                    |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |                 | Scan No. |
|--------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|-----------------|----------|
| Mode or Modulation | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | <u>Reported</u> |          |
| QPSK               | 0         | Back          | 600         | 1880       | N/A           | N/A      | 15.5          | 14.3  | 0.519                   | 0.684           | 50       |
| QPSK               | 0         | Top           | 600         | 1880       | N/A           | N/A      | 15.5          | 14.3  | 0.476                   | 0.627           | 51       |

**10.2.15. CDMA BC10- Body Configuration 1g – Proximity Sensor Inactive****Max Reported SAR = 0.354 (W/kg)**

|                    |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |                 | Scan No. |
|--------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|-----------------|----------|
| Mode or Modulation | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | <u>Reported</u> |          |
| QPSK               | 12        | Back          | 684         | 823.10     | N/A           | N/A      | 24.5          | 23.6  | 0.288                   | 0.354           | 52       |
| QPSK               | 14        | Top           | 684         | 823.10     | N/A           | N/A      | 24.5          | 23.6  | 0.229                   | 0.282           | 53       |
| QPSK               | 0         | Left          | 684         | 823.10     | N/A           | N/A      | 24.5          | 23.6  | 0.272                   | 0.335           | 54       |

**10.2.16. CDMA BC10 – Body Configuration 1g – Proximity Sensor Active****Max Reported SAR = 0.396 (W/kg)**

|                    |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |                 | Scan No. |
|--------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|-----------------|----------|
| Mode or Modulation | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | <u>Reported</u> |          |
| QPSK               | 0         | Back          | 684         | 823.10     | N/A           | N/A      | 17.5          | 17.3  | 0.378                   | 0.396           | 55       |
| QPSK               | 0         | Top           | 684         | 823.10     | N/A           | N/A      | 17.5          | 17.3  | 0.276                   | 0.289           | 56       |
| QPSK               | 0         | Back          | 476         | 817.90     | N/A           | N/A      | 17.5          | 17.3  | 0.361                   | 0.378           | 57       |
| QPSK               | 0         | Back          | 580         | 820.50     | N/A           | N/A      | 17.5          | 17.3  | 0.376                   | 0.394           | 58       |

**10.2.17. LTE Band 2- Body Configuration 1g – Proximity Sensor Inactive****Max Reported SAR = 0.803 (W/kg)**

|                    |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |                 | Scan No. |
|--------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|-----------------|----------|
| Mode or Modulation | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | <u>Reported</u> |          |
| QPSK               | 12        | Back          | 18700       | 1860       | 1             | 0        | 24.0          | 22.9  | 0.594                   | 0.765           | 59       |
| QPSK               | 12        | Back          | 18700       | 1860       | 50            | 0        | 23.0          | 21.6  | 0.582                   | 0.803           | 60       |
| QPSK               | 12        | Back          | 18900       | 1880       | 50            | 0        | 23.0          | 21.5  | 0.536                   | 0.757           | 61       |
| QPSK               | 12        | Back          | 19100       | 1900       | 50            | 0        | 23.0          | 21.4  | 0.477                   | 0.689           | 62       |
| QPSK               | 12        | Back          | 19100       | 1900       | 100           | 0        | 23.0          | 21.6  | 0.472                   | 0.652           | 63       |
| QPSK               | 14        | Top           | 18700       | 1860       | 1             | 0        | 24.0          | 22.9  | 0.481                   | 0.620           | 64       |
| QPSK               | 14        | Top           | 18700       | 1860       | 50            | 0        | 23.0          | 21.6  | 0.372                   | 0.514           | 65       |
| QPSK               | 0         | Left          | 18700       | 1860       | 1             | 0        | 24.0          | 22.9  | 0.255                   | 0.329           | 66       |
| QPSK               | 0         | Left          | 18700       | 1860       | 50            | 0        | 23.0          | 21.6  | 0.194                   | 0.268           | 67       |

**10.2.18. LTE Band 2 – Body Configuration 1g – Proximity Sensor Active****Max Reported SAR = 0.989 (W/kg)**

|                    |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |                 | Scan No. |
|--------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|-----------------|----------|
| Mode or Modulation | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | <u>Reported</u> |          |
| QPSK               | 0         | Back          | 19100       | 1900       | 1             | 0        | 15.0          | 14.7  | 0.556                   | 0.596           | 68       |
| QPSK               | 0         | Back          | 18900       | 1880       | 50            | 49       | 15.0          | 14.1  | 0.494                   | 0.608           | 69       |
| QPSK               | 0         | Top           | 19100       | 1900       | 1             | 0        | 15.0          | 14.7  | 0.923                   | 0.989           | 70*      |
| QPSK               | 0         | Top           | 18700       | 1860       | 1             | 0        | 15.0          | 14.0  | 0.515                   | 0.648           | 71       |
| QPSK               | 0         | Top           | 18900       | 1880       | 1             | 0        | 15.0          | 13.5  | 0.464                   | 0.655           | 72       |
| QPSK               | 0         | Top           | 18900       | 1880       | 50            | 49       | 15.0          | 14.1  | 0.616                   | 0.758           | 73       |
| QPSK               | 0         | Top           | 18900       | 1880       | 100           | 0        | 15.0          | 14.0  | 0.533                   | 0.671           | 74       |

\*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.

**10.2.19. LTE Band 4- Body Configuration 1g – Proximity Sensor Inactive****Max Reported SAR = 1.139 (W/kg)**

|                    |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |          | Scan No. |
|--------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|----------|----------|
| Mode or Modulation | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | Reported |          |
| QPSK               | 12        | Back          | 20300       | 1745.0     | 1             | 99       | 24.0          | 23.1  | 0.886                   | 1.090    | 75*      |
| QPSK               | 12        | Back          | 20175       | 1732.5     | 1             | 99       | 24.0          | 22.8  | 0.864                   | 1.139    | 76       |
| QPSK               | 12        | Back          | 20050       | 1720.0     | 1             | 99       | 24.0          | 23.0  | 0.813                   | 1.024    | 77       |
| QPSK               | 12        | Back          | 20050       | 1720.0     | 50            | 49       | 23.0          | 21.7  | 0.603                   | 0.813    | 78       |
| QPSK               | 12        | Back          | 20300       | 1745.0     | 50            | 49       | 23.0          | 21.6  | 0.640                   | 0.883    | 79       |
| QPSK               | 12        | Back          | 20175       | 1732.5     | 50            | 49       | 23.0          | 21.6  | 0.633                   | 0.874    | 80       |
| QPSK               | 12        | Back          | 20300       | 1745.0     | 100           | 0        | 23.0          | 21.8  | 0.728                   | 0.960    | 81       |
| QPSK               | 14        | Top           | 20300       | 1745.0     | 1             | 99       | 24.0          | 23.1  | 0.736                   | 0.905    | 82       |
| QPSK               | 14        | Top           | 20175       | 1732.5     | 1             | 99       | 24.0          | 22.8  | 0.802                   | 1.057    | 83       |
| QPSK               | 14        | Top           | 20050       | 1720.0     | 1             | 99       | 24.0          | 23.0  | 0.825                   | 1.039    | 84       |
| QPSK               | 14        | Top           | 20050       | 1720.0     | 50            | 49       | 23.0          | 21.7  | 0.592                   | 0.799    | 85       |
| QPSK               | 14        | Top           | 20300       | 1745.0     | 100           | 0        | 23.0          | 21.8  | 0.570                   | 0.751    | 86       |
| QPSK               | 0         | Left          | 20300       | 1745.0     | 1             | 99       | 24.0          | 23.1  | 0.252                   | 0.310    | 87       |
| QPSK               | 0         | Left          | 20050       | 1720.0     | 50            | 49       | 23.0          | 21.7  | 0.179                   | 0.241    | 88       |

\*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.

**10.2.20. LTE Band 4 – Body Configuration 1g – Proximity Sensor Active****Max Reported SAR = 1.021 (W/kg)**

|                    |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |          | Scan No. |
|--------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|----------|----------|
| Mode or Modulation | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | Reported |          |
| QPSK               | 0         | Back          | 20050       | 1720.0     | 1             | 49       | 14.5          | 13.5  | 0.811                   | 1.021    | 89       |
| QPSK               | 0         | Back          | 20175       | 1732.5     | 1             | 49       | 14.5          | 13.0  | 0.576                   | 0.814    | 90       |
| QPSK               | 0         | Back          | 20300       | 1745.0     | 1             | 49       | 14.5          | 13.1  | 0.633                   | 0.874    | 91       |
| QPSK               | 0         | Back          | 20050       | 1720.0     | 50            | 25       | 14.5          | 13.6  | 0.800                   | 0.984    | 92       |
| QPSK               | 0         | Back          | 20175       | 1732.5     | 50            | 25       | 14.5          | 13.4  | 0.583                   | 0.751    | 93       |
| QPSK               | 0         | Back          | 20300       | 1745.0     | 50            | 25       | 14.5          | 13.3  | 0.625                   | 0.824    | 94       |
| QPSK               | 0         | Back          | 20300       | 1745.0     | 100           | 0        | 14.5          | 13.3  | 0.635                   | 0.837    | 95       |
| QPSK               | 0         | Top           | 20050       | 1720.0     | 1             | 49       | 14.5          | 13.5  | 0.433                   | 0.545    | 96       |
| QPSK               | 0         | Top           | 20050       | 1720.0     | 50            | 25       | 14.5          | 13.6  | 0.455                   | 0.560    | 97       |

**10.2.21. LTE Band 5- Body Configuration 1g – Proximity Sensor Inactive****Max Reported SAR = 0.255 (W/kg)**

|                    |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |                 | Scan No. |
|--------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|-----------------|----------|
| Mode or Modulation | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | <u>Reported</u> |          |
| QPSK               | 12        | Back          | 20450       | 829        | 1             | 24       | 24.0          | 22.9  | 0.198                   | 0.255           | 98       |
| QPSK               | 12        | Back          | 20450       | 829        | 25            | 12       | 23.0          | 21.8  | 0.187                   | 0.247           | 99       |
| QPSK               | 14        | Top           | 20450       | 829        | 1             | 24       | 24.0          | 22.9  | 0.187                   | 0.241           | 100      |
| QPSK               | 14        | Top           | 20450       | 829        | 25            | 12       | 23.0          | 21.8  | 0.149                   | 0.196           | 101      |
| QPSK               | 0         | Left          | 20450       | 829        | 1             | 24       | 24.0          | 22.9  | 0.192                   | 0.247           | 102      |
| QPSK               | 0         | Left          | 20450       | 829        | 25            | 12       | 23.0          | 21.8  | 0.153                   | 0.202           | 103      |

**10.2.22. LTE Band 5 – Body Configuration 1g – Proximity Sensor Active****Max Reported SAR = 0.450 (W/kg)**

|                    |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |                 | Scan No. |
|--------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|-----------------|----------|
| Mode or Modulation | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | <u>Reported</u> |          |
| QPSK               | 0         | Back          | 20635       | 844        | 1             | 24       | 17.0          | 16.2  | 0.359                   | 0.432           | 104      |
| QPSK               | 0         | Back          | 20635       | 844        | 25            | 12       | 17.0          | 16.1  | 0.366                   | 0.450           | 105      |
| QPSK               | 0         | Top           | 20635       | 844        | 1             | 24       | 17.0          | 16.2  | 0.268                   | 0.322           | 106      |
| QPSK               | 0         | Top           | 20635       | 844        | 25            | 12       | 17.0          | 16.1  | 0.283                   | 0.348           | 107      |

**10.2.23. LTE Band 13- Body Configuration 1g – Proximity Sensor Inactive****Max Reported SAR = 0.540 (W/kg)**

|                    |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |                 | Scan No. |
|--------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|-----------------|----------|
| Mode or Modulation | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | <u>Reported</u> |          |
| QPSK               | 12        | Back          | 23230       | 782.0      | 1             | 24       | 24.0          | 22.8  | 0.410                   | 0.540           | 108      |
| QPSK               | 12        | Back          | 23230       | 782.0      | 25            | 12       | 23.0          | 21.8  | 0.330                   | 0.435           | 109      |
| QPSK               | 14        | Top           | 23230       | 782.0      | 1             | 24       | 24.0          | 22.8  | 0.161                   | 0.212           | 110      |
| QPSK               | 14        | Top           | 23230       | 782.0      | 25            | 12       | 23.0          | 21.8  | 0.126                   | 0.166           | 111      |
| QPSK               | 0         | Left          | 23230       | 782.0      | 1             | 24       | 24.0          | 22.8  | 0.393                   | 0.518           | 112      |
| QPSK               | 0         | Left          | 23230       | 782.0      | 25            | 12       | 23.0          | 21.8  | 0.327                   | 0.431           | 113      |

**10.2.24. LTE Band 13 – Body Configuration 1g – Proximity Sensor Active****Max Reported SAR = 0.595 (W/kg)**

|                    |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |                 | Scan No. |
|--------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|-----------------|----------|
| Mode or Modulation | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | <u>Reported</u> |          |
| QPSK               | 0         | Back          | 23230       | 782.0      | 1             | 49       | 18.0          | 17.0  | 0.463                   | 0.583           | 114      |
| QPSK               | 0         | Back          | 23230       | 782.0      | 25            | 12       | 18.0          | 17.0  | 0.473                   | 0.595           | 115      |
| QPSK               | 0         | Top           | 23230       | 782.0      | 1             | 49       | 18.0          | 17.0  | 0.268                   | 0.337           | 116      |
| QPSK               | 0         | Top           | 23230       | 782.0      | 25            | 12       | 18.0          | 17.0  | 0.279                   | 0.351           | 117      |

**10.2.25. LTE Band 17- Body Configuration 1g – Proximity Sensor Inactive****Max Reported SAR = 0.504 (W/kg)**

|                    |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |                 | Scan No. |
|--------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|-----------------|----------|
| Mode or Modulation | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | <u>Reported</u> |          |
| QPSK               | 12        | Back          | 23790       | 710.0      | 1             | 24       | 24.0          | 22.7  | 0.370                   | 0.499           | 118      |
| QPSK               | 12        | Back          | 23790       | 710.0      | 25            | 12       | 23.0          | 21.4  | 0.290                   | 0.419           | 119      |
| QPSK               | 14        | Top           | 23790       | 710.0      | 1             | 24       | 24.0          | 22.7  | 0.106                   | 0.143           | 120      |
| QPSK               | 14        | Top           | 23790       | 710.0      | 25            | 12       | 23.0          | 21.4  | 0.084                   | 0.121           | 121      |
| QPSK               | 0         | Left          | 23790       | 710.0      | 1             | 24       | 24.0          | 22.7  | 0.329                   | 0.444           | 122      |
| QPSK               | 0         | Left          | 23790       | 710.0      | 25            | 12       | 23.0          | 21.4  | 0.257                   | 0.371           | 123      |
| QPSK               | 12        | Back          | 23780       | 709.0      | 1             | 24       | 24.0          | 22.4  | 0.349                   | 0.504           | 124      |
| QPSK               | 12        | Back          | 23800       | 711.0      | 1             | 24       | 24.0          | 22.6  | 0.339                   | 0.468           | 125      |

**10.2.26. LTE Band 17 – Body Configuration 1g – Proximity Sensor Active****Max Reported SAR = 0.393 (W/kg)**

|                    |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |                 | Scan No. |
|--------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|-----------------|----------|
| Mode or Modulation | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | <u>Reported</u> |          |
| QPSK               | 0         | Back          | 23780       | 709.0      | 1             | 24       | 15.5          | 15.4  | 0.370                   | 0.379           | 126      |
| QPSK               | 0         | Back          | 23780       | 709.0      | 25            | 12       | 15.5          | 15.2  | 0.367                   | 0.393           | 127      |
| QPSK               | 0         | Top           | 23780       | 709.0      | 1             | 24       | 15.5          | 15.4  | 0.187                   | 0.191           | 128      |
| QPSK               | 0         | Top           | 23780       | 709.0      | 25            | 12       | 15.5          | 15.2  | 0.185                   | 0.198           | 129      |

**10.2.27. LTE Band 25- Body Configuration 1g – Proximity Sensor Inactive****Max Reported SAR = 0.786 (W/kg)**

|                    |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |                 | Scan No. |
|--------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|-----------------|----------|
| Mode or Modulation | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | <u>Reported</u> |          |
| QPSK               | 12        | Back          | 26365       | 1882.5     | 1             | 0        | 24.0          | 23.0  | 0.624                   | 0.786           | 130      |
| QPSK               | 12        | Back          | 26365       | 1882.5     | 50            | 0        | 23.0          | 21.5  | 0.462                   | 0.653           | 131      |
| QPSK               | 14        | Top           | 26365       | 1882.5     | 1             | 0        | 24.0          | 23.0  | 0.489                   | 0.616           | 132      |
| QPSK               | 14        | Top           | 26365       | 1882.5     | 50            | 0        | 23.0          | 21.5  | 0.375                   | 0.530           | 133      |
| QPSK               | 0         | Left          | 26365       | 1882.5     | 1             | 0        | 24.0          | 23.0  | 0.252                   | 0.317           | 134      |
| QPSK               | 0         | Left          | 26365       | 1882.5     | 50            | 0        | 23.0          | 21.5  | 0.186                   | 0.263           | 135      |

**10.2.28. LTE Band 25 – Body Configuration 1g – Proximity Sensor Active****Max Reported SAR = 1.136 (W/kg)**

|                    |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |                 | Scan No. |
|--------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|-----------------|----------|
| Mode or Modulation | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | <u>Reported</u> |          |
| QPSK               | 0         | Back          | 26365       | 1882.5     | 1             | 99       | 14.5          | 14.2  | 0.577                   | 0.618           | 136      |
| QPSK               | 0         | Back          | 26365       | 1882.5     | 50            | 49       | 14.5          | 13.7  | 0.516                   | 0.620           | 137      |
| QPSK               | 0         | Top           | 26365       | 1882.5     | 1             | 99       | 14.5          | 14.2  | 0.894                   | 0.958           | 138      |
| QPSK               | 0         | Top           | 26140       | 1860       | 1             | 99       | 14.5          | 14.2  | 0.452                   | 0.484           | 139      |
| QPSK               | 0         | Top           | 26590       | 1905       | 1             | 99       | 14.5          | 14.2  | 1.060                   | 1.136           | 140*     |
| QPSK               | 0         | Top           | 26365       | 1882.5     | 50            | 49       | 14.5          | 13.7  | 0.731                   | 0.879           | 141      |
| QPSK               | 0         | Top           | 26140       | 1860       | 50            | 49       | 14.5          | 13.7  | 0.655                   | 0.787           | 142      |
| QPSK               | 0         | Top           | 26590       | 1905       | 50            | 49       | 14.5          | 13.7  | 0.763                   | 0.917           | 143      |
| QPSK               | 0         | Top           | 26365       | 1882.5     | 100           | 0        | 14.5          | 13.5  | 0.639                   | 0.804           | 144      |

\*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.

**10.2.29. Wi-Fi 2.4 GHz – Body Configuration 1g****Max. Reported SAR: 0.498 (W/kg)**

|                      |           |              |      |            | Power (dBm) - ANT 1 |             | 1g: SAR Results (W/kg) - ANT 1 |           | Power (dBm) - ANT 2 |             | 1g: SAR Results (W/kg) – ANT 2 |           |          |
|----------------------|-----------|--------------|------|------------|---------------------|-------------|--------------------------------|-----------|---------------------|-------------|--------------------------------|-----------|----------|
| Mod.                 | Dist (mm) | EUT Position | CH # | Freq (MHz) | Tune up Limit       | Meas. Power | Meas.                          | Report ed | Tune up Limit       | Meas. Power | Meas.                          | Report ed | Scan No. |
| SISO (Ant 1)         |           |              |      |            |                     |             |                                |           |                     |             |                                |           |          |
| BPSK (802.11b)       | 0.0       | Back         | 11   | 2462.0     | 12.0                | 11.7        | 0.427                          | 0.458     | N/A                 |             |                                |           | 145      |
|                      | 0.0       | Right        | 11   | 2462.0     | 12.0                | 11.7        | 0.382                          | 0.409     |                     |             |                                |           | 146      |
| SISO (Ant 2)         |           |              |      |            |                     |             |                                |           |                     |             |                                |           |          |
| BPSK (802.11b)       | 0.0       | Back         | 11   | 2462.0     | N/A                 |             |                                |           | 12.0                | 11.7        | 0.265                          | 0.284     | 147      |
|                      | 0.0       | Right        | 11   | 2462.0     |                     |             |                                |           | 12.0                | 11.7        | 0.175                          | 0.188     | 148      |
| MIMO (Ant 1 + Ant 2) |           |              |      |            |                     |             |                                |           |                     |             |                                |           |          |
| BPSK (802.11g CDD)   | 0.0       | Back         | 11   | 2462.0     | 12.0                | 11.4        | 0.434                          | 0.498     | 12.0                | 11.5        | -                              | -         | 149      |
|                      | 0.0       | Right        | 11   | 2462.0     | 12.0                | 11.4        | 0.387                          | 0.444     | 12.0                | 11.5        | -                              | -         | 150      |
|                      | 0.0       | Back         | 1    | 2412.0     | 12.0                | 11.0        | 0.347                          | 0.437     | 12.0                | 11.2        | -                              | -         | 151      |
|                      | 0.0       | Right        | 6    | 2437.0     | 12.0                | 11.2        | 0.331                          | 0.398     | 12.0                | 11.6        | -                              | -         | 152      |

**10.2.30. Wi-Fi 5.0 GHz (UNII Band 1) – Body Configuration 1g****Max. Reported SAR: 1.414 (W/kg)**

|                      |           |              |      |            | Power (dBm) - ANT 1 |             | 1g: SAR Results (W/kg) - ANT 1 |           | Power (dBm) - ANT 2 |             | 1g: SAR Results (W/kg) – ANT 2 |           |          |
|----------------------|-----------|--------------|------|------------|---------------------|-------------|--------------------------------|-----------|---------------------|-------------|--------------------------------|-----------|----------|
| Mod.                 | Dist (mm) | EUT Position | CH # | Freq (MHz) | Tune up Limit       | Meas. Power | Meas.                          | Report ed | Tune up Limit       | Meas. Power | Meas.                          | Report ed | Scan No. |
| SISO (Ant 1)         |           |              |      |            |                     |             |                                |           |                     |             |                                |           |          |
| BPSK (802.11a)       | 0         | Back         | 36   | 5180.0     | 13.0                | 12.8        | 0.697                          | 0.730     | N/A                 |             |                                |           | 153      |
|                      | 0         | Right        | 36   | 5180.0     | 13.0                | 12.8        | 1.020                          | 1.068     |                     |             |                                |           | 154      |
|                      | 0         | Right        | 48   | 5240.0     | 13.0                | 12.7        | 1.270                          | 1.361     |                     |             |                                |           | 155      |
|                      | 0         | Top          | 36   | 5180.0     | 13.0                | 12.8        | 0.261                          | 0.273     |                     |             |                                |           | 156      |
| SISO (Ant 2)         |           |              |      |            |                     |             |                                |           |                     |             |                                |           |          |
| BPSK (802.11a)       | 0         | Back         | 48   | 5240.0     | N/A                 |             |                                |           | 13.0                | 12.7        | 0.255                          | 0.273     | 157      |
|                      | 0         | Right        | 48   | 5240.0     |                     |             |                                |           | 13.0                | 12.7        | 0.295                          | 0.316     | 158      |
| MIMO (Ant 1 + Ant 2) |           |              |      |            |                     |             |                                |           |                     |             |                                |           |          |
| BPSK (802.11a CDD)   | 0         | Right        | 36   | 5180.0     | 13.0                | 12.8        | 1.220                          | 1.277     | 13.0                | 12.8        | -                              | -         | 159      |
|                      | 0         | Right        | 48   | 5240.0     | 13.0                | 12.8        | 1.350                          | 1.414     | 13.0                | 12.7        | -                              | -         | 160      |

**10.2.31. Wi-Fi 5.0 GHz (UNII Band 2A) – Body Configuration 1g****Max. Reported SAR: 1.479 (W/kg)**

|                      |           |              |      |            | Power (dBm) - ANT 1 |             | 1g: SAR Results (W/kg) - ANT 1 |           | Power (dBm) - ANT 2 |             | 1g: SAR Results (W/kg) – ANT 2 |           |          |
|----------------------|-----------|--------------|------|------------|---------------------|-------------|--------------------------------|-----------|---------------------|-------------|--------------------------------|-----------|----------|
| Mod.                 | Dist (mm) | EUT Position | CH # | Freq (MHz) | Tune up Limit       | Meas. Power | Meas.                          | Report ed | Tune up Limit       | Meas. Power | Meas.                          | Report ed | Scan No. |
| SISO (Ant 1)         |           |              |      |            |                     |             |                                |           |                     |             |                                |           |          |
| BPSK (802.11a)       | 0         | Right        | 52   | 5260.0     | 13.0                | 12.7        | 1.380                          | 1.479     | N/A                 |             |                                |           | 161*     |
|                      | 0         | Right        | 64   | 5320.0     | 13.0                | 12.7        | 1.200                          | 1.286     |                     |             |                                |           | 162      |
| SISO (Ant 2)         |           |              |      |            |                     |             |                                |           |                     |             |                                |           |          |
| BPSK (802.11a)       | 0         | Right        | 64   | 5320.0     | N/A                 |             |                                |           | 13.0                | 12.7        | 0.272                          | 0.291     | 163      |
| MIMO (Ant 1 + Ant 2) |           |              |      |            |                     |             |                                |           |                     |             |                                |           |          |
| BPSK (802.11a CDD)   | 0         | Right        | 52   | 5260.0     | 13.0                | 12.7        | 1.310                          | 1.404     | 13.0                | 12.8        | -                              | -         | 164      |
|                      | 0         | Right        | 64   | 5320.0     | 13.0                | 12.7        | 1.220                          | 1.307     | 13.0                | 12.8        | -                              | -         | 165      |

\* 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.

**10.2.32. Wi-Fi 5.0 GHz (UNII Band 2C) – Body Configuration 1g****Max. Reported SAR: 0.881 (W/kg)**

|                      |           |              |      |            | Power (dBm) - ANT 1 |             | 1g: SAR Results (W/kg) - ANT 1 |           | Power (dBm) - ANT 2 |             | 1g: SAR Results (W/kg) – ANT 2 |           |          |
|----------------------|-----------|--------------|------|------------|---------------------|-------------|--------------------------------|-----------|---------------------|-------------|--------------------------------|-----------|----------|
| Mod.                 | Dist (mm) | EUT Position | CH # | Freq (MHz) | Tune up Limit       | Meas. Power | Meas.                          | Report ed | Tune up Limit       | Meas. Power | Meas.                          | Report ed | Scan No. |
| SISO (Ant 1)         |           |              |      |            |                     |             |                                |           |                     |             |                                |           |          |
| BPSK (802.11a)       | 0         | Right        | 104  | 5520.0     | 13.0                | 12.0        | 0.700                          | 0.881     | N/A                 |             |                                |           | 166      |
|                      | 0         | Right        | 116  | 5580.0     | 13.0                | 11.8        | 0.611                          | 0.805     |                     |             |                                |           | 167      |
|                      | 0         | Right        | 136  | 5680.0     | 13.0                | 11.7        | 0.540                          | 0.728     |                     |             |                                |           | 168      |
| SISO (Ant 2)         |           |              |      |            |                     |             |                                |           |                     |             |                                |           |          |
| BPSK (802.11a)       | 0         | Right        | 104  | 5520.0     | N/A                 |             |                                |           | 13.0                | 12.4        | 0.193                          | 0.222     | 169      |
| MIMO (Ant 1 + Ant 2) |           |              |      |            |                     |             |                                |           |                     |             |                                |           |          |
| BPSK (802.11a CDD)   | 0         | Right        | 104  | 5520.0     | 13.0                | 12.0        | 0.656                          | 0.826     | 13.0                | 12.6        | -                              | -         | 170      |
|                      | 0         | Right        | 116  | 5580.0     | 13.0                | 12.0        | 0.597                          | 0.752     | 13.0                | 12.3        | -                              | -         | 171      |
|                      | 0         | Right        | 136  | 5680.0     | 13.0                | 11.8        | 0.574                          | 0.757     | 13.0                | 11.9        | -                              | -         | 172      |

\* Repeat Run

**10.2.33. Wi-Fi 5.0 GHz (UNII Band 3) – Body Configuration 1g****Max. Reported SAR: 0.778 (W/kg)**

|                      |           |              |      |            | Power (dBm) - ANT 1 |             | 1g: SAR Results (W/kg) - ANT 1 |           | Power (dBm) - ANT 2 |             | 1g: SAR Results (W/kg) – ANT 2 |           |          |
|----------------------|-----------|--------------|------|------------|---------------------|-------------|--------------------------------|-----------|---------------------|-------------|--------------------------------|-----------|----------|
| Mod.                 | Dist (mm) | EUT Position | CH # | Freq (MHz) | Tune up Limit       | Meas. Power | Meas.                          | Report ed | Tune up Limit       | Meas. Power | Meas.                          | Report ed | Scan No. |
| SISO (Ant 1)         |           |              |      |            |                     |             |                                |           |                     |             |                                |           |          |
| BPSK (802.11a)       | 0         | Right        | 165  | 5825.0     | 13.0                | 11.7        | 0.575                          | 0.776     | N/A                 |             |                                |           | 173      |
| SISO (Ant 2)         |           |              |      |            |                     |             |                                |           |                     |             |                                |           |          |
| BPSK (802.11a)       | 0         | Right        | 149  | 5745.0     | N/A                 |             |                                |           | 13.0                | 11.5        | 0.387                          | 0.547     | 174      |
| MIMO (Ant 1 + Ant 2) |           |              |      |            |                     |             |                                |           |                     |             |                                |           |          |
| BPSK (802.11a CDD)   | 0         | Right        | 165  | 5825.0     | 13.0                | 11.7        | 0.574                          | 0.774     | 13.0                | 11.3        | 0.526                          | 0.778     | 175      |

**10.2.34. Bluetooth – Body Configuration 1g****Max. Reported SAR: 0.067 (W/kg)**

|                    |           |               |             |            | RB allocation |          | Power (dBm)   |       | 1g : SAR Results (W/kg) |                 | Scan No. |
|--------------------|-----------|---------------|-------------|------------|---------------|----------|---------------|-------|-------------------------|-----------------|----------|
| Mode or Modulation | Dist (mm) | Test Position | Channel No. | Freq (MHz) | #RB           | Start RB | Tune-up limit | Meas. | Meas.                   | <u>Reported</u> |          |
| GFSK               | 0         | Back          | 39          | 2441.0     | N/A           | N/A      | 9.0           | 8.1   | 0.053                   | 0.065           | 176      |
| GFSK               | 0         | Right         | 39          | 2441.0     | N/A           | N/A      | 9.0           | 8.1   | 0.046                   | 0.057           | 177      |
| GFSK               | 0         | Back          | 0           | 2402.0     | N/A           | N/A      | 9.0           | 7.8   | 0.051                   | 0.067           | 178      |
| GFSK               | 0         | Back          | 79          | 2480.0     | N/A           | N/A      | 9.0           | 8.0   | 0.053                   | 0.067           | 179      |

### 10.3. SAR Measurement Variability

In accordance with published RF Exposure KDB procedure 865664 D01 SAR measurement 100 MHz to 6 GHz. These additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

- 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  $> 1.20$ .

### Repeated Measurement Results

#### Body Exposure Condition

| Frequency band | Test Position | Mode | Ch #. | Freq. (MHz) | Meas. SAR (W/kg) |          | Largest to Smallest SAR Ratio | Note |
|----------------|---------------|------|-------|-------------|------------------|----------|-------------------------------|------|
|                |               |      |       |             | Original         | Repeated |                               |      |
| UMTS FDD 4     | Back          | QPSK | 1513  | 1752.6      | 1.000            | 0.927    | 1.08                          | 1    |
| LTE Band 2     | Top           | QPSK | 19100 | 1900.0      | 0.923            | 0.787    | 1.17                          | 1    |
| LTE Band 4     | Back          | QPSK | 20300 | 1745.0      | 0.886            | 0.756    | 1.17                          | 1    |
| LTE Band 25    | Top           | QPSK | 20650 | 1905.0      | 1.060            | 1.060    | 1.00                          | 1    |
| Wi-Fi 5.0GHz   | Right         | BPSK | 52    | 5260.0      | 1.380            | 1.370    | 1.01                          | 1    |

#### Note(s):

1. Second Repeated Measurement is not required since the ratio of the largest to smallest SAR for the original and first repeated measurement is not  $> 1.20$ .

## 11. Simultaneous Transmission Analysis

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              |
|    | GSM Data                             | WCDMA Data | LTE Data | Wi-Fi 802.11b/g/n |              |                      | Wi-Fi 802.11a/n/ac |              |                      | Bluetooth (ANT 1) |
|    |                                      |            |          | SISO (Ant 1)      | SISO (Ant 2) | MIMO (Ant 1 + Ant 2) | SISO (Ant 1)       | SISO (Ant 2) | MIMO (Ant 1 + Ant 2) |                   |
| 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                  |              |                      |                   |
| 12 |                                      |            | X        |                   |              |                      | X                  |              |                      |                   |
| 13 | X                                    |            |          |                   |              |                      |                    | X            |                      |                   |
| 14 |                                      | X          |          |                   |              |                      |                    | X            |                      |                   |
| 15 |                                      |            | X        |                   |              |                      |                    | X            |                      |                   |
| 16 | X                                    |            |          |                   |              |                      |                    |              | X                    |                   |
| 17 |                                      | X          |          |                   |              |                      |                    |              | X                    |                   |
| 18 |                                      |            | X        |                   |              |                      |                    |              | X                    |                   |
| 19 | X                                    |            |          |                   |              |                      |                    |              |                      | X                 |
| 20 |                                      | X          |          |                   |              |                      |                    |              |                      | X                 |
| 21 |                                      |            | X        |                   |              |                      |                    |              |                      | X                 |

**Simultaneous Transmission Analysis (Continued)**

KDB 447498 D01 General RF Exposure Guidance, introduces a new formula for calculating the SAR to Peak Location Ratio (SPLSR) between pairs of simultaneously transmitting antennas:

$$\text{SPLSR} = (\text{SAR}_1 + \text{SAR}_2)^{1.5} / Ri$$

Where:

**SAR<sub>1</sub>** is the highest reported or estimated SAR for the first of a pair of simultaneous transmitting antennas, in a specific test operating mode and exposure condition

**SAR<sub>2</sub>** is the highest reported or estimated SAR for the second of a pair of simultaneous transmitting antennas, in the same test operating mode and exposure condition as the first

**Ri** is the separation distance between the pair of simultaneous transmitting antennas. When the SAR is measured for both antennas in the pair, it is determined by the actual x, y, and z coordinates in the 1-g SAR for each SAR Peak Location; based on the extrapolated and interpolated result in the zoom scan measurement using the formula:

$$[(x_1 - x_2)^2 + (y_1 - y_2)^2 + (z_1 - z_2)^2]$$

A new threshold of 0.04 is also introduced in the KDB 447498. Thus, in order for a pair of simultaneously transmitting antennas, with the sum of 1-g SAR > 1.6 W/kg, to qualify for exemption from Simultaneous Transmission SAR measurements, it has to satisfy the condition of:

$$(\text{SAR}_1 + \text{SAR}_2)^{1.5} / Ri < 0.04$$

**11.1.Simultaneous consideration for GSM + Wi-Fi + BT****11.1.1.GSM 850 + 2.4 GHz / GSM 850 + 5.0 GHz / GSM 850 + BT**

| RF Exposure Conditions | EUT Position |       | Simultaneous Transmission Condition |                  |                   |                |                 |                 |
|------------------------|--------------|-------|-------------------------------------|------------------|-------------------|----------------|-----------------|-----------------|
|                        |              |       | GSM850<br>①                         | Wi-Fi (DTS)<br>② | Wi-Fi (UNII)<br>③ | Bluetooth<br>④ | Σ 1g SAR (W/kg) | SPLSR (Yes/ No) |
| Body                   | Back         | ① + ② | 0.466                               | 0.498            |                   |                | 0.964           | No              |
|                        |              | ① + ③ | 0.466                               |                  | 0.730             |                | 1.196           | No              |
|                        |              | ① + ④ | 0.466                               |                  |                   | 0.067          | 0.533           | No              |
|                        | Left         | ① + ② | 0.478                               | -                |                   |                | 0.478           | No              |
|                        |              | ① + ③ | 0.478                               |                  | -                 |                | 0.478           | No              |
|                        |              | ① + ④ | 0.478                               |                  |                   | -              | 0.478           | No              |
|                        | Right        | ① + ② | -                                   | 0.444            |                   |                | 0.444           | No              |
|                        |              | ① + ③ | -                                   |                  | 1.479             |                | 1.479           | No              |
|                        |              | ① + ④ | -                                   |                  |                   | 0.057          | 0.057           | No              |
|                        | Top          | ① + ② | 0.363                               | -                |                   |                | 0.363           | No              |
|                        |              | ① + ③ | 0.363                               |                  | 0.273             |                | 0.636           | No              |
|                        |              | ① + ④ | 0.363                               |                  |                   | -              | 0.363           | No              |

**11.1.2.PCS 1900 + 2.4 GHz / PCS 1900 + 5.0 GHz / PCS 1900 + BT**

| RF Exposure Conditions | EUT Position |       | Simultaneous Transmission Condition |                  |                   |                |                 |                 |
|------------------------|--------------|-------|-------------------------------------|------------------|-------------------|----------------|-----------------|-----------------|
|                        |              |       | PCS1900<br>①                        | Wi-Fi (DTS)<br>② | Wi-Fi (UNII)<br>③ | Bluetooth<br>④ | Σ 1g SAR (W/kg) | SPLSR (Yes/ No) |
| Body                   | Back         | ① + ② | 0.565                               | 0.498            |                   |                | 1.063           | No              |
|                        |              | ① + ③ | 0.565                               |                  | 0.730             |                | 1.295           | No              |
|                        |              | ① + ④ | 0.565                               |                  |                   | 0.067          | 0.632           | No              |
|                        | Left         | ① + ② | 0.129                               | -                |                   |                | 0.129           | No              |
|                        |              | ① + ③ | 0.129                               |                  | -                 |                | 0.129           | No              |
|                        |              | ① + ④ | 0.129                               |                  |                   | -              | 0.129           | No              |
|                        | Right        | ① + ② | -                                   | 0.444            |                   |                | 0.444           | No              |
|                        |              | ① + ③ | -                                   |                  | 1.479             |                | 1.479           | No              |
|                        |              | ① + ④ | -                                   |                  |                   | 0.057          | 0.057           | No              |
|                        | Top          | ① + ② | 0.669                               | -                |                   |                | 0.669           | No              |
|                        |              | ① + ③ | 0.669                               |                  | 0.273             |                | 0.942           | No              |
|                        |              | ① + ④ | 0.669                               |                  |                   | -              | 0.669           | No              |

**11.2.Simultaneous consideration for UMTS + Wi-Fi + BT****11.2.1.UMTS FDD 2 + 2.4 GHz / UMTS FDD 2 + 5.0 GHz / UMTS FDD 2 + BT**

| RF Exposure Conditions | EUT Position |       | Simultaneous Transmission Condition |                  |                   |                |                 |                 |
|------------------------|--------------|-------|-------------------------------------|------------------|-------------------|----------------|-----------------|-----------------|
|                        |              |       | UMTS FDD 2<br>①                     | Wi-Fi (DTS)<br>② | Wi-Fi (UNII)<br>③ | Bluetooth<br>④ | Σ 1g SAR (W/kg) | SPLSR (Yes/ No) |
| Body                   | Back         | ① + ② | 0.835                               | 0.498            |                   |                | 1.333           | No              |
|                        |              | ① + ③ | 0.835                               |                  | 0.730             |                | 1.565           | No              |
|                        |              | ① + ④ | 0.835                               |                  |                   | 0.067          | 0.902           | No              |
|                        | Left         | ① + ② | 0.285                               | -                |                   |                | 0.285           | No              |
|                        |              | ① + ③ | 0.285                               |                  | -                 |                | 0.285           | No              |
|                        |              | ① + ④ | 0.285                               |                  |                   | -              | 0.285           | No              |
|                        | Right        | ① + ② | -                                   | 0.444            |                   |                | 0.444           | No              |
|                        |              | ① + ③ | -                                   |                  | 1.479             |                | 1.479           | No              |
|                        |              | ① + ④ | -                                   |                  |                   | 0.057          | 0.057           | No              |
|                        | Top          | ① + ② | 0.766                               | -                |                   |                | 0.766           | No              |
|                        |              | ① + ③ | 0.766                               |                  | 0.273             |                | 1.039           | No              |
|                        |              | ① + ④ | 0.766                               |                  |                   | -              | 0.766           | No              |

**11.2.2.UMTS FDD 4 + 2.4 GHz / UMTS FDD 4 + 5.0 GHz / UMTS FDD 4 + BT**

| RF Exposure Conditions | EUT Position |       | Simultaneous Transmission Condition |                  |                   |                |                 |                 |
|------------------------|--------------|-------|-------------------------------------|------------------|-------------------|----------------|-----------------|-----------------|
|                        |              |       | UMTS FDD 4<br>①                     | Wi-Fi (DTS)<br>② | Wi-Fi (UNII)<br>③ | Bluetooth<br>④ | Σ 1g SAR (W/kg) | SPLSR (Yes/ No) |
| Body                   | Back         | ① + ② | 0.776                               | 0.498            |                   |                | 1.274           | No              |
|                        |              | ① + ③ | 0.776                               |                  | 0.730             |                | 1.506           | No              |
|                        |              | ① + ④ | 0.776                               |                  |                   | 0.067          | 0.843           | No              |
|                        | Left         | ① + ② | 0.320                               | -                |                   |                | 0.320           | No              |
|                        |              | ① + ③ | 0.320                               |                  | -                 |                | 0.320           | No              |
|                        |              | ① + ④ | 0.320                               |                  |                   | -              | 0.320           | No              |
|                        | Right        | ① + ② | -                                   | 0.444            |                   |                | 0.444           | No              |
|                        |              | ① + ③ | -                                   |                  | 1.479             |                | 1.479           | No              |
|                        |              | ① + ④ | -                                   |                  |                   | 0.057          | 0.057           | No              |
|                        | Top          | ① + ② | 0.580                               | -                |                   |                | 0.580           | No              |
|                        |              | ① + ③ | 0.580                               |                  | 0.273             |                | 0.853           | No              |
|                        |              | ① + ④ | 0.580                               |                  |                   | -              | 0.580           | No              |

**11.2.3.UMTS FDD 5 + 2.4 GHz / UMTS FDD 5 + 5.0 GHz / UMTS FDD 5 + BT**

| RF Exposure Conditions | EUT Position |       | Simultaneous Transmission Condition |                  |                   |                |                 |                 |
|------------------------|--------------|-------|-------------------------------------|------------------|-------------------|----------------|-----------------|-----------------|
|                        |              |       | UMTS FDD 5<br>①                     | Wi-Fi (DTS)<br>② | Wi-Fi (UNII)<br>③ | Bluetooth<br>④ | Σ 1g SAR (W/kg) | SPLSR (Yes/ No) |
| Body                   | Back         | ① + ② | 0.504                               | 0.498            |                   |                | 1.002           | No              |
|                        |              | ① + ③ | 0.504                               |                  | 0.730             |                | 1.234           | No              |
|                        |              | ① + ④ | 0.504                               |                  |                   | 0.067          | 0.571           | No              |
|                        | Left         | ① + ② | 0.072                               | -                |                   |                | 0.072           | No              |
|                        |              | ① + ③ | 0.072                               |                  | -                 |                | 0.072           | No              |
|                        |              | ① + ④ | 0.072                               |                  |                   | -              | 0.072           | No              |
|                        | Right        | ① + ② | -                                   | 0.444            |                   |                | 0.444           | No              |
|                        |              | ① + ③ | -                                   |                  | 1.479             |                | 1.479           | No              |
|                        |              | ① + ④ | -                                   |                  |                   | 0.057          | 0.057           | No              |
|                        | Top          | ① + ② | 0.264                               | -                |                   |                | 0.264           | No              |
|                        |              | ① + ③ | 0.264                               |                  | 0.273             |                | 0.537           | No              |
|                        |              | ① + ④ | 0.264                               |                  |                   | -              | 0.264           | No              |

**11.3.Simultaneous consideration for CDMA + Wi-Fi + BT****11.3.1.CDMA BC 0 + 2.4 GHz / CDMA BC 0 + 5.0 GHz / CDMA BC 0 + BT**

| RF Exposure Conditions | EUT Position |       | Simultaneous Transmission Condition |                  |                   |                |                 |                 |
|------------------------|--------------|-------|-------------------------------------|------------------|-------------------|----------------|-----------------|-----------------|
|                        |              |       | CDMA BC0<br>①                       | Wi-Fi (DTS)<br>② | Wi-Fi (UNII)<br>③ | Bluetooth<br>④ | Σ 1g SAR (W/kg) | SPLSR (Yes/ No) |
| Body                   | Back         | ① + ② | 0.463                               | 0.498            |                   |                | 0.961           | No              |
|                        |              | ① + ③ | 0.463                               |                  | 0.730             |                | 1.193           | No              |
|                        |              | ① + ④ | 0.463                               |                  |                   | 0.067          | 0.530           | No              |
|                        | Left         | ① + ② | 0.268                               | -                |                   |                | 0.268           | No              |
|                        |              | ① + ③ | 0.268                               |                  | -                 |                | 0.268           | No              |
|                        |              | ① + ④ | 0.268                               |                  |                   | -              | 0.268           | No              |
|                        | Right        | ① + ② | -                                   | 0.444            |                   |                | 0.444           | No              |
|                        |              | ① + ③ | -                                   |                  | 1.479             |                | 1.479           | No              |
|                        |              | ① + ④ | -                                   |                  |                   | 0.057          | 0.057           | No              |
|                        | Top          | ① + ② | 0.320                               | -                |                   |                | 0.320           | No              |
|                        |              | ① + ③ | 0.320                               |                  | 0.273             |                | 0.593           | No              |
|                        |              | ① + ④ | 0.320                               |                  |                   | -              | 0.320           | No              |

**11.3.2.CDMA BC 1 + 2.4 GHz / CDMA BC 1 + 5.0 GHz / CDMA BC 1 + BT**

| RF Exposure Conditions | EUT Position |       | Simultaneous Transmission Condition |                  |                   |                |                 |                 |
|------------------------|--------------|-------|-------------------------------------|------------------|-------------------|----------------|-----------------|-----------------|
|                        |              |       | CDMA BC1<br>①                       | Wi-Fi (DTS)<br>② | Wi-Fi (UNII)<br>③ | Bluetooth<br>④ | Σ 1g SAR (W/kg) | SPLSR (Yes/ No) |
| Body                   | Back         | ① + ② | 0.648                               | 0.498            |                   |                | 1.146           | No              |
|                        |              | ① + ③ | 0.648                               |                  | 0.730             |                | 1.378           | No              |
|                        |              | ① + ④ | 0.648                               |                  |                   | 0.067          | 0.715           | No              |
|                        | Left         | ① + ② | 0.322                               | -                |                   |                | 0.322           | No              |
|                        |              | ① + ③ | 0.322                               |                  | -                 |                | 0.322           | No              |
|                        |              | ① + ④ | 0.322                               |                  |                   | -              | 0.322           | No              |
|                        | Right        | ① + ② | -                                   | 0.444            |                   |                | 0.444           | No              |
|                        |              | ① + ③ | -                                   |                  | 1.479             |                | 1.479           | No              |
|                        |              | ① + ④ | -                                   |                  |                   | 0.057          | 0.057           | No              |
|                        | Top          | ① + ② | 0.627                               | -                |                   |                | 0.627           | No              |
|                        |              | ① + ③ | 0.627                               |                  | 0.273             |                | 0.900           | No              |
|                        |              | ① + ④ | 0.627                               |                  |                   | -              | 0.627           | No              |

**11.3.3.CDMA BC 10 + 2.4 GHz / CDMA BC 10 + 5.0 GHz / CDMA BC 10 + BT**

| RF Exposure Conditions | EUT Position |       | Simultaneous Transmission Condition |                  |                   |                |                        |                 |
|------------------------|--------------|-------|-------------------------------------|------------------|-------------------|----------------|------------------------|-----------------|
|                        |              |       | CDMA BC10<br>①                      | Wi-Fi (DTS)<br>② | Wi-Fi (UNII)<br>③ | Bluetooth<br>④ | $\Sigma$ 1g SAR (W/kg) | SPLSR (Yes/ No) |
| Body                   | Back         | ① + ② | 0.396                               | 0.498            |                   |                | 0.894                  | No              |
|                        |              | ① + ③ | 0.396                               |                  | 0.730             |                | 1.126                  | No              |
|                        |              | ① + ④ | 0.396                               |                  |                   | 0.067          | 0.463                  | No              |
|                        | Left         | ① + ② | 0.335                               | -                |                   |                | 0.335                  | No              |
|                        |              | ① + ③ | 0.335                               |                  | -                 |                | 0.335                  | No              |
|                        |              | ① + ④ | 0.335                               |                  |                   | -              | 0.335                  | No              |
|                        | Right        | ① + ② | -                                   | 0.444            |                   |                | 0.444                  | No              |
|                        |              | ① + ③ | -                                   |                  | 1.479             |                | 1.479                  | No              |
|                        |              | ① + ④ | -                                   |                  |                   | 0.057          | 0.057                  | No              |
|                        | Top          | ① + ② | 0.289                               | -                |                   |                | 0.289                  | No              |
|                        |              | ① + ③ | 0.289                               |                  | 0.273             |                | 0.562                  | No              |
|                        |              | ① + ④ | 0.289                               |                  |                   | -              | 0.289                  | No              |

**11.4.Simultaneous consideration for LTE + Wi-Fi + BT****11.4.1.LTE Band 2 + 2.4 GHz / LTE Band 2 + 5.0 GHz / LTE Band 2 + BT**

| RF Exposure Conditions | EUT Position |       | Simultaneous Transmission Condition |                  |                   |                |                 |                 |
|------------------------|--------------|-------|-------------------------------------|------------------|-------------------|----------------|-----------------|-----------------|
|                        |              |       | LTE Band 2<br>①                     | Wi-Fi (DTS)<br>② | Wi-Fi (UNII)<br>③ | Bluetooth<br>④ | Σ 1g SAR (W/kg) | SPLSR (Yes/ No) |
| Body                   | Back         | ① + ② | 0.608                               | 0.498            |                   |                | 1.106           | No              |
|                        |              | ① + ③ | 0.608                               |                  | 0.730             |                | 1.338           | No              |
|                        |              | ① + ④ | 0.608                               |                  |                   | 0.067          | 0.675           | No              |
|                        | Left         | ① + ② | 0.329                               | -                |                   |                | 0.329           | No              |
|                        |              | ① + ③ | 0.329                               |                  | -                 |                | 0.329           | No              |
|                        |              | ① + ④ | 0.329                               |                  |                   | -              | 0.329           | No              |
|                        | Right        | ① + ② | -                                   | 0.444            |                   |                | 0.444           | No              |
|                        |              | ① + ③ | -                                   |                  | 1.479             |                | 1.479           | No              |
|                        |              | ① + ④ | -                                   |                  |                   | 0.057          | 0.057           | No              |
|                        | Top          | ① + ② | 0.989                               | -                |                   |                | 0.989           | No              |
|                        |              | ① + ③ | 0.989                               |                  | 0.273             |                | 1.262           | No              |
|                        |              | ① + ④ | 0.989                               |                  |                   | -              | 0.989           | No              |

**11.4.2.LTE Band 4 + 2.4 GHz / LTE Band 4 + 5.0 GHz / LTE Band 4 + BT**

| RF Exposure Conditions | EUT Position |       | Simultaneous Transmission Condition |                  |                   |                |                 |                 |
|------------------------|--------------|-------|-------------------------------------|------------------|-------------------|----------------|-----------------|-----------------|
|                        |              |       | LTE Band 4<br>①                     | Wi-Fi (DTS)<br>② | Wi-Fi (UNII)<br>③ | Bluetooth<br>④ | Σ 1g SAR (W/kg) | SPLSR (Yes/ No) |
| Body                   | Back         | ① + ② | 1.021                               | 0.498            |                   |                | 1.519           | No              |
|                        |              | ① + ③ | 1.021                               |                  | 0.730             |                | 1.751           | Yes             |
|                        |              | ① + ④ | 1.021                               |                  |                   | 0.067          | 1.088           | No              |
|                        | Left         | ① + ② | 0.310                               | -                |                   |                | 0.310           | No              |
|                        |              | ① + ③ | 0.310                               |                  | -                 |                | 0.310           | No              |
|                        |              | ① + ④ | 0.310                               |                  |                   | -              | 0.310           | No              |
|                        | Right        | ① + ② | -                                   | 0.444            |                   |                | 0.444           | No              |
|                        |              | ① + ③ | -                                   |                  | 1.479             |                | 1.479           | No              |
|                        |              | ① + ④ | -                                   |                  |                   | 0.057          | 0.057           | No              |
|                        | Top          | ① + ② | 0.560                               | -                |                   |                | 0.560           | No              |
|                        |              | ① + ③ | 0.560                               |                  | 0.273             |                | 0.833           | No              |
|                        |              | ① + ④ | 0.560                               |                  |                   | -              | 0.560           | No              |

Case 1: Back of EUT configuration for the combinations, LTE Band 4 + WLAN 5.0GHz exceeds 1.6W/kg hence, SPLSR calculations are performed and documented in Section 11.5.

**11.4.3.LTE Band 5 + 2.4 GHz / LTE Band 5 + 5.0 GHz / LTE Band 5 + BT**

| RF Exposure Conditions | EUT Position |       | Simultaneous Transmission Condition |                  |                   |                |                 |                 |
|------------------------|--------------|-------|-------------------------------------|------------------|-------------------|----------------|-----------------|-----------------|
|                        |              |       | LTE Band 5<br>①                     | Wi-Fi (DTS)<br>② | Wi-Fi (UNII)<br>③ | Bluetooth<br>④ | Σ 1g SAR (W/kg) | SPLSR (Yes/ No) |
| Body                   | Back         | ① + ② | 0.450                               | 0.498            |                   |                | 0.948           | No              |
|                        |              | ① + ③ | 0.450                               |                  | 0.730             |                | 1.180           | No              |
|                        |              | ① + ④ | 0.450                               |                  |                   | 0.067          | 0.517           | No              |
|                        | Left         | ① + ② | 0.247                               | -                |                   |                | 0.247           | No              |
|                        |              | ① + ③ | 0.247                               |                  | -                 |                | 0.247           | No              |
|                        |              | ① + ④ | 0.247                               |                  |                   | -              | 0.247           | No              |
|                        | Right        | ① + ② | -                                   | 0.444            |                   |                | 0.444           | No              |
|                        |              | ① + ③ | -                                   |                  | 1.479             |                | 1.479           | No              |
|                        |              | ① + ④ | -                                   |                  |                   | 0.057          | 0.057           | No              |
|                        | Top          | ① + ② | 0.348                               | -                |                   |                | 0.348           | No              |
|                        |              | ① + ③ | 0.348                               |                  | 0.273             |                | 0.521           | No              |
|                        |              | ① + ④ | 0.348                               |                  |                   | -              | 0.348           | No              |

**11.4.4.LTE Band 13 + 2.4 GHz / LTE Band 13 + 5.0 GHz / LTE Band 13 + BT**

| RF Exposure Conditions | EUT Position |       | Simultaneous Transmission Condition |                  |                   |                |                 |                 |
|------------------------|--------------|-------|-------------------------------------|------------------|-------------------|----------------|-----------------|-----------------|
|                        |              |       | LTE Band 13<br>①                    | Wi-Fi (DTS)<br>② | Wi-Fi (UNII)<br>③ | Bluetooth<br>④ | Σ 1g SAR (W/kg) | SPLSR (Yes/ No) |
| Body                   | Back         | ① + ② | 0.595                               | 0.498            |                   |                | 1.093           | No              |
|                        |              | ① + ③ | 0.595                               |                  | 0.730             |                | 1.325           | No              |
|                        |              | ① + ④ | 0.595                               |                  |                   | 0.067          | 0.662           | No              |
|                        | Left         | ① + ② | 0.518                               | -                |                   |                | 0.518           | No              |
|                        |              | ① + ③ | 0.518                               |                  | -                 |                | 0.518           | No              |
|                        |              | ① + ④ | 0.518                               |                  |                   | -              | 0.518           | No              |
|                        | Right        | ① + ② | -                                   | 0.444            |                   |                | 0.444           | No              |
|                        |              | ① + ③ | -                                   |                  | 1.479             |                | 1.479           | No              |
|                        |              | ① + ④ | -                                   |                  |                   | 0.057          | 0.057           | No              |
|                        | Top          | ① + ② | 0.351                               | -                |                   |                | 0.351           | No              |
|                        |              | ① + ③ | 0.351                               |                  | 0.273             |                | 0.624           | No              |
|                        |              | ① + ④ | 0.351                               |                  |                   | -              | 0.351           | No              |

**11.4.5.LTE Band 17 + 2.4 GHz / LTE Band 17 + 5.0 GHz / LTE Band 17 + BT**

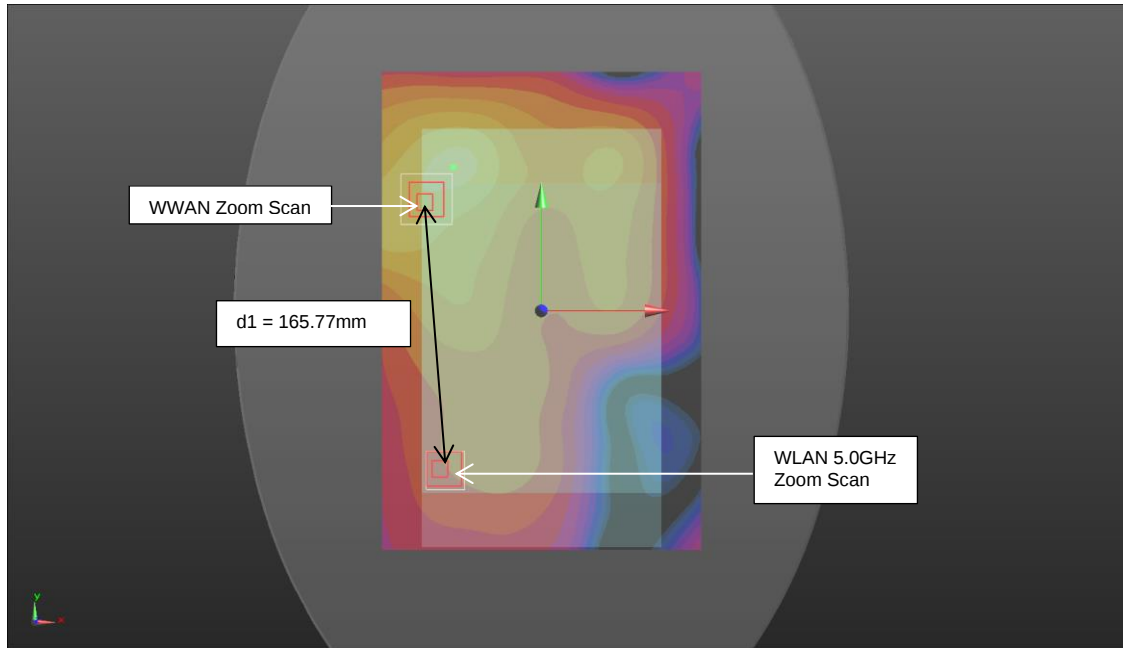
| RF Exposure Conditions | EUT Position |       | Simultaneous Transmission Condition |                  |                   |                |                 |                 |
|------------------------|--------------|-------|-------------------------------------|------------------|-------------------|----------------|-----------------|-----------------|
|                        |              |       | LTE Band 17<br>①                    | Wi-Fi (DTS)<br>② | Wi-Fi (UNII)<br>③ | Bluetooth<br>④ | Σ 1g SAR (W/kg) | SPLSR (Yes/ No) |
| Body                   | Back         | ① + ② | 0.393                               | 0.498            |                   |                | 0.891           | No              |
|                        |              | ① + ③ | 0.393                               |                  | 0.730             |                | 1.123           | No              |
|                        |              | ① + ④ | 0.393                               |                  |                   | 0.067          | 0.460           | No              |
|                        | Left         | ① + ② | 0.444                               | -                |                   |                | 0.444           | No              |
|                        |              | ① + ③ | 0.444                               |                  | -                 |                | 0.444           | No              |
|                        |              | ① + ④ | 0.444                               |                  |                   | -              | 0.444           | No              |
|                        | Right        | ① + ② | -                                   | 0.444            |                   |                | 0.444           | No              |
|                        |              | ① + ③ | -                                   |                  | 1.479             |                | 1.479           | No              |
|                        |              | ① + ④ | -                                   |                  |                   | 0.057          | 0.057           | No              |
|                        | Top          | ① + ② | 0.198                               | -                |                   |                | 0.198           | No              |
|                        |              | ① + ③ | 0.198                               |                  | 0.273             |                | 0.471           | No              |
|                        |              | ① + ④ | 0.198                               |                  |                   | -              | 0.198           | No              |

**11.4.6.LTE Band 25 + 2.4 GHz / LTE Band 25 + 5.0 GHz / LTE Band 25 + BT**

| RF Exposure Conditions | EUT Position |       | Simultaneous Transmission Condition |                  |                   |                |                 |                 |
|------------------------|--------------|-------|-------------------------------------|------------------|-------------------|----------------|-----------------|-----------------|
|                        |              |       | LTE Band 25<br>①                    | Wi-Fi (DTS)<br>② | Wi-Fi (UNII)<br>③ | Bluetooth<br>④ | Σ 1g SAR (W/kg) | SPLSR (Yes/ No) |
| Body                   | Back         | ① + ② | 0.620                               | 0.498            |                   |                | 1.118           | No              |
|                        |              | ① + ③ | 0.620                               |                  | 0.730             |                | 1.350           | No              |
|                        |              | ① + ④ | 0.620                               |                  |                   | 0.067          | 0.687           | No              |
|                        | Left         | ① + ② | 0.317                               | -                |                   |                | 0.317           | No              |
|                        |              | ① + ③ | 0.317                               |                  | -                 |                | 0.317           | No              |
|                        |              | ① + ④ | 0.317                               |                  |                   | -              | 0.317           | No              |
|                        | Right        | ① + ② | -                                   | 0.444            |                   |                | 0.444           | No              |
|                        |              | ① + ③ | -                                   |                  | 1.479             |                | 1.479           | No              |
|                        |              | ① + ④ | -                                   |                  |                   | 0.057          | 0.057           | No              |
|                        | Top          | ① + ② | 1.136                               | -                |                   |                | 1.136           | No              |
|                        |              | ① + ③ | 1.136                               |                  | 0.273             |                | 1.409           | No              |
|                        |              | ① + ④ | 1.136                               |                  |                   | -              | 1.136           | No              |

### 11.5. SAR to Peak Location Separation Ratio (SPLSR)

**Case 1:** The sum Back of EUT for UMTS FDD 2(CH20050) + WLAN 5.0GHz (CH36) exceeded 1.6W/kg. Hence, SPLSR has been calculated for this combination below:



| Mode         | Peak SAR | X      | Y      | Z      |
|--------------|----------|--------|--------|--------|
|              | W/kg     | m      | m      | m      |
| LTE Band 4   | 0.895    | -0.069 | 0.0655 | -0.171 |
| WLAN 5.0 GHz | 0.877    | -0.064 | -0.100 | -0.179 |

|                              |             |        |
|------------------------------|-------------|--------|
| d1: Calculated distance (mm) | WWAN + WLAN | 165.77 |
|------------------------------|-------------|--------|

The Peak Location Separation Distance is computed by using the formula below:  

$$\text{SQRT}((X1-X2)^2+(Y1-Y2)^2+(Z1-Z2)^2)$$

| Case # | Test Position | Worst-case combination |                | $\Sigma$ 1-g SAR (W/kg) | Calculated distance (mm) | SPLSR ( $\leq 0.04$ ) | Volume Scan (Yes/ No) |
|--------|---------------|------------------------|----------------|-------------------------|--------------------------|-----------------------|-----------------------|
|        |               | ① LTE Band 4           | ② WLAN 5.0 GHz |                         |                          |                       |                       |
| 1      | Back<br>① + ② | 1.021                  | 0.730          | 1.751                   | 165.77                   | 0.01                  | No                    |

#### Conclusion:

Simultaneous transmission SAR measurement (**Volume Scan**) is not required because SPLSR is < 0.04 for all circumstances that require SPLSR calculation.