



NVLAP LAB CODE 600341-0



## FCC SAR TEST REPORT

**Applicant:** Inrico Technologies Co.,Ltd.

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20 Gaoxin South 7th Road, Shenzhen, China

**Product Name:** 4G LTE Terminal

**FCC ID:** 2AIV6-IRC390

**Standard(s):** 47 CFR Part 2(2.1093)

**Report Number:** 2502T57521E-20

**Report Date:** 2025/09/02

The above device has been tested and found compliant with the requirement of the relative standards by Bay Area Compliance Laboratories Corp. (Dongguan).

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## SAR TEST RESULTS SUMMARY

| Mode                      |             | Max. Reported SAR Level(s) (W/kg) | Limit (W/kg) |
|---------------------------|-------------|-----------------------------------|--------------|
| <b>GSM 850</b>            | 1g Head SAR | <b>0.79</b>                       | 1.6          |
|                           | 1g Body SAR | 0.57                              |              |
| <b>PCS 1900</b>           | 1g Head SAR | 0.23                              |              |
|                           | 1g Body SAR | 0.54                              |              |
| <b>WCDMA Band 2</b>       | 1g Head SAR | 0.15                              |              |
|                           | 1g Body SAR | 0.29                              |              |
| <b>WCDMA Band 4</b>       | 1g Head SAR | 0.05                              |              |
|                           | 1g Body SAR | 0.09                              |              |
| <b>WCDMA Band 5</b>       | 1g Head SAR | 0.38                              |              |
|                           | 1g Body SAR | 0.21                              |              |
| <b>LTE Band 2</b>         | 1g Head SAR | 0.10                              |              |
|                           | 1g Body SAR | 0.28                              |              |
| <b>LTE Band 7</b>         | 1g Head SAR | 0.10                              |              |
|                           | 1g Body SAR | 0.33                              |              |
| <b>LTE Band 12&amp;17</b> | 1g Head SAR | 0.10                              |              |
|                           | 1g Body SAR | 0.12                              |              |
| <b>LTE Band 26&amp;5</b>  | 1g Head SAR | 0.22                              |              |
|                           | 1g Body SAR | 0.20                              |              |
| <b>LTE Band 41&amp;38</b> | 1g Head SAR | 0.05                              |              |
|                           | 1g Body SAR | 0.09                              |              |
| <b>LTE Band 66&amp;4</b>  | 1g Head SAR | 0.06                              |              |
|                           | 1g Body SAR | 0.15                              |              |
| <b>WLAN 2.4G</b>          | 1g Head SAR | 0.27                              |              |
|                           | 1g Body SAR | 0.04                              |              |
| <b>WLAN 5.2G</b>          | 1g Head SAR | 0.21                              |              |
|                           | 1g Body SAR | 0.21                              |              |
| <b>WLAN 5.3G</b>          | 1g Head SAR | 0.24                              |              |
|                           | 1g Body SAR | 0.21                              |              |
| <b>WLAN 5.6G</b>          | 1g Head SAR | 0.43                              |              |
|                           | 1g Body SAR | 0.16                              |              |
| <b>WLAN 5.8G</b>          | 1g Head SAR | 0.52                              |              |
|                           | 1g Body SAR | 0.30                              |              |
| <b>Simultaneous</b>       | 1g Head SAR | <b>1.31</b>                       |              |
|                           | 1g Body SAR | 0.87                              |              |

PTT:

| Mode                |             | Max. Reported SAR Level(s) (W/kg) | Limit (W/kg) |
|---------------------|-------------|-----------------------------------|--------------|
| PTT<br>(400-480MHz) | 1g Head SAR | 2.41                              | 8.0          |
|                     | 1g Body SAR | <b>3.60</b>                       |              |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Applicable Standards</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>FCC 47 CFR part 2.1093</b><br>Radiofrequency radiation exposure evaluation: portable devices                                                                                                                                                                                                                                                                                                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>IEEE1528:2013</b><br>IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques                                                                                                                                                                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>KDB procedures</b><br>KDB 447498 D01 General RF Exposure Guidance v06<br>KDB 648474 D04 Handset SAR v01r03<br>KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04<br>KDB 865664 D02 RF Exposure Reporting v01r02<br>KDB 941225 D01 3G SAR Procedures v03r01<br>KDB 941225 D05 SAR for LTE Devices v02r05<br>KDB 248227 D01 802.11 Wi-Fi SAR v02r02<br>KDB 643646 D01 SAR Test for PTT Radios v01r03 |
| <b>Note:</b> This wireless device has been shown to be capable of compliance for localized specific absorption rate (SAR) for General Population/Uncontrolled Exposure limits (WWAN/WLAN/BT/BLE/NFC) and Occupational /Controlled Exposure limits (PTT) specified in <b>FCC 47 CFR part 2.1093</b> and has been tested in accordance with the measurement procedures specified in IEEE 1528-2013 and RF exposure KDB procedures.<br><b>The results and statements contained in this report pertain only to the device(s) evaluated.</b> |                                                                                                                                                                                                                                                                                                                                                                                                           |

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**DOCUMENT REVISION HISTORY**

| Revision Number | Report Number  | Description of Revision | Date of Revision |
|-----------------|----------------|-------------------------|------------------|
| 1.0             | 2502T57521E-20 | Original Report         | 2025/09/02       |

## 1. GENERAL INFORMATION

### 1.1 Product Description for Equipment under Test (EUT)

|                               |                                                                                                                                             |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| <b>EUT Name:</b>              | 4G LTE Terminal                                                                                                                             |
| <b>EUT Model:</b>             | IRC390                                                                                                                                      |
| <b>Device Type:</b>           | Portable                                                                                                                                    |
| <b>Exposure Category:</b>     | Population / Uncontrolled for WWAN/WLAN/BT/BLE/NFC<br>Occupational/Controlled Exposure for PTT                                              |
| <b>Antenna Type(s):</b>       | External Antenna for PTT<br>Internal Antenna for WWAN/WLAN/BT/BLE/NFC                                                                       |
| <b>Body-Worn Accessories:</b> | Belt Clip and Headset                                                                                                                       |
| <b>Proximity Sensor:</b>      | None                                                                                                                                        |
| <b>Carrier Aggregation:</b>   | None                                                                                                                                        |
| <b>Operation Modes:</b>       | GSM Voice, GPRS/EGPRS Data<br>WCDMA( R99 ( Voice+Data), HSUPA/HSDPA),<br>FDD-LTE, TDD-LTE,WLAN, Bluetooth , BLE and NFC<br>PTT_FM, PTT_4FSK |
| <b>Frequency Band:</b>        | GSM 850: 824-849 MHz(TX); 869-894 MHz(RX)                                                                                                   |
|                               | PCS 1900: 1850-1910 MHz(TX); 1930-1990 MHz(RX)                                                                                              |
|                               | WCDMA Band 2: 1850-1910 MHz(TX); 1930-1990 MHz(RX)                                                                                          |
|                               | WCDMA Band 4: 1710-1755 MHz(TX); 2110-2155 MHz(RX)                                                                                          |
|                               | WCDMA Band 5: 824-849 MHz(TX); 869-894 MHz(RX)                                                                                              |
|                               | LTE Band 2: 1850-1910 MHz(TX); 1930-1990 MHz(RX)                                                                                            |
|                               | LTE Band 4: 1710-1755 MHz(TX); 2110-2155 MHz(RX)                                                                                            |
|                               | LTE Band 5: 824-849 MHz(TX); 869-894 MHz(RX)                                                                                                |
|                               | LTE Band 7: 2500-2570 MHz(TX); 2620-2690 MHz(RX)                                                                                            |
|                               | LTE Band 12: 699-716 MHz(TX); 729-746 MHz(RX)                                                                                               |
|                               | LTE Band 17: 704-716 MHz(TX); 734-746 MHz(RX)                                                                                               |
|                               | LTE Band 26: 814-849MHz(TX);859-894MHz(RX);                                                                                                 |
|                               | LTE Band 38: 2570-2620MHz(TX);2570-2620MHz(RX)                                                                                              |
|                               | LTE Band 41: 2496-2690 MHz(TX); 2496-2690 MHz(RX)                                                                                           |
|                               | LTE Band 66: 1710-1780 MHz(TX); 2110-2200 MHz(RX)                                                                                           |
|                               | WLAN 2.4G: 2412-2462 MHz /2422-2452 MHz (TX/RX)                                                                                             |
|                               | WLAN 5.2G: 5150 -5250 MHz(TX/RX)                                                                                                            |
|                               | WLAN 5.3G: 5250-5350 MHz(TX/RX)                                                                                                             |
|                               | WLAN 5.6G: 5470-5725 MHz(TX/RX)                                                                                                             |
|                               | WLAN 5.8G: 5725-5850 MHz(TX/RX)                                                                                                             |
|                               | Bluetooth/ BLE 1M: 2402-2480MHz(TX/RX)                                                                                                      |
|                               | PTT_FM/PTT_4FSK: 400-480MHz(TX/RX)                                                                                                          |
|                               | NFC:13.56MHz                                                                                                                                |
| <b>Dimensions (L*W*H):</b>    | 162.3mm(L)*61mm(W)*38mm(H) (Without Antenna & Belt Clip)                                                                                    |
| <b>Rated Input Voltage:</b>   | DC 7.6 V from Rechargeable Battery                                                                                                          |
| <b>Serial Number:</b>         | 32DQ-1                                                                                                                                      |
| <b>Normal Operation:</b>      | Head and Body                                                                                                                               |
| <b>EUT Received Date:</b>     | 2025/05/08                                                                                                                                  |
| <b>Test Date:</b>             | 2025/08/15~2025/08/27                                                                                                                       |
| <b>EUT Received Status:</b>   | Good                                                                                                                                        |

## 2. REFERENCE, STANDARDS, AND GUIDELINES

### FCC:

The Report and Order requires routine SAR evaluation prior to equipment authorization of portable transmitter devices, including portable telephones. For consumer products, the applicable limit is 1.6 mW/g as recommended by the ANSI/IEEE standard C95.1-1992 [6] for an uncontrolled environment (Paragraph 65). According to the Supplement C of OET Bulletin 65 "Evaluating Compliance with FCC Guide-lines for Human Exposure to Radio frequency Electromagnetic Fields", released on Jun 29, 2001 by the FCC, the device should be evaluated at maximum output power (radiated from the antenna) under "worst-case" conditions for normal or intended use, incorporating normal antenna operating positions, device peak performance frequencies and positions for maximum RF energy coupling.

This report describes the methodology and results of experiments performed on wireless data terminal. The objective was to determine if there is RF radiation and if radiation is found, what is the extent of radiation with respect to safety limits. SAR (Specific Absorption Rate) is the measure of RF exposure determined by the amount of RF energy absorbed by human body (or its parts) – to determine how the RF energy couples to the body or head which is a primary health concern for body worn devices. The limit below which the exposure to RF is considered safe by regulatory bodies in North America is 1.6 mW/g average over 1 gram of tissue mass.

### 2.1 SAR Limits

#### FCC Limit

| EXPOSURE LIMITS                                                  | SAR (W/kg)                                                     |                                                        |
|------------------------------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------|
|                                                                  | (General Population /<br>Uncontrolled Exposure<br>Environment) | (Occupational /<br>Controlled Exposure<br>Environment) |
| Spatial Average<br>(averaged over the whole body)                | 0.08                                                           | 0.4                                                    |
| Spatial Peak<br>(averaged over any 1 g of tissue)                | <b>1.6</b>                                                     | 8                                                      |
| Spatial Peak<br>(hands/wrists/feet/ankles<br>averaged over 10 g) | 4                                                              | 20                                                     |

Population/Uncontrolled Environments are defined as locations where there is the exposure of individual who have no knowledge or control of their exposure.

Occupational/Controlled Environments are defined as locations where there is exposure that maybe incurred by people who are aware of the potential for exposure (i.e. as a result of employment or occupation).

General Population/Uncontrolled environments Spatial Peak limit 1.6W/kg (FCC) applied to WWAN/WLAN/Bluetooth/BLE/NFC.

Occupational/Controlled Environments Spatial Peak limit 8.0W/kg for 1g SAR applied to the PTT.

## 2.2 Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.12, Pulong East 1st Road, Tangxia Town, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. :829273, the FCC Designation No. : CN5044.

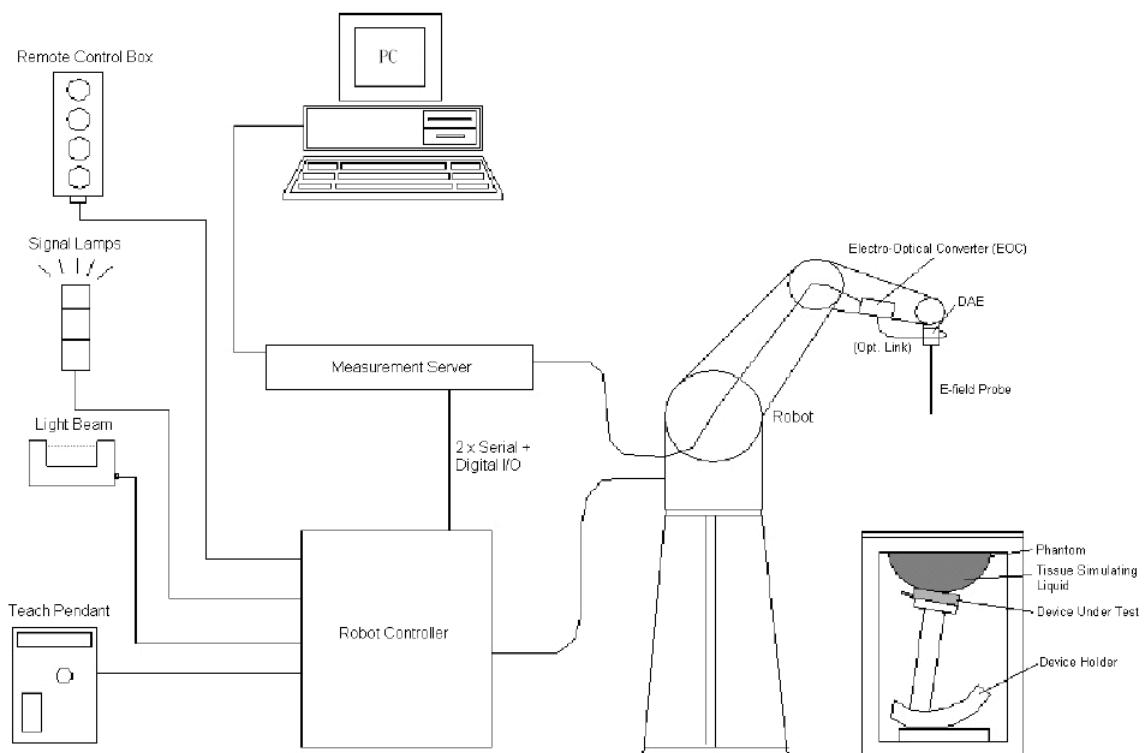
### 3. DESCRIPTION OF TEST SYSTEM

These measurements were performed with the automated near-field scanning system DASY5 from Schmid & Partner Engineering AG (SPEAG) which is the Fifth generation of the system shown in the figure hereinafter:



#### DASY5 System Description

The DASY5 system 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 application, 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 Win7 professional operating system and the DASY52 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.

### **DASY5 Measurement Server**

The DASY5 measurement server is based on a PC/104 CPU board with a 400MHz Intel ULV Celeron, 128MB chip-disk and 128MB RAM. The necessary circuits for communication with the DAE4 (or DAE3) electronics box, as well as the 16 bit AD-converter system for optical detection and digital I/O interface are contained on the DASY5 I/O board, which is directly connected to the PC/104 bus of the CPU board.

The measurement server performs all real-time data evaluation of field measurements and surface detection, controls robot movements and handles safety operation. The PC operating system cannot interfere with these time critical processes. All connections are supervised by a watchdog, and disconnection of any of the cables to the measurement server will automatically disarm the robot and disable all program-controlled robot movements. Furthermore, the measurement server is equipped with an expansion port which is reserved for future applications. Please note that this expansion port does not have a standardized point out, and therefore only devices provided by SPEAG can be connected. Devices from any other supplier could seriously damage the measurement server.



### **Data Acquisition Electronics**

The data acquisition electronics (DAE4) consist of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder with a control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information, as well as an optical uplink for commands and the clock.

The mechanical probe mounting device includes two different sensor systems for frontal and sideways probe contacts. They are used for mechanical surface detection and probe collision detection.

The input impedance of both the DAE4 as well as of the DAE3 box is 200M $\Omega$ ; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

**EX3DV4 E-Field Probes**

|                      |                                                                                                                                                                                                               |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Frequency</b>     | 4 MHz to -6 GHz<br>Linearity: $\pm 0.2$ dB (30 MHz to 6 GHz)                                                                                                                                                  |
| <b>Directivity</b>   | $\pm 0.1$ dB in TSL (rotation around probe axis)<br>$\pm 0.3$ dB in TSL (rotation normal to probe axis)                                                                                                       |
| <b>Dynamic Range</b> | 10 $\mu$ W/g to > 100 mW/g<br>Linearity: $\pm 0.2$ dB (noise: typically < 1 $\mu$ W/g)                                                                                                                        |
| <b>Dimensions</b>    | Overall length: 337 mm (Tip: 20 mm)<br>Tip diameter: 2.5 mm (Body: 12 mm)<br>Typical distance from probe tip to dipole centers: 1 mm                                                                          |
| <b>Application</b>   | High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields); the only probe that enables compliance testing for frequencies up to 6 GHz with precision of better 30%. |
| <b>Compatibility</b> | DASY3, DASY4, DASY52, DASY6, DASY8, EASY6, EASY4/MRI                                                                                                                                                          |

**ES3DV2 E-Field Probes**

|                      |                                                                                                                                        |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <b>Frequency</b>     | 10 MHz - 4 GHz<br>Linearity: $\pm 0.2$ dB (30 MHz to 4 GHz)                                                                            |
| <b>Directivity</b>   | $\pm 0.2$ dB in TSL (rotation around probe axis)<br>$\pm 0.3$ dB in TSL (rotation normal to probe axis)                                |
| <b>Dynamic Range</b> | 5 $\mu$ W/g to > 100 mW/g<br>Linearity: $\pm 0.2$ dB (noise: typically < 1 $\mu$ W/g)                                                  |
| <b>Dimensions</b>    | Overall length: 337 mm (Tip: 20 mm)<br>Tip diameter: 3.9 mm (Body: 12 mm)<br>Typical distance from probe tip to dipole centers: 2.0 mm |
| <b>Application</b>   | General dosimetry up to 4 GHz<br>Dosimetry in strong gradient fields<br>Compliance tests of mobile phones                              |
| <b>Compatibility</b> | DASY3, DASY4, DASY52, DASY6, DASY8 SAR, EASY6, EASY4/MRI                                                                               |

### **SAM Twin Phantom**

The SAM twin phantom is a fiberglass shell phantom with 2mm shell thickness (except the ear region, where shell thickness

increases to 6 mm). The phantom has three measurement areas:

- \_ Left Head
- \_ Right Head
- \_ Flat phantom

The phantom table for the DASY systems based on the robots have the size of 100 x 50 x 85 cm (L x W x H). For easy dislocation these tables have fork lift cut outs at the bottom.

The bottom plate contains three pairs of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. Only one device holder is necessary if two phantoms are used (e.g., for different liquids)

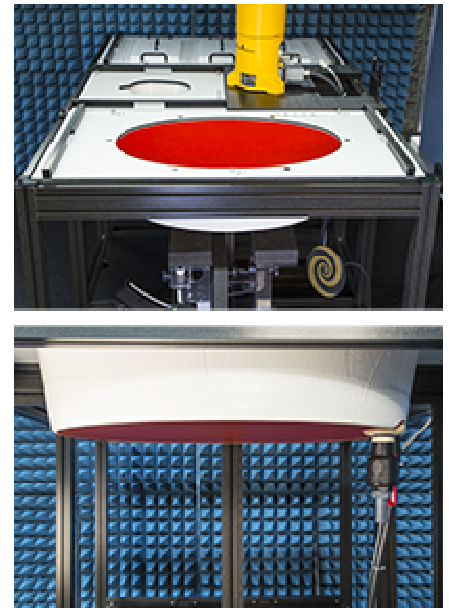
A white cover is provided to cover the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. Free space scans of devices on top of this phantom cover are possible.

Three reference marks are provided on the phantom counter. These reference marks are used to teach the absolute phantom position relative to the robot.



### **ELI Phantom**

The ELI phantom is intended for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30MHz to 6 GHz. ELI is fully compatible with the latest draft of the standard IEEE 1528-2013 and the use of all known tissue simulating liquids. ELI has been optimized for performance and can be integrated into a SPEAG standard phantom table. A cover is provided to prevent evaporation of water and changes in liquid parameters. Reference markings on the phantom allow installation of the complete setup, including all predefined phantom positions and measurement grids, by teaching three points.



## Robots

The DASY5 system uses the high precision industrial robot. The robot offers the same features important for our application:

- High precision (repeatability 0.02mm)
- High reliability (industrial design)
- Low maintenance costs (virtually maintenance free due to direct drive gears; no belt drives)
- Jerk-free straight movements (brushless synchrony motors; no stepper motors)
- Low ELF interference (motor control fields shielded via the closed metallic construction shields)

The above mentioned robots are controlled by the Staubli CS7MB robot controllers. All information regarding the use and maintenance of the robot arm and the robot controller is contained on the CDs delivered along with the robot. Paper manuals are available upon request direct from Staubli.

## Area Scans

Area scans are defined prior to the measurement process being executed with a user defined variable spacing between each measurement point (integral) allowing low uncertainty measurements to be conducted. Scans defined for FCC applications utilize a 15mm<sup>2</sup> step integral, with 1.5mm interpolation used to locate the peak SAR area used for zoom scan assessments.

Where the system identifies multiple SAR peaks (which are within 25% of peak value) the system will provide the user with the option of assessing each peak location individually for zoom scan averaging.

## Zoom Scan (Cube Scan Averaging)

The averaging zoom scan volume utilized in the DASY5 software is in the shape of a cube and the side dimension of a 1 g or 10 g mass is dependent on the density of the liquid representing the simulated tissue. A density of 1000 kg/m<sup>3</sup> is used to represent the head and body tissue density and not the phantom liquid density, in order to be consistent with the definition of the liquid dielectric properties, i.e. the side length of the 1g cube is 10mm, with the side length of the 10g cube is 21.5mm.

When the cube intersects with the surface of the phantom, it is oriented so that 3 vertices touch the surface of the shell or the center of a face is tangent to the surface. The face of the cube closest to the surface is modified in order to conform to the tangent surface.

The zoom scan integer steps can be user defined so as to reduce uncertainty, but normal practice for typical test applications (including FCC) utilize a physical step of 7 x 7 x 7 (5mmx5mmx5mm) providing a volume of 30 mm in the X & Y & Z axis.

## Tissue Dielectric Parameters for Head and Body Phantoms

The head tissue dielectric parameters recommended by the IEEE 1528-2013

### Recommended Tissue Dielectric Parameters for Head liquid

**Table 3—Target dielectric properties of head tissue-equivalent material in the 300 MHz to 6000 MHz frequency range**

| Frequency (MHz) | Relative permittivity ( $\epsilon_r$ ) | Conductivity ( $\sigma$ ) (S/m) |
|-----------------|----------------------------------------|---------------------------------|
| 300             | 45.3                                   | 0.87                            |
| 450             | 43.5                                   | 0.87                            |
| 750             | 41.9                                   | 0.89                            |
| 835             | 41.5                                   | 0.90                            |
| 900             | 41.5                                   | 0.97                            |
| 1450            | 40.5                                   | 1.20                            |
| 1500            | 40.4                                   | 1.23                            |
| 1640            | 40.2                                   | 1.31                            |
| 1750            | 40.1                                   | 1.37                            |
| 1800            | 40.0                                   | 1.40                            |
| 1900            | 40.0                                   | 1.40                            |
| 2000            | 40.0                                   | 1.40                            |
| 2100            | 39.8                                   | 1.49                            |
| 2300            | 39.5                                   | 1.67                            |
| 2450            | 39.2                                   | 1.80                            |
| 2600            | 39.0                                   | 1.96                            |
| 3000            | 38.5                                   | 2.40                            |
| 3500            | 37.9                                   | 2.91                            |
| 4000            | 37.4                                   | 3.43                            |
| 4500            | 36.8                                   | 3.94                            |
| 5000            | 36.2                                   | 4.45                            |
| 5200            | 36.0                                   | 4.66                            |
| 5400            | 35.8                                   | 4.86                            |
| 5600            | 35.5                                   | 5.07                            |
| 5800            | 35.3                                   | 5.27                            |
| 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.

## 4. EQUIPMENT LIST AND CALIBRATION

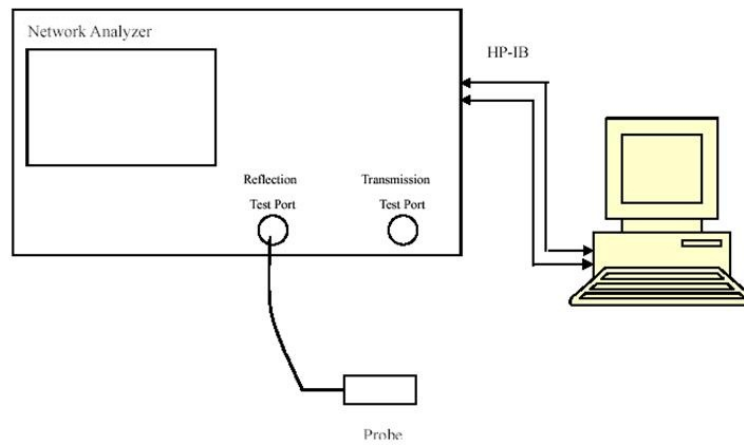
### 4.1 Equipments List & Calibration Information

| Equipment                           | Model            | S/N                                | Calibration Date | Calibration Due Date |
|-------------------------------------|------------------|------------------------------------|------------------|----------------------|
| DASY5 Test Software                 | DASY52.10        | N/A                                | NCR              | NCR                  |
| DASY5 Measurement Server            | DASY5 4.5.12     | 1470                               | NCR              | NCR                  |
| Data Acquisition Electronics        | DAE4             | 772                                | 2025/2/17        | 2026/2/16            |
| E-Field Probe                       | ES3DV2           | 3019                               | 2025/1/30        | 2026/1/29            |
| E-Field Probe                       | EX3DV4           | 7329                               | 2025/5/26        | 2026/5/25            |
| Mounting Device                     | MD4HHTV5         | SD 000 H01 KA                      | NCR              | NCR                  |
| Twin SAM                            | Twin SAM V5.0    | 1874                               | NCR              | NCR                  |
| Oval Flat Phantom                   | ELI V8.0         | 2051                               | NCR              | NCR                  |
| Dipole, 450MHz                      | D450V3           | 1096                               | 2025/07/07       | 2028/07/06           |
| Dipole, 750 MHz                     | D750V3           | 1167                               | 2022/10/31       | 2025/10/30           |
| Dipole, 1750 MHz                    | D1750V2          | 1141                               | 2024/6/17        | 2027/6/16            |
| Dipole, 1900 MHz                    | D1900V2          | 543                                | 2022/11/2        | 2025/11/1            |
| Dipole, 2450 MHz                    | D2450V2          | 971                                | 2024/6/15        | 2027/6/14            |
| Dipole, 2600 MHz                    | D2600V2          | 1132                               | 2022/11/1        | 2025/10/31           |
| Dipole, 5GHz                        | D5GHzV2          | 1246                               | 2022/11/1        | 2025/10/31           |
| Simulated Tissue 450 MHz Head       | TS-450H          | 2409045001                         | Each Time        | /                    |
| Simulated Tissue Liquid Head        | HBBL600-10000V6  | SL AAH U126 CA<br>(Batch:250429-1) | N/A              | N/A                  |
| Network Analyzer                    | 8753C<br>+85047A | 3029A01355<br>+3033A02857          | 2025/7/3         | 2026/7/2             |
| Dielectric assessment kit           | 1253             | SM DAK 040 CA                      | NCR              | NCR                  |
| Signal Generator                    | 8665B            | 3438a00584                         | 2025/7/29        | 2026/7/28            |
| EPM Series Power Meter              | E4419B           | MY45103907                         | 2024/10/18       | 2025/10/17           |
| Power Sensor                        | 8482A            | US37296108                         | 2024/10/19       | 2025/10/18           |
| Power Meter                         | EPM-441A         | GB37481494                         | 2024/10/19       | 2025/10/18           |
| Power Amplifier                     | ZHL-5W-202-S+    | 416402204                          | NCR              | NCR                  |
| Power Amplifier                     | ZVE-6W-83+       | 637202210                          | NCR              | NCR                  |
| Directional Coupler                 | 520Z             | 441493                             | NCR              | NCR                  |
| Directional Coupler                 | 1818             | 0955-0101                          | NCR              | NCR                  |
| Attenuator                          | 20dB, 100W       | LN749                              | NCR              | NCR                  |
| Attenuator                          | 6dB, 150W        | 2754                               | NCR              | NCR                  |
| Thermometer                         | DTM3000          | 3635                               | 2025/8/8         | 2026/8/7             |
| Hygrothermograph                    | HTC-2            | EM072                              | 2024/11/4        | 2025/11/3            |
| Ruler                               | /                | F-08-EM526                         | 2025/8/6         | 2028/8/5             |
| Wideband Radio Communication Tester | CMW500           | 147473                             | 2025/7/28        | 2026/7/27            |
| Wireless Communication Test Set     | 8960             | MY50266471                         | 2025/7/28        | 2026/7/27            |
| Spectrum Analyzer                   | FSV40            | 101589                             | 2024/9/5         | 2025/9/4             |

\* Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

## 5. SAR MEASUREMENT SYSTEM VERIFICATION

### 5.1 Liquid Verification



### 5.2 Liquid Verification Results

| Frequency (MHz) | Liquid Type                  | Liquid Parameter |                | Target Value |                | Delta (%)          |                      | Tolerance (%) |
|-----------------|------------------------------|------------------|----------------|--------------|----------------|--------------------|----------------------|---------------|
|                 |                              | $\epsilon_r$     | $\sigma$ (S/m) | $\epsilon_r$ | $\sigma$ (S/m) | $\Delta\epsilon_r$ | $\Delta\sigma$ (S/m) |               |
| 704             | Simulated Tissue Liquid Head | 42.976           | 0.888          | 42.15        | 0.89           | 1.96               | -0.22                | $\pm 5$       |
| 707.5           | Simulated Tissue Liquid Head | 42.929           | 0.890          | 42.13        | 0.89           | 1.9                | 0                    | $\pm 5$       |
| 711             | Simulated Tissue Liquid Head | 42.882           | 0.893          | 42.11        | 0.89           | 1.83               | 0.34                 | $\pm 5$       |
| 750             | Simulated Tissue Liquid Head | 42.385           | 0.916          | 41.90        | 0.89           | 1.16               | 2.92                 | $\pm 5$       |
| 821.5           | Simulated Tissue Liquid Head | 41.497           | 0.940          | 41.56        | 0.9            | -0.15              | 4.44                 | $\pm 5$       |
| 824.2           | Simulated Tissue Liquid Head | 41.463           | 0.941          | 41.55        | 0.9            | -0.21              | 4.56                 | $\pm 5$       |
| 826.4           | Simulated Tissue Liquid Head | 41.435           | 0.942          | 41.54        | 0.9            | -0.25              | 4.67                 | $\pm 5$       |
| 831.5           | Simulated Tissue Liquid Head | 41.369           | 0.944          | 41.52        | 0.9            | -0.36              | 4.89                 | $\pm 5$       |
| 836.6           | Simulated Tissue Liquid Head | 41.302           | 0.943          | 41.5         | 0.9            | -0.48              | 4.78                 | $\pm 5$       |
| 841.5           | Simulated Tissue Liquid Head | 41.237           | 0.951          | 41.5         | 0.91           | -0.63              | 4.51                 | $\pm 5$       |
| 846.6           | Simulated Tissue Liquid Head | 41.169           | 0.953          | 41.5         | 0.91           | -0.8               | 4.73                 | $\pm 5$       |
| 848.8           | Simulated Tissue Liquid Head | 41.140           | 0.954          | 41.5         | 0.91           | -0.87              | 4.84                 | $\pm 5$       |

\*Liquid Verification above was performed on 2025/08/24.

| Frequency (MHz) | Liquid Type                  | Liquid Parameter |                | Target Value |                | Delta (%)          |                      | Tolerance (%) |
|-----------------|------------------------------|------------------|----------------|--------------|----------------|--------------------|----------------------|---------------|
|                 |                              | $\epsilon_r$     | $\sigma$ (S/m) | $\epsilon_r$ | $\sigma$ (S/m) | $\Delta\epsilon_r$ | $\Delta\sigma$ (S/m) |               |
| 1720            | Simulated Tissue Liquid Head | 39.559           | 1.333          | 40.13        | 1.35           | -1.42              | -1.26                | $\pm 5$       |
| 1745            | Simulated Tissue Liquid Head | 39.444           | 1.359          | 40.1         | 1.37           | -1.64              | -0.8                 | $\pm 5$       |
| 1750            | Simulated Tissue Liquid Head | 39.415           | 1.363          | 40.1         | 1.37           | -1.71              | -0.51                | $\pm 5$       |
| 1770            | Simulated Tissue Liquid Head | 39.325           | 1.382          | 40.06        | 1.38           | -1.83              | 0.14                 | $\pm 5$       |

\*Liquid Verification above was performed on 2025/08/17.

| Frequency (MHz) | Liquid Type                  | Liquid Parameter |                | Target Value |                | Delta (%)          |                      | Tolerance (%) |
|-----------------|------------------------------|------------------|----------------|--------------|----------------|--------------------|----------------------|---------------|
|                 |                              | $\epsilon_r$     | $\sigma$ (S/m) | $\epsilon_r$ | $\sigma$ (S/m) | $\Delta\epsilon_r$ | $\Delta\sigma$ (S/m) |               |
| 1712.4          | Simulated Tissue Liquid Head | 39.714           | 1.353          | 40.13        | 1.35           | -1.04              | 0.22                 | $\pm 5$       |
| 1732.6          | Simulated Tissue Liquid Head | 39.633           | 1.38           | 40.12        | 1.36           | -1.21              | 1.47                 | $\pm 5$       |
| 1750            | Simulated Tissue Liquid Head | 39.542           | 1.396          | 40.1         | 1.37           | -1.39              | 1.9                  | $\pm 5$       |
| 1752.6          | Simulated Tissue Liquid Head | 39.522           | 1.396          | 40.09        | 1.37           | -1.42              | 1.9                  | $\pm 5$       |

\*Liquid Verification above was performed on 2025/08/20.

| Frequency (MHz) | Liquid Type                  | Liquid Parameter |                | Target Value |                | Delta (%)          |                      | Tolerance (%) |
|-----------------|------------------------------|------------------|----------------|--------------|----------------|--------------------|----------------------|---------------|
|                 |                              | $\epsilon_r$     | $\sigma$ (S/m) | $\epsilon_r$ | $\sigma$ (S/m) | $\Delta\epsilon_r$ | $\Delta\sigma$ (S/m) |               |
| 1850.2          | Simulated Tissue Liquid Head | 39.656           | 1.421          | 40.00        | 1.40           | -0.86              | 1.5                  | $\pm 5$       |
| 1852.4          | Simulated Tissue Liquid Head | 39.630           | 1.421          | 40.00        | 1.40           | -0.92              | 1.5                  | $\pm 5$       |
| 1860            | Simulated Tissue Liquid Head | 39.543           | 1.423          | 40.00        | 1.40           | -1.14              | 1.64                 | $\pm 5$       |
| 1880            | Simulated Tissue Liquid Head | 39.407           | 1.432          | 40.00        | 1.40           | -1.48              | 2.29                 | $\pm 5$       |
| 1900            | Simulated Tissue Liquid Head | 39.339           | 1.438          | 40.00        | 1.40           | -1.65              | 2.71                 | $\pm 5$       |
| 1907.6          | Simulated Tissue Liquid Head | 39.257           | 1.439          | 40.00        | 1.40           | -1.86              | 2.79                 | $\pm 5$       |
| 1909.8          | Simulated Tissue Liquid Head | 39.233           | 1.439          | 40.00        | 1.40           | -1.92              | 2.79                 | $\pm 5$       |

\*Liquid Verification above was performed on 2025/08/25.

| Frequency (MHz) | Liquid Type                  | Liquid Parameter |                | Target Value |                | Delta (%)          |                      | Tolerance (%) |
|-----------------|------------------------------|------------------|----------------|--------------|----------------|--------------------|----------------------|---------------|
|                 |                              | $\epsilon_r$     | $\sigma$ (S/m) | $\epsilon_r$ | $\sigma$ (S/m) | $\Delta\epsilon_r$ | $\Delta\sigma$ (S/m) |               |
| 2412            | Simulated Tissue Liquid Head | 40.626           | 1.799          | 39.28        | 1.77           | 3.43               | 1.64                 | $\pm 5$       |
| 2437            | Simulated Tissue Liquid Head | 40.517           | 1.831          | 39.23        | 1.79           | 3.28               | 2.29                 | $\pm 5$       |
| 2450            | Simulated Tissue Liquid Head | 40.434           | 1.849          | 39.2         | 1.8            | 3.15               | 2.72                 | $\pm 5$       |
| 2462            | Simulated Tissue Liquid Head | 40.406           | 1.859          | 39.18        | 1.81           | 3.13               | 2.71                 | $\pm 5$       |

\*Liquid Verification above was performed on 2025/08/15.

| Frequency (MHz) | Liquid Type                  | Liquid Parameter |                | Target Value |                | Delta (%)          |                      | Tolerance (%) |
|-----------------|------------------------------|------------------|----------------|--------------|----------------|--------------------|----------------------|---------------|
|                 |                              | $\epsilon_r$     | $\sigma$ (S/m) | $\epsilon_r$ | $\sigma$ (S/m) | $\Delta\epsilon_r$ | $\Delta\sigma$ (S/m) |               |
| 2506            | Simulated Tissue Liquid Head | 40.228           | 1.913          | 39.13        | 1.86           | 2.81               | 2.85                 | ±5            |
| 2510            | Simulated Tissue Liquid Head | 40.219           | 1.918          | 39.12        | 1.86           | 2.81               | 3.12                 | ±5            |
| 2535            | Simulated Tissue Liquid Head | 40.171           | 1.957          | 39.09        | 1.89           | 2.77               | 3.54                 | ±5            |
| 2549.5          | Simulated Tissue Liquid Head | 40.206           | 1.959          | 39.07        | 1.91           | 2.91               | 2.57                 | ±5            |
| 2560            | Simulated Tissue Liquid Head | 40.052           | 1.975          | 39.05        | 1.92           | 2.57               | 2.86                 | ±5            |
| 2580            | Simulated Tissue Liquid Head | 39.884           | 1.990          | 39.03        | 1.94           | 2.19               | 2.58                 | ±5            |
| 2593            | Simulated Tissue Liquid Head | 39.791           | 2.007          | 39.01        | 1.95           | 2                  | 2.92                 | ±5            |
| 2595            | Simulated Tissue Liquid Head | 39.774           | 2.010          | 39.01        | 1.95           | 1.96               | 3.08                 | ±5            |
| 2600            | Simulated Tissue Liquid Head | 39.731           | 2.015          | 39.00        | 1.96           | 1.87               | 2.81                 | ±5            |
| 2610            | Simulated Tissue Liquid Head | 39.660           | 2.031          | 38.99        | 1.97           | 1.72               | 3.1                  | ±5            |
| 2636.5          | Simulated Tissue Liquid Head | 39.441           | 2.057          | 38.95        | 2.00           | 1.26               | 2.85                 | ±5            |
| 2680            | Simulated Tissue Liquid Head | 39.099           | 2.102          | 38.90        | 2.05           | 0.51               | 2.54                 | ±5            |

\*Liquid Verification above was performed on 2025/08/27.

| Frequency (MHz) | Liquid Type                  | Liquid Parameter |                | Target Value |                | Delta (%)          |                      | Tolerance (%) |
|-----------------|------------------------------|------------------|----------------|--------------|----------------|--------------------|----------------------|---------------|
|                 |                              | $\epsilon_r$     | $\sigma$ (S/m) | $\epsilon_r$ | $\sigma$ (S/m) | $\Delta\epsilon_r$ | $\Delta\sigma$ (S/m) |               |
| 5180            | Simulated Tissue Liquid Head | 35.758           | 4.550          | 36.02        | 4.64           | -0.73              | -1.94                | ±5            |
| 5200            | Simulated Tissue Liquid Head | 35.724           | 4.566          | 36.00        | 4.66           | -0.77              | -2.02                | ±5            |
| 5240            | Simulated Tissue Liquid Head | 35.664           | 4.610          | 35.96        | 4.70           | -0.82              | -1.91                | ±5            |
| 5250            | Simulated Tissue Liquid Head | 35.645           | 4.622          | 35.95        | 4.71           | -0.85              | -1.87                | ±5            |
| 5260            | Simulated Tissue Liquid Head | 35.605           | 4.633          | 35.94        | 4.72           | -0.93              | -1.84                | ±5            |
| 5280            | Simulated Tissue Liquid Head | 35.507           | 4.654          | 35.92        | 4.74           | -1.15              | -1.81                | ±5            |
| 5320            | Simulated Tissue Liquid Head | 35.424           | 4.694          | 35.88        | 4.78           | -1.27              | -1.80                | ±5            |

\*Liquid Verification above was performed on 2025/08/18.

| Frequency (MHz) | Liquid Type                  | Liquid Parameter |                | Target Value |                | Delta (%)          |                      | Tolerance (%) |
|-----------------|------------------------------|------------------|----------------|--------------|----------------|--------------------|----------------------|---------------|
|                 |                              | $\epsilon_r$     | $\sigma$ (S/m) | $\epsilon_r$ | $\sigma$ (S/m) | $\Delta\epsilon_r$ | $\Delta\sigma$ (S/m) |               |
| 5500            | Simulated Tissue Liquid Head | 34.994           | 4.909          | 35.65        | 4.97           | -1.84              | -1.23                | ±5            |
| 5580            | Simulated Tissue Liquid Head | 34.775           | 5.013          | 35.53        | 5.05           | -2.12              | -0.73                | ±5            |
| 5600            | Simulated Tissue Liquid Head | 34.742           | 5.058          | 35.50        | 5.07           | -2.14              | -0.24                | ±5            |
| 5700            | Simulated Tissue Liquid Head | 34.587           | 5.151          | 35.40        | 5.17           | -2.30              | -0.37                | ±5            |

\*Liquid Verification above was performed on 2025/08/19.

| Frequency (MHz) | Liquid Type                  | Liquid Parameter |                | Target Value |                | Delta (%)          |                      | Tolerance (%) |
|-----------------|------------------------------|------------------|----------------|--------------|----------------|--------------------|----------------------|---------------|
|                 |                              | $\epsilon_r$     | $\sigma$ (S/m) | $\epsilon_r$ | $\sigma$ (S/m) | $\Delta\epsilon_r$ | $\Delta\sigma$ (S/m) |               |
| 5745            | Simulated Tissue Liquid Head | 34.492           | 5.204          | 35.36        | 5.22           | -2.45              | -0.31                | $\pm 5$       |
| 5750            | Simulated Tissue Liquid Head | 34.475           | 5.213          | 35.35        | 5.22           | -2.48              | -0.13                | $\pm 5$       |
| 5785            | Simulated Tissue Liquid Head | 34.389           | 5.253          | 35.32        | 5.26           | -2.64              | -0.13                | $\pm 5$       |
| 5825            | Simulated Tissue Liquid Head | 34.376           | 5.340          | 35.28        | 5.3            | -2.56              | 0.75                 | $\pm 5$       |

\*Liquid Verification above was performed on 2025/08/19.

| Frequency (MHz) | Liquid Type                   | Liquid Parameter |                | Target Value |                | Delta (%)          |                      | Tolerance (%) |
|-----------------|-------------------------------|------------------|----------------|--------------|----------------|--------------------|----------------------|---------------|
|                 |                               | $\epsilon_r$     | $\sigma$ (S/m) | $\epsilon_r$ | $\sigma$ (S/m) | $\Delta\epsilon_r$ | $\Delta\sigma$ (S/m) |               |
| 400.0125        | Simulated Tissue 450 MHz Head | 42.691           | 0.855          | 44.1         | 0.87           | -3.2               | -1.72                | $\pm 5$       |
| 416.0075        | Simulated Tissue 450 MHz Head | 42.567           | 0.874          | 43.91        | 0.87           | -3.06              | 0.46                 | $\pm 5$       |
| 432.0025        | Simulated Tissue 450 MHz Head | 42.329           | 0.890          | 43.72        | 0.87           | -3.18              | 2.3                  | $\pm 5$       |
| 447.9975        | Simulated Tissue 450 MHz Head | 42.070           | 0.884          | 43.51        | 0.87           | -3.31              | 1.61                 | $\pm 5$       |
| 450             | Simulated Tissue 450 MHz Head | 42.027           | 0.881          | 43.5         | 0.87           | -3.39              | 1.26                 | $\pm 5$       |
| 463.9925        | Simulated Tissue 450 MHz Head | 41.918           | 0.880          | 43.43        | 0.87           | -3.48              | 1.15                 | $\pm 5$       |
| 479.9875        | Simulated Tissue 450 MHz Head | 41.856           | 0.865          | 43.34        | 0.87           | -3.42              | -0.57                | $\pm 5$       |

\*Liquid Verification above was performed on 2025/08/27.

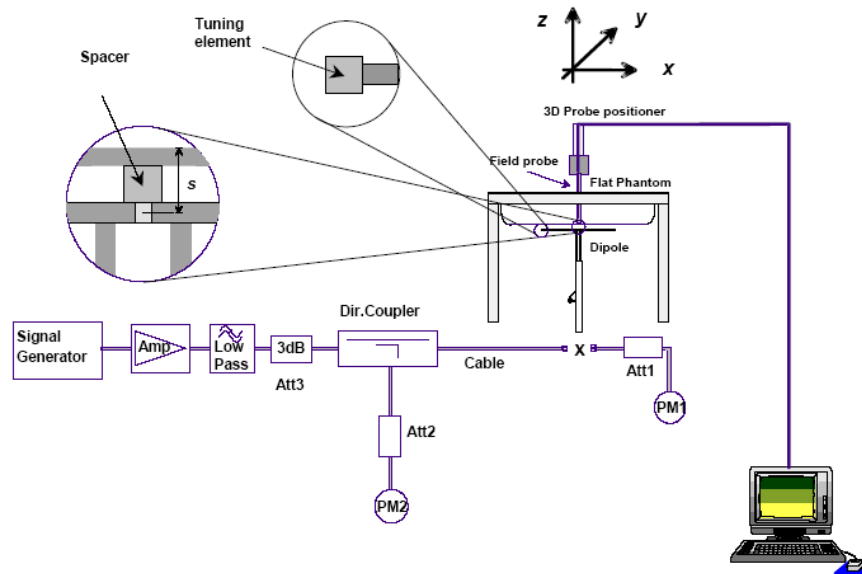
### 5.3 System Accuracy Verification

Prior to the assessment, the system validation kit was used to test whether the system was operating within its specifications of  $\pm 10\%$ . The validation results are tabulated below. And also the corresponding SAR plot is attached as well in the SAR plots files.

The spacing distances in the **System Verification Setup Block Diagram** is given by the following:

- $s = 15 \text{ mm} \pm 0,2 \text{ mm}$  for  $300 \text{ MHz} \leq f \leq 1\,000 \text{ MHz}$ ;
- $s = 10 \text{ mm} \pm 0,2 \text{ mm}$  for  $1\,000 \text{ MHz} < f \leq 3\,000 \text{ MHz}$ ;
- $s = 10 \text{ mm} \pm 0,2 \text{ mm}$  for  $3\,000 \text{ MHz} < f \leq 6\,000 \text{ MHz}$ .

### System Verification Setup Block Diagram



### 5.4 System Accuracy Check Results

| Date       | Frequency Band (MHz) | Liquid Type                  | Input Power (mW) | Measured SAR (W/kg) | Normalized to 1W (W/kg) | Target Value (W/Kg) | Delta (%) | Tolerance (%) |
|------------|----------------------|------------------------------|------------------|---------------------|-------------------------|---------------------|-----------|---------------|
| 2025/08/24 | 750                  | Simulated Tissue Liquid Head | 100              | 1g 0.803            | 8.03                    | 8.48                | -5.31     | $\pm 10$      |
| 2025/08/17 | 1750                 | Simulated Tissue Liquid Head | 100              | 1g 3.47             | 34.7                    | 36.1                | -3.88     | $\pm 10$      |
| 2025/08/20 | 1750                 | Simulated Tissue Liquid Head | 100              | 1g 3.55             | 35.5                    | 36.1                | -1.66     | $\pm 10$      |
| 2025/08/25 | 1900                 | Simulated Tissue Liquid Head | 100              | 1g 3.86             | 38.6                    | 40.2                | -3.98     | $\pm 10$      |
| 2025/08/15 | 2450                 | Simulated Tissue Liquid Head | 100              | 1g 4.97             | 49.7                    | 52.7                | -5.69     | $\pm 10$      |
| 2025/08/27 | 2600                 | Simulated Tissue Liquid Head | 100              | 1g 5.13             | 51.3                    | 55.8                | -8.06     | $\pm 10$      |
| 2025/08/18 | 5250                 | Simulated Tissue Liquid Head | 100              | 1g 7.54             | 75.4                    | 77.5                | -2.71     | $\pm 10$      |
| 2025/08/19 | 5600                 | Simulated Tissue Liquid Head | 100              | 1g 8.26             | 82.6                    | 80.7                | 2.35      | $\pm 10$      |
| 2025/08/19 | 5750                 | Simulated Tissue Liquid Head | 100              | 1g 7.42             | 74.2                    | 78.4                | -5.36     | $\pm 10$      |

**Note:** All the SAR values are normalized to 1Watt forward power.

| Date       | Frequency Band (MHz) | Liquid Type | Input Power (mW) | Measured SAR (W/kg) | Target Value (W/Kg) | Delta (%) | Tolerance (%) |
|------------|----------------------|-------------|------------------|---------------------|---------------------|-----------|---------------|
| 2025/08/27 | 450                  | Head        | 1000             | 1g 4.65             | 4.58                | 1.53      | $\pm 10$      |

## 5.5 SAR SYSTEM VALIDATION DATA

### System Performance 450 MHz Head

**DUT: Dipole 450 MHz; Type: D450V3; Serial: 1096**

Communication System: CW; Frequency: 450 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 450$  MHz;  $\sigma = 0.881$  S/m;  $\epsilon_r = 42.027$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV2 - SN3019; ConvF(6.76, 6.76, 6.76) @ 450 MHz; Calibrated: 2025/1/30
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2025/2/17
- Phantom: ELI v8.0; Type: QDOVA004AA; Serial: 2051
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (5x21x1):** Measurement grid:  $dx=15$ mm,  $dy=15$ mm

Maximum value of SAR (measured) = 6.56 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8$ mm,  $dy=8$ mm,  $dz=5$ mm

Reference Value = 26.37 V/m; Power Drift = -0.15 dB

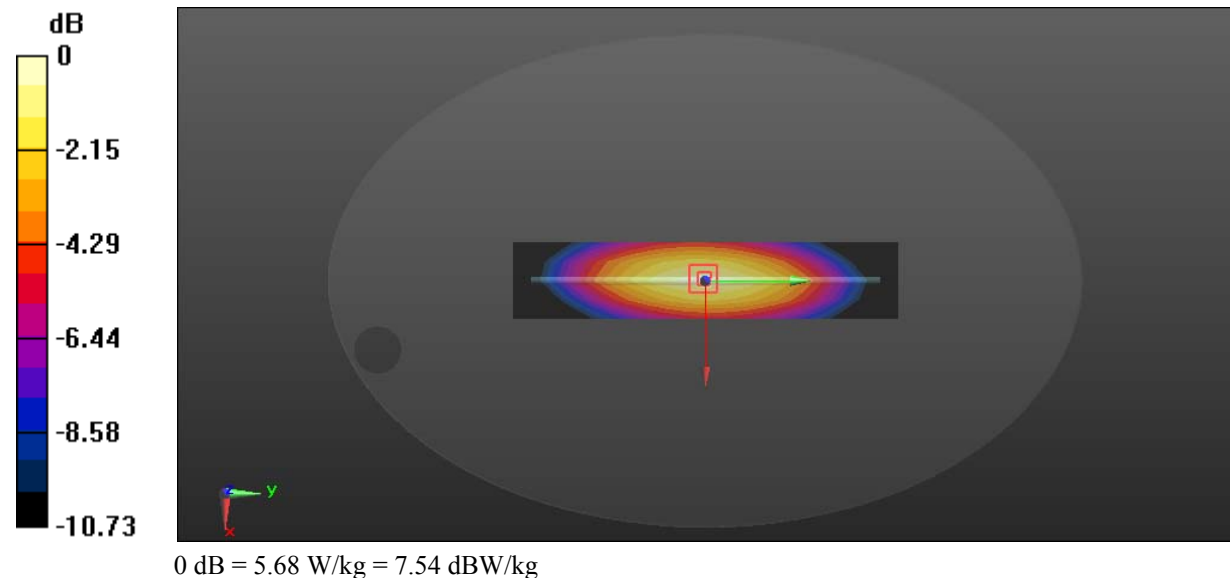
Peak SAR (extrapolated) = 7.59 W/kg

**SAR(1 g) = 4.65 W/kg; SAR(10 g) = 3.22 W/kg**

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid ( $> 16$  mm)

Ratio of SAR at M2 to SAR at M1 = 70.6%

Maximum value of SAR (measured) = 5.68 W/kg



**System Performance 750 MHz Head****DUT: D750V3; Type: 750 MHz; Serial: 1167**

Communication System: CW (0); Frequency: 750 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 750$  MHz;  $\sigma = 0.916$  S/m;  $\epsilon_r = 42.385$ ;  $\rho = 1000$  kg/m<sup>3</sup>;  
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(10.2, 10.2, 10.2) @ 750 MHz; Calibrated: 2025/5/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2025/2/17
- Phantom: SAM (30deg probe tilt) with CRP v5.0\_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (6x15x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.878 W/kg

**Zoom Scan (5x5x7) /Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 29.51 V/m; Power Drift = 0.12 dB

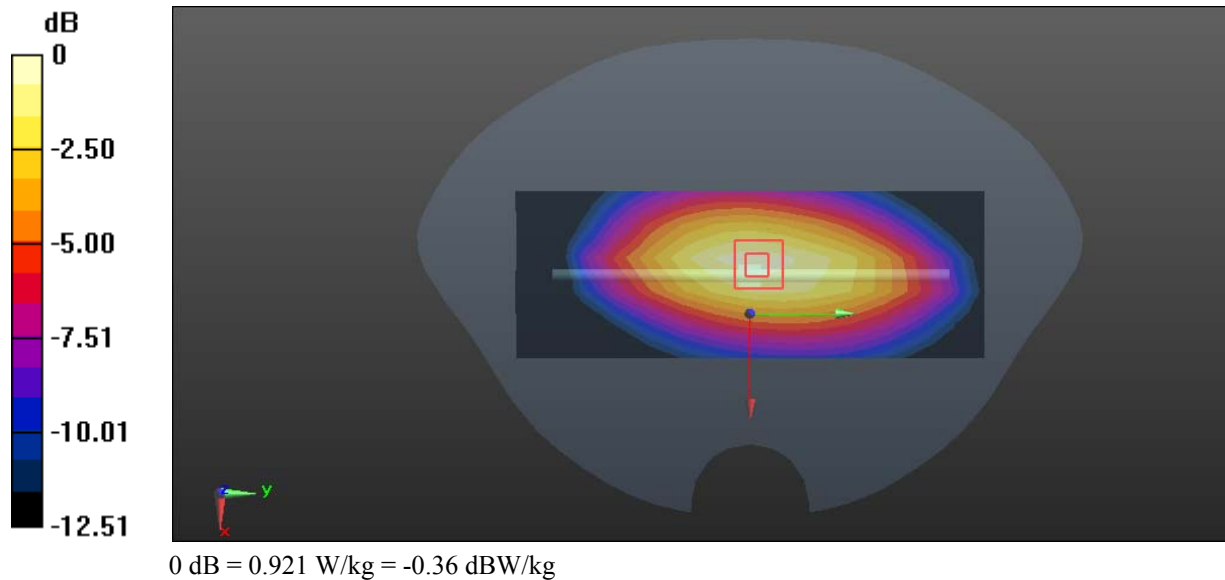
Peak SAR (extrapolated) = 1.12 W/kg

**SAR(1 g) = 0.803 W/kg; SAR(10 g) = 0.587 W/kg**

Smallest distance from peaks to all points 3 dB below: Larger than measurement grid (&gt; 16 mm)

Ratio of SAR at M2 to SAR at M1 = 70.6%

Maximum value of SAR (measured) = 0.921 W/kg



**System Performance 1750 MHz Head was performed on 2025/08/17****DUT: D1750V2; Type: 1750 MHz; Serial: 1141**

Communication System: CW (0); Frequency: 1750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.363$  S/m;  $\epsilon_r = 39.415$ ;  $\rho = 1000$  kg/m<sup>3</sup>;

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(8.45, 8.45, 8.45) @ 1750 MHz; Calibrated: 2025/5/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2025/2/17
- Phantom: SAM (30deg probe tilt) with CRP v5.0\_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (6x9x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 3.95 W/kg

**Zoom Scan (5x5x7) /Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 43.78 V/m; Power Drift = -0.15 dB

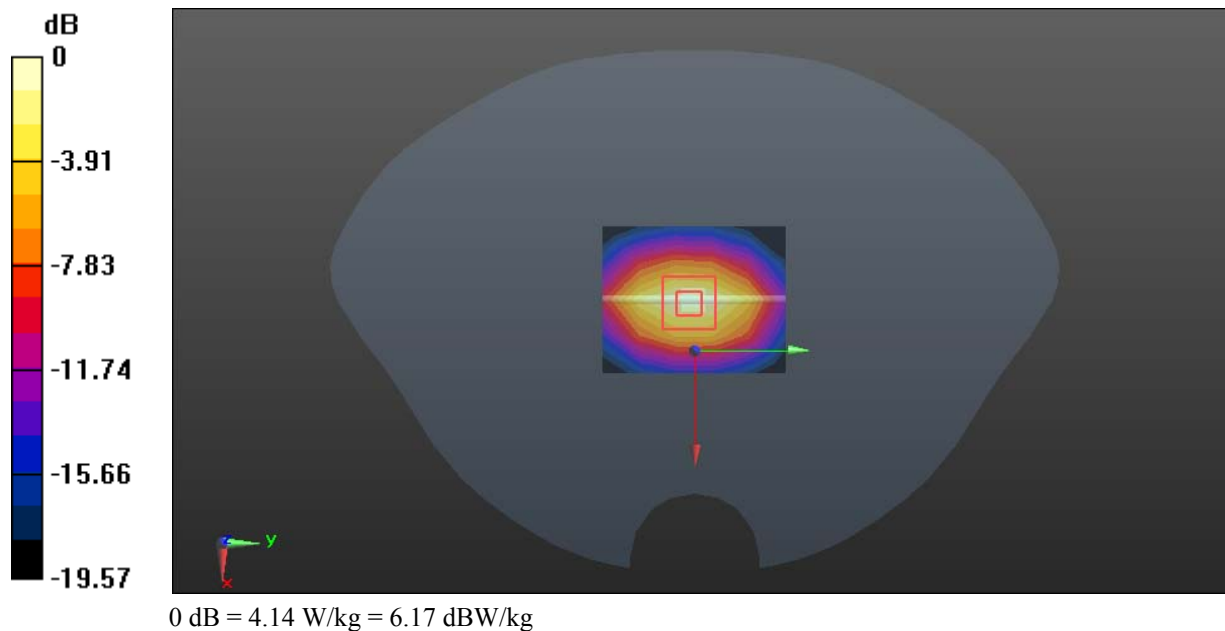
Peak SAR (extrapolated) = 5.14 W/kg

**SAR(1 g) = 3.47 W/kg; SAR(10 g) = 2.06 W/kg**

Smallest distance from peaks to all points 3 dB below = 11.4 mm

Ratio of SAR at M2 to SAR at M1 = 66.7%

Maximum value of SAR (measured) = 4.14 W/kg



**System Performance 1750 MHz Head was performed on 2025/08/20****DUT: D1750V2; Type: 1750 MHz; Serial: 1141**

Communication System: CW (0); Frequency: 1750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.396$  S/m;  $\epsilon_r = 39.542$ ;  $\rho = 1000$  kg/m<sup>3</sup>;

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(8.45, 8.45, 8.45) @ 1750 MHz; Calibrated: 2025/5/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2025/2/17
- Phantom: SAM (30deg probe tilt) with CRP v5.0\_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (6x9x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 4.09 W/kg

**Zoom Scan (5x5x7) /Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 53.46 V/m; Power Drift = 0.10 dB

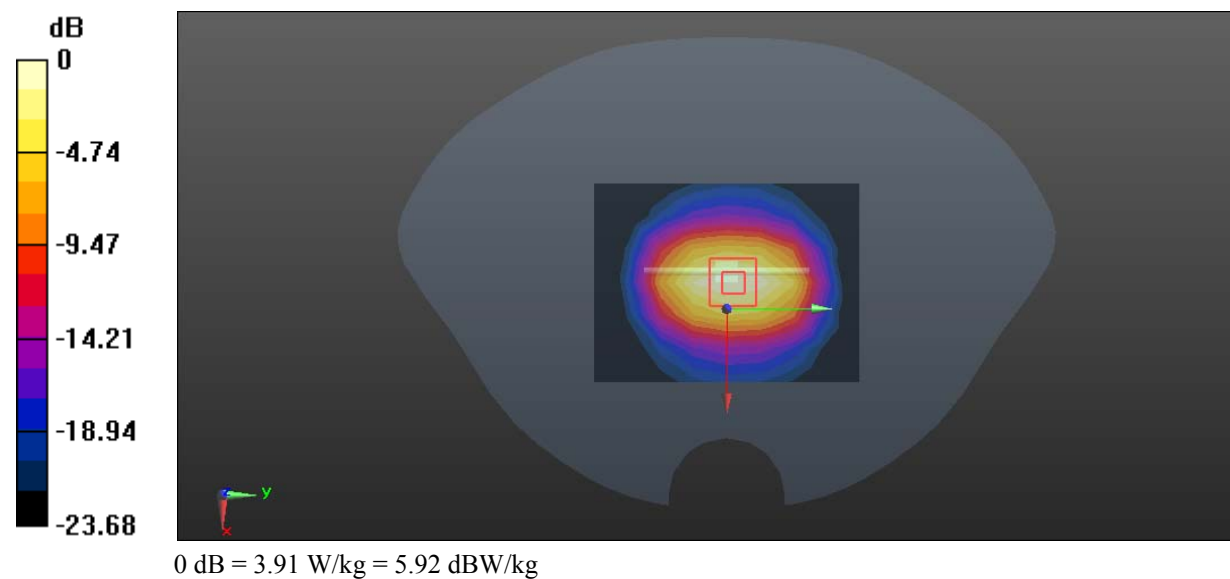
Peak SAR (extrapolated) = 6.57 W/kg

**SAR(1 g) = 3.55 W/kg; SAR(10 g) = 1.93 W/kg**

Smallest distance from peaks to all points 3 dB below = 11.8 mm

Ratio of SAR at M2 to SAR at M1 = 55.9%

Maximum value of SAR (measured) = 3.91 W/kg



**System Performance 1900 MHz Head****DUT: D1900V2; Type: 1900 MHz; Serial: 543**

Communication System: CW (0); Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.438$  S/m;  $\epsilon_r = 39.339$ ;  $\rho = 1000$  kg/m<sup>3</sup>;

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(8.12, 8.12, 8.12) @ 1900 MHz; Calibrated: 2025/5/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2025/2/17
- Phantom: SAM (30deg probe tilt) with CRP v5.0\_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (6x9x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 3.94 W/kg

**Zoom Scan (5x5x7) /Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 45.64 V/m; Power Drift = -0.08 dB

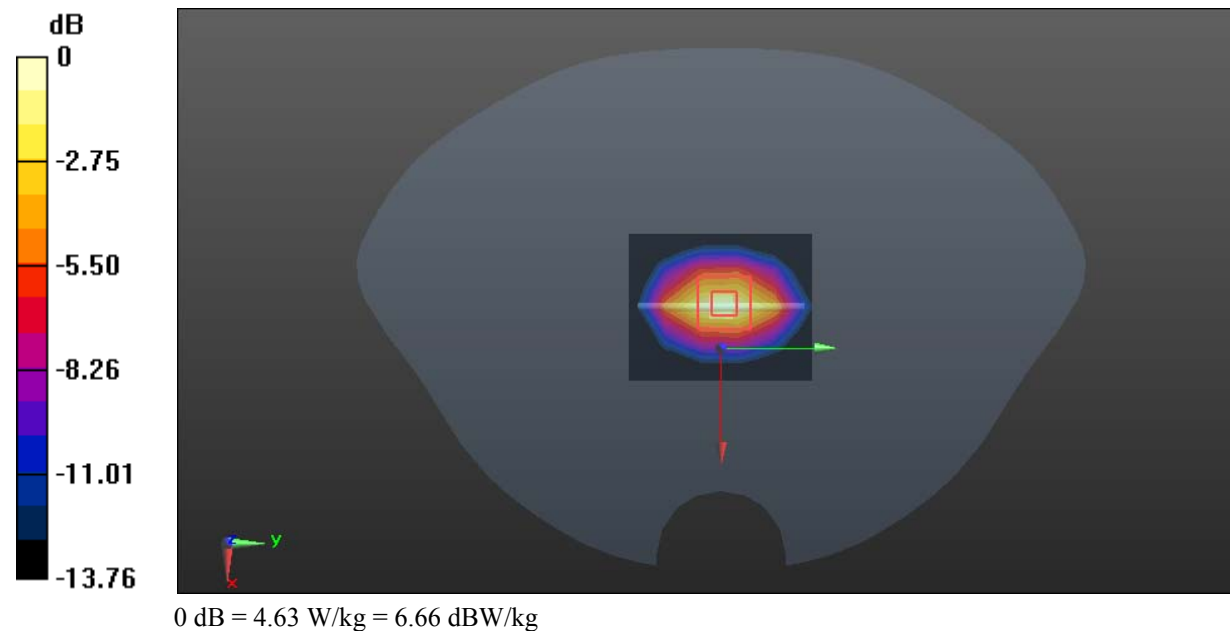
Peak SAR (extrapolated) = 5.97 W/kg

**SAR(1 g) = 3.86 W/kg; SAR(10 g) = 2.13 W/kg**

Smallest distance from peaks to all points 3 dB below = 11.8 mm

Ratio of SAR at M2 to SAR at M1 = 67.3%

Maximum value of SAR (measured) = 4.63 W/kg



**System Performance 2450 MHz Head****DUT: D2450V2; Type: 2450 MHz; Serial: 971**

Communication System: CW (0); Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.849$  S/m;  $\epsilon_r = 40.434$ ;  $\rho = 1000$  kg/m<sup>3</sup>;

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(7.68, 7.68, 7.68) @ 2450 MHz; Calibrated: 2025/5/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2025/2/17
- Phantom: SAM (30deg probe tilt) with CRP v5.0\_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (7x11x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 5.16 W/kg

**Zoom Scan (7x7x7) /Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 43.75 V/m; Power Drift = -0.04dB

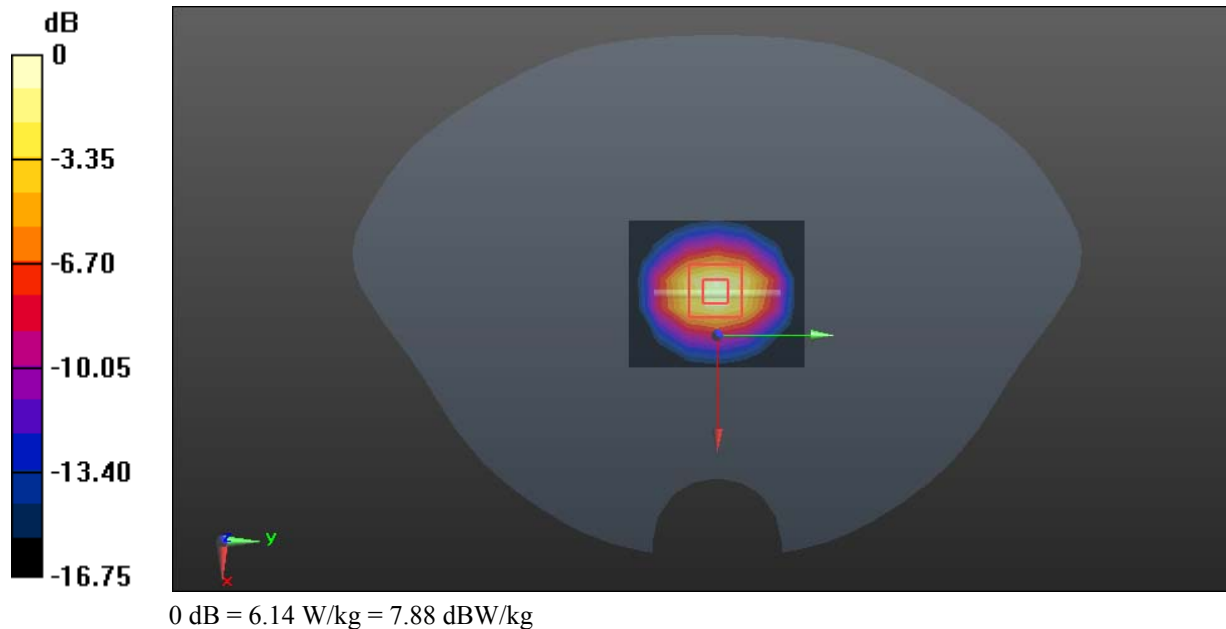
Peak SAR (extrapolated) = 8.10 W/kg

**SAR(1 g) = 4.97 W/kg; SAR(10 g) = 2.63 W/kg**

Smallest distance from peaks to all points 3 dB below = 10.3 mm

Ratio of SAR at M2 to SAR at M1 = 61.5%

Maximum value of SAR (measured) = 6.14 W/kg



**System Performance 2600 MHz Head****DUT: D2600V2; Type: 2600 MHz; Serial: 1132**

Communication System: CW (0); Frequency: 2600 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 2.015$  S/m;  $\epsilon_r = 39.731$ ;  $\rho = 1000$  kg/m<sup>3</sup>;

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(7.5, 7.5, 7.5) @ 2600 MHz; Calibrated: 2025/5/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2025/2/17
- Phantom: SAM (30deg probe tilt) with CRP v5.0\_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan (7x11x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 6.07 W/kg

**Zoom Scan (7x7x7) /Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 50.93 V/m; Power Drift = -0.02 dB

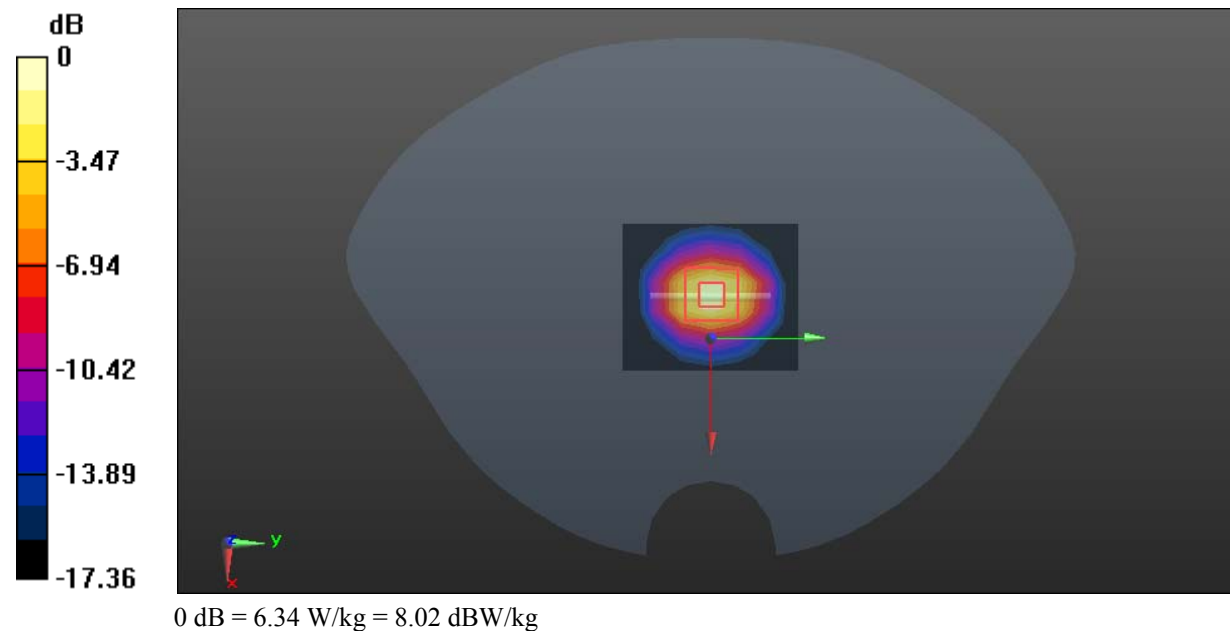
Peak SAR (extrapolated) = 8.58 W/kg

**SAR(1 g) = 5.13 W/kg; SAR(10 g) = 2.65 W/kg**

Smallest distance from peaks to all points 3 dB below = 8.8 mm

Ratio of SAR at M2 to SAR at M1 = 63.7%

Maximum value of SAR (measured) = 6.34 W/kg



**System Performance 5250 MHz Head****DUT: D5GHzV2; Type: 5250 MHz; Serial: 1246**

Communication System: CW (0); Frequency: 5250 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5250$  MHz;  $\sigma = 4.622$  S/m;  $\epsilon_r = 35.645$ ;  $\rho = 1000$  kg/m<sup>3</sup>;

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(5.5, 5.5, 5.5) @ 5250 MHz; Calibrated: 2025/5/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2025/2/17
- Phantom: SAM (30deg probe tilt) with CRP v5.0\_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan(9x10x1):**Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 15.4 W/kg

**Zoom Scan (7x7x12)/Cube 0:**Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value =56.28 V/m; Power Drift = -0.08 dB

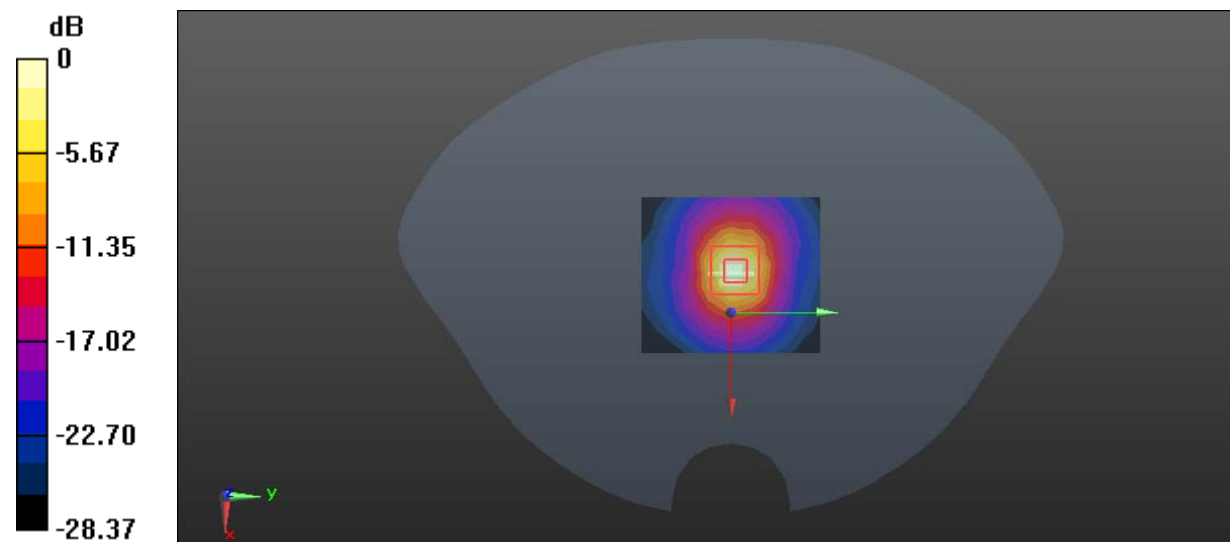
Peak SAR (extrapolated) = 29.2 W/kg

**SAR(1 g) = 7.54 W/kg; SAR(10 g) = 2.33 W/kg**

Smallest distance from peaks to all points 3 dB below = 16.4 mm

Ratio of SAR at M2 to SAR at M1 = 50.6%

Maximum value of SAR (measured) = 16.3 W/kg



0 dB = 16.3 W/kg = 12.12 dBW/kg

**System Performance 5600 MHz Head****DUT: D5GHzV2; Type: 5600 MHz; Serial: 1246**

Communication System: CW (0); Frequency: 5600 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5600$  MHz;  $\sigma = 5.058$  S/m;  $\epsilon_r = 34.742$ ;  $\rho = 1000$  kg/m<sup>3</sup>;

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(4.9, 4.9, 4.9) @ 5600 MHz; Calibrated: 2025/5/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2025/2/17
- Phantom: SAM (30deg probe tilt) with CRP v5.0\_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan(8x8x1):**Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 17.2 W/kg

**Zoom Scan (8x8x15)/Cube 0:**Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value =44.69 V/m; Power Drift = -0.10 dB

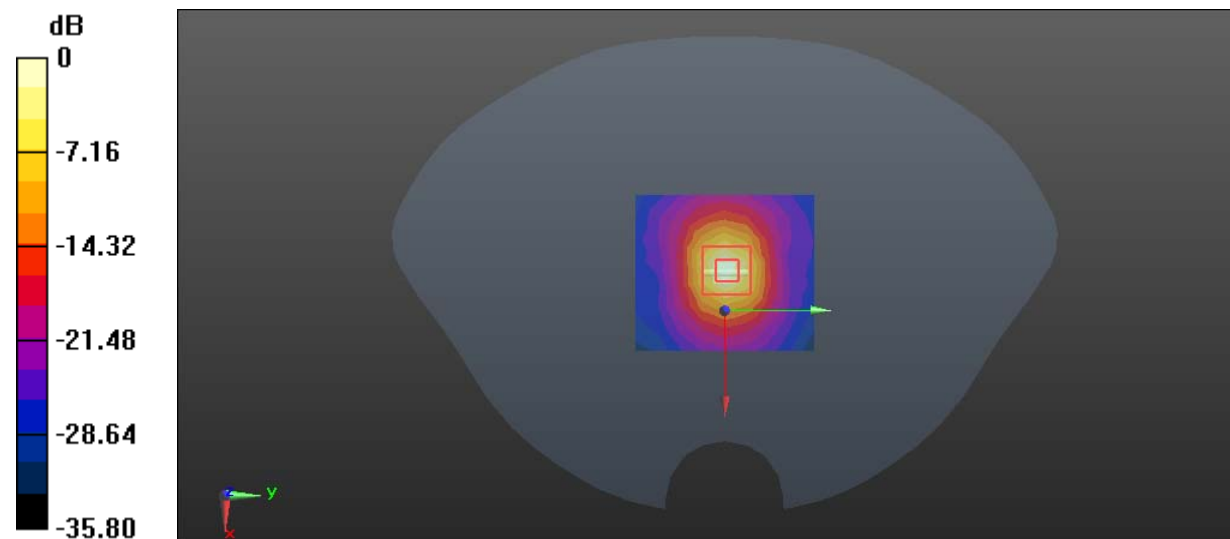
Peak SAR (extrapolated) = 33.7 W/kg

**SAR(1 g) = 8.26 W/kg; SAR(10 g) = 2.25 W/kg**

Smallest distance from peaks to all points 3 dB below = 8.6 mm

Ratio of SAR at M2 to SAR at M1 = 53.9%

Maximum value of SAR (measured) = 18.8 W/kg



0 dB = 18.8 W/kg = 12.74 dBW/kg

**System Performance 5750 MHz Head****DUT: D5GHzV2; Type: 5750 MHz; Serial: 1246**

Communication System: CW (0); Frequency: 5750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5750$  MHz;  $\sigma = 5.213$  S/m;  $\epsilon_r = 34.475$ ;  $\rho = 1000$  kg/m<sup>3</sup>;

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(5.02, 5.02, 5.02) @ 5750 MHz; Calibrated: 2025/5/26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2025/2/17
- Phantom: SAM (30deg probe tilt) with CRP v5.0\_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

**Area Scan(8x8x1):**Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 16.3 W/kg

**Zoom Scan (8x8x15)/Cube 0:**Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value =41.59 V/m; Power Drift = 0.11 dB

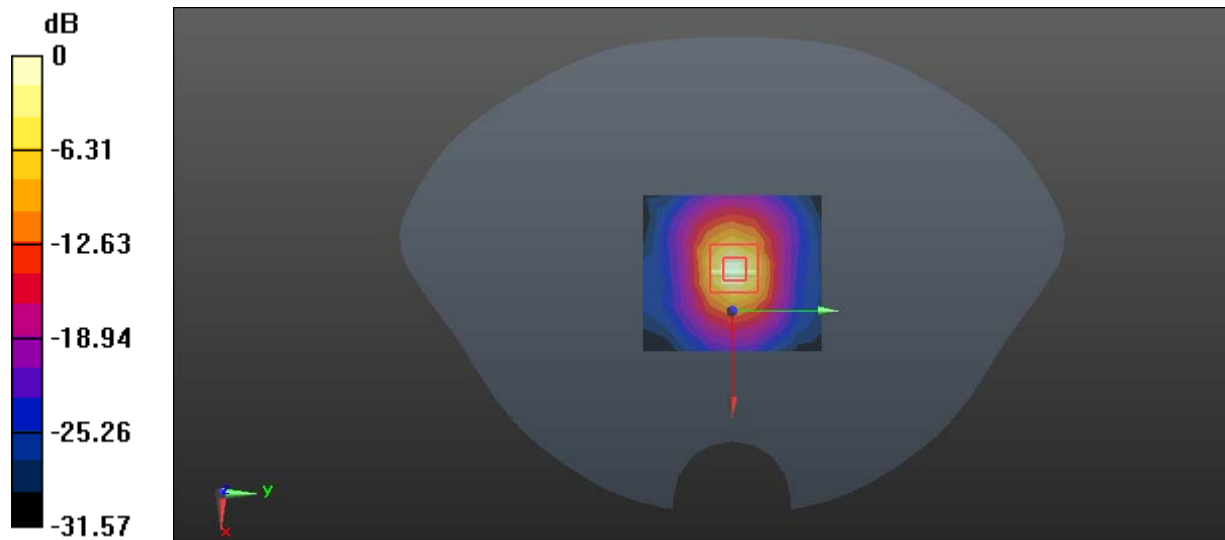
Peak SAR (extrapolated) = 32.7 W/kg

**SAR(1 g) = 7.42 W/kg; SAR(10 g) = 2.1 W/kg**

Smallest distance from peaks to all points 3 dB below = 8.7 mm

Ratio of SAR at M2 to SAR at M1 = 52.4%

Maximum value of SAR (measured) = 17.7 W/kg



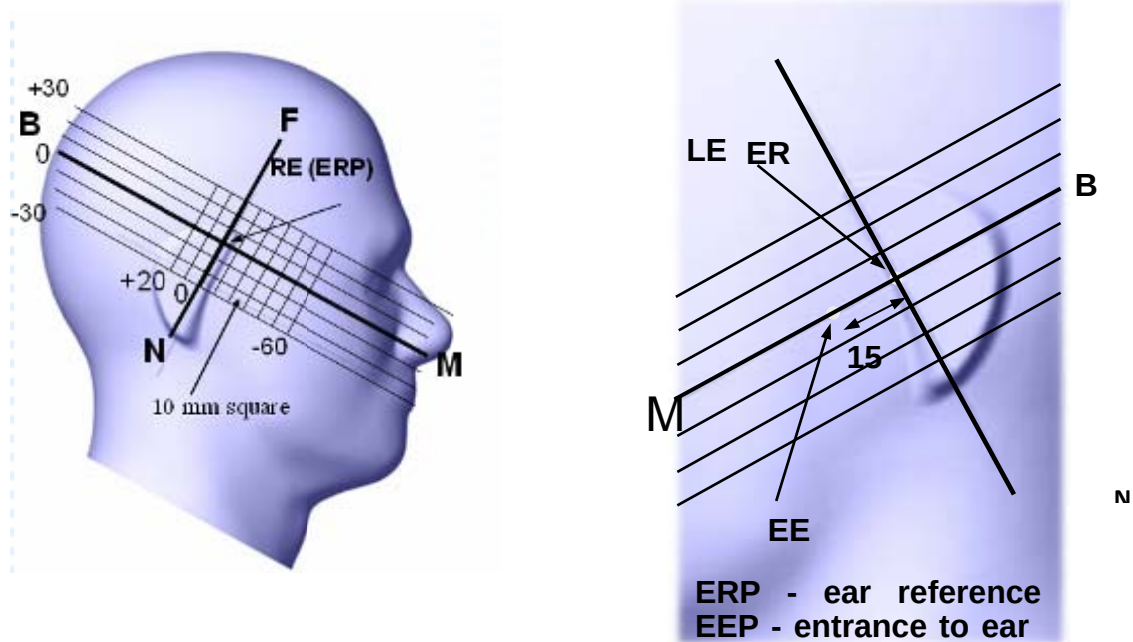
0 dB = 17.7 W/kg = 12.48 dBW/kg

## 6. EUT TEST STRATEGY AND METHODOLOGY

### 6.1 Test Positions for Device Operating Next to a Person's Ear

This category includes most wireless handsets with fixed, retractable or internal antennas located toward the top half of the device, with or without a foldout, sliding or similar keypad cover. The handset should have its earpiece located within the upper ¼ of the device, either along the centerline or off-centered, as perceived by its users. This type of handset should be positioned in a normal operating position with the “test device reference point” located along the “vertical centerline” on the front of the device aligned to the “ear reference point”. The “test device reference point” should be located at the same level as the center of the earpiece region. The “vertical centerline” should bisect the front surface of the handset at its top and bottom edges. A “ear reference point” is located on the outer surface of the head phantom on each ear spacer. It is located 1.5 cm above the center of the ear canal entrance in the “phantom reference plane” defined by the three lines joining the center of each “ear reference point” (left and right) and the tip of the mouth.

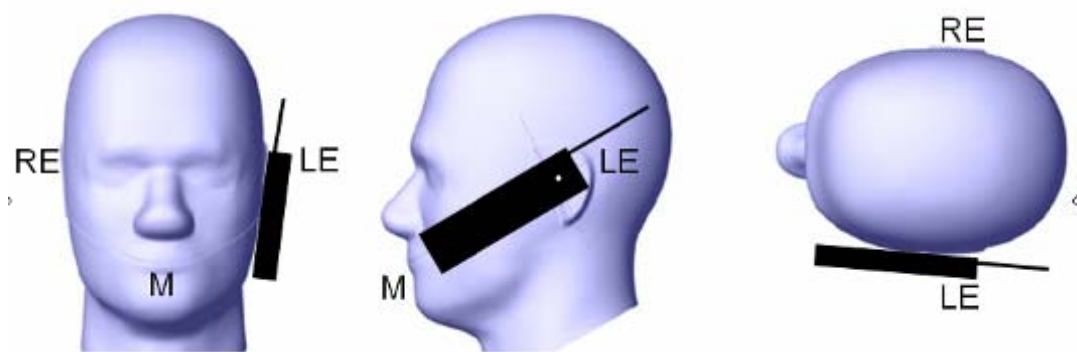
A handset should be initially positioned with the earpiece region pressed against the ear spacer of a head phantom. For the SCC-34/SC-2 head phantom, the device should be positioned parallel to the “N-F” line defined along the base of the ear spacer that contains the “ear reference point”. For interim head phantoms, the device should be positioned parallel to the cheek for maximum RF energy coupling. The “test device reference point” is aligned to the “ear reference point” on the head phantom and the “vertical centerline” is aligned to the “phantom reference plane”. This is called the “initial ear position”. While maintaining these three alignments, the body of the handset is gradually adjusted to each of the following positions for evaluating SAR:



## 6.2 Cheek/Touch Position

1. The device is brought toward the mouth of the head phantom by pivoting against the “ear reference point” or along the “N-F” line for the SCC-34/SC-2 head phantom.
2. This test position is established:
  3. When any point on the display, keypad or mouthpiece portions of the handset is in contact with the phantom.
  4. (or) When any portion of a foldout, sliding or similar keypad cover opened to its intended self-adjusting normal use position is in contact with the cheek or mouth of the phantom.
5. For existing head phantoms – when the handset loses contact with the phantom at the pivoting point, rotation should continue until the device touches the cheek of the phantom or breaks its last contact from the ear spacer.

### Cheek /Touch Position



## 6.3 Ear/Tilt Position

With the handset aligned in the “Cheek/Touch Position”:

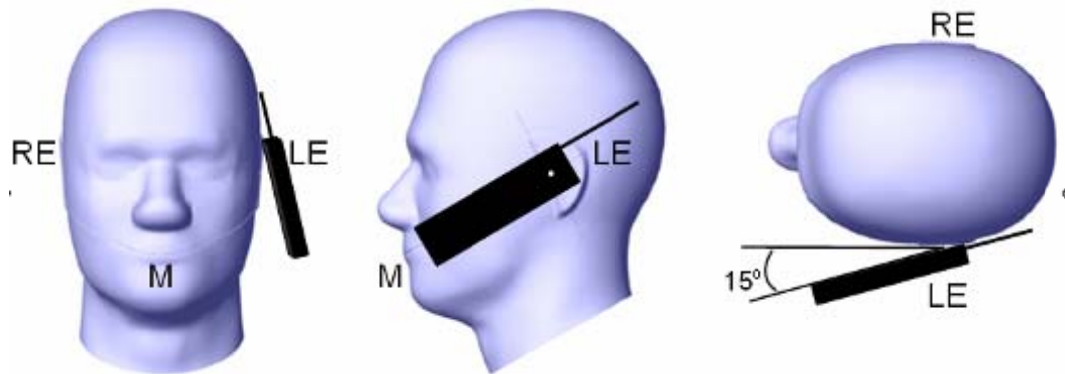
1) If the earpiece of the handset is not in full contact with the phantom’s ear spacer (in the “Cheek/Touch position”) and the peak SAR location for the “Cheek/Touch” position is located at the ear spacer region or corresponds to the earpiece region of the handset, the device should be returned to the “initial ear position” by rotating it away from the mouth until the earpiece is in full contact with the ear spacer.

2) (otherwise) The handset should be moved (translated) away from the cheek perpendicular to the line passes through both “ear reference points” (note: one of these ear reference points may not physically exist on a split head model) for approximate 2-3 cm. While it is in this position, the device handset is tilted away from the mouth with respect to the “test device reference point” until the inside angle between the vertical centerline on the front surface of the phone and the horizontal line passing through the ear reference point is by 15° to 80°. After the tilt, it is then moved (translated) back toward the head perpendicular to the line passes through both “ear reference points” until the device touches the phantom or the ear spacer. If the antenna touches the head first, the positioning process should be repeated with a tilt angle less than 15° so that the device and its antenna would touch the phantom simultaneously. This test position may require a device holder or positioner to achieve the translation and tilting with acceptable positioning repeatability.

If a device is also designed to transmit with its keypad cover closed for operating in the head position, such positions should also be considered in the SAR evaluation. The device should be tested on the left and right side of the head phantom in the “Cheek/Touch” and “Ear/Tilt” positions. When applicable, each configuration should be tested with the antenna in its fully extended and fully retracted positions. These test configurations should be tested at the high, middle and low frequency channels of each operating mode; for example, AMPS, CDMA, and TDMA. If the SAR measured at the middle channel for each test configuration (left, right, Cheek/Touch, Tilt/Ear, extended and retracted) is at least 2.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).

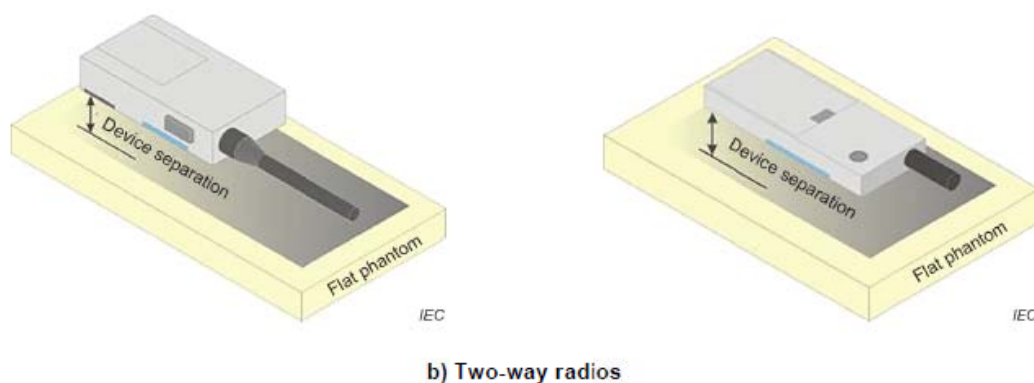
If the transmission band of the test device is less than 10 MHz, testing at the high and low frequency channels is optional.

#### Ear /Tilt 15° Position



#### 6.4 Test positions for Front-of-face configurations

Passive body-worn and audio accessories generally do not apply to the head SAR of PTT radios. Head SAR is measured with the front surface of the radio positioned at 2.5 cm parallel to a flat phantom. A phantom shell thickness of 2 mm is required. When the front of the radio has a contour or non-uniform surface with a variation of 1.0 cm or more, the average distance of such variations is used to establish the 2.5 cm test separation from the phantom.



**Figure 10 – Test positions for front-of-face devices**

## 6.5 Test positions for body-worn and other configurations

Body-worn operating configurations should be tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in normal use configurations. Devices with a headset output should be tested with a headset connected to the device. When multiple accessories that do not contain metallic components are supplied with the device, the device may be tested with only the accessory that dictates the closest spacing to the body. When multiple accessories that contain metallic components are supplied with the device, the device must be tested with each accessory that contains a unique metallic component. If multiple accessories share an identical metallic component (e.g., the same metallic belt-clip used with different holsters with no other metallic components), only the accessory that dictates the closest spacing to the body must be tested.

Body-worn accessories may not always be supplied or available as options for some devices that are intended to be authorized for body-worn use. A separation distance of 1.5 cm between the back of the device and a flat phantom is recommended for testing body-worn SAR compliance under such circumstances. Other separation distances may be used, but they should not exceed 2.5 cm. In these cases, the device may use body-worn accessories that provide a separation distance greater than that tested for the device provided however that the accessory contains no metallic components.

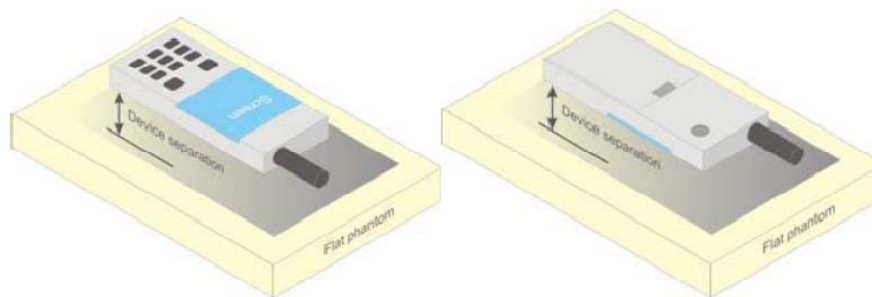


Figure 5 – Test positions for body-worn devices

## 6.6 Test Distance for SAR Evaluation

For Head mode, the EUT(Equipment Under Test) is set 0mm away from the phantom, the test distance is 0mm.

For Body mode, the EUT(Equipment Under Test) is set 5mm away from the phantom, the test distance is 5mm.

For Body Back With Belt Clip mode, the EUT(Equipment Under Test) is set 0mm away from the phantom, the test distance is 0mm.

For PTT testing, the EUT(Equipment Under Test) is set directly against the phantom, the test distance is 0mm for Body Back mode; for Face Up mode the distance is 25mm.

The PTT mode can only be used under the speaker mode.

## 6.7 SAR Evaluation Procedure

The evaluation was performed with the following procedure:

Step 1: Measurement of the SAR value at a fixed location above the ear point or central position was used as a reference value for assessing the power drop. The SAR at this point is measured at the start of the test and then again at the end of the testing.

Step 2: The SAR distribution at the exposed side of the head was measured at a distance of 4 mm from the inner surface of the shell. The area covered the entire dimension of the head or radiating structures of the EUT, the horizontal grid spacing was 15 mm x 15 mm, and the SAR distribution was determined by integrated grid of 1.5mm x 1.5mm. Based on these data, the area of the maximum absorption was determined by spline interpolation. The first Area Scan covers the entire dimension of the EUT to ensure that the hotspot was correctly identified.

Step 3: Around this point, a volume of 30 mm x 30 mm x 30 mm was assessed by measuring 7x 7 x 7 points. On the basis of this data set, the spatial peak SAR value was evaluated under the following procedure:

- 1) The data at the surface were extrapolated, since the center of the dipoles is 1.2 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.3 mm. The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.

- 2) The maximum interpolated value was searched with a straightforward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1 g or 10 g) were computed by the 3D-Spline interpolation algorithm. The 3D-Spline is composed of three one dimensional splines with the "Not a knot"-condition (in x, y and z-directions). The volume was integrated with the trapezoidal-algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the averages.

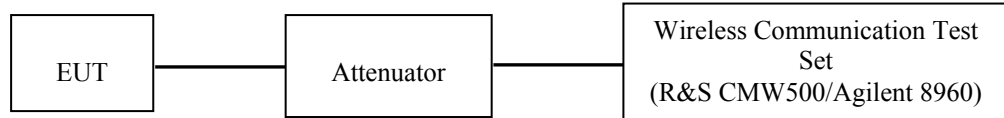
All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

Step 4: Re-measurement of the SAR value at the same location as in Step 1. If the value changed by more than 5%, the evaluation was repeated.

## 7. CONDUCTED OUTPUT POWER MEASUREMENT

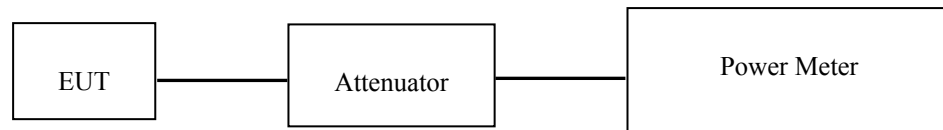
### 7.1 Test Procedure

The RF output of the transmitter was connected to the input of the Wireless Communication Test Set through Attenuator.



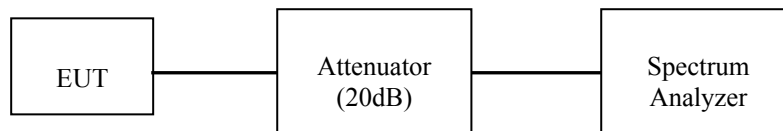
**GSM/WCDMA/LTE**

The RF output of the transmitter was connected to the input port of the Power Meter through Attenuator.



**WLAN/BT**

The RF output of the transmitter was connected to the input of the Spectrum Analyzer through sufficient attenuation.



The Signal Analyzer setting:

| RBW     | VBW     |
|---------|---------|
| 100 kHz | 300 kHz |

**PTT**

## 7.2 Radio Configuration

The power measurement was configured by the Wireless Communication Test Set.

### GSM/GPRS/EGPRS

Function: Menu select > GSM Mobile Station > GSM 850/1900

Press Connection control to choose the different menus

Press RESET > choose all the reset all settings

Connection Press Signal Off to turn off the signal and change settings

Network Support > GSM + GPRS or GSM + EGSM

Main Service > Packet Data

Service selection > Test Mode A – Auto Slot Config. off

MS Signal Press Slot Config Bottom on the right twice to select and change the number of time slots and power setting

- > Slot configuration > Uplink/Gamma

- > 33 dBm for GPRS 850

- > 30 dBm for GPRS 1900

- > 27 dBm for EGPRS 850

- > 26 dBm for EGPRS 1900

BS Signal Enter the same channel number for TCH channel (test channel) and BCCH channel

Frequency Offset > + 0 Hz

Mode > BCCH and TCH

BCCH Level > -85 dBm (May need to adjust if link is not stable)

BCCH Channel > choose desired test channel [Enter the same channel number for TCH channel (test channel) and BCCH channel]

Channel Type > Off

P0 > 4 dB

Slot Config > Unchanged (if already set under MS signal)

TCH > choose desired test channel

Hopping > Off

Main Timeslot > 3

Network Coding Scheme > CS4 (GPRS) and MCS5 (EGPRS)

Bit Stream > 2E9-1 PSR Bit Stream

AF/RF Enter appropriate offsets for Ext. Att. Output and Ext. Att. Input

Connection Press Signal on to turn on the signal and change settings

**WCDMA Release 99**

The following tests were conducted according to the test requirements outlines in section 5.2 of the 3GPP

TS34.121-1 specification. The EUT has a nominal maximum output power of 24dBm (+1.7/-3.7).

|                                       |                         |              |
|---------------------------------------|-------------------------|--------------|
| <b>WCDMA<br/>General<br/>Settings</b> | Loopback Mode           | Test Mode 1  |
|                                       | Rel99 RMC               | 12.2kbps RMC |
|                                       | Power Control Algorithm | Algorithm2   |
|                                       | $\beta_c/\beta_d$       | 8/15         |

**HSDPA**

The following tests were conducted according to the test requirements outlines in section 5.2 of the 3GPP

TS34.121-1 specification.

|                                        | Mode                        | HSDPA        | HSDPA | HSDPA | HSDPA |
|----------------------------------------|-----------------------------|--------------|-------|-------|-------|
|                                        | Subset                      | 1            | 2     | 3     | 4     |
| <b>WCDMA<br/>General<br/>Settings</b>  | Loopback Mode               | Test Mode 1  |       |       |       |
|                                        | Rel99 RMC                   | 12.2kbps RMC |       |       |       |
|                                        | HSDPA FRC                   | H-Set1       |       |       |       |
|                                        | Power Control Algorithm     | Algorithm2   |       |       |       |
|                                        | $\beta_c$                   | 2/15         | 12/15 | 15/15 | 15/15 |
|                                        | $\beta_d$                   | 15/15        | 15/15 | 8/15  | 4/15  |
|                                        | $\beta_d(\text{SF})$        | 64           |       |       |       |
|                                        | $\beta_c/\beta_d$           | 2/15         | 12/15 | 15/8  | 15/4  |
|                                        | $\beta_{hs}$                | 4/15         | 24/15 | 30/15 | 30/15 |
|                                        | MPR(dB)                     | 0            | 0     | 0.5   | 0.5   |
| <b>HSDPA<br/>Specific<br/>Settings</b> | DACK                        | 8            |       |       |       |
|                                        | DNAK                        | 8            |       |       |       |
|                                        | DCQI                        | 8            |       |       |       |
|                                        | Ack-Nack repetition factor  | 3            |       |       |       |
|                                        | CQI Feedback                | 4ms          |       |       |       |
|                                        | CQI Repetition Factor       | 2            |       |       |       |
|                                        | $A_{hs}=\beta_{hs}/\beta_c$ | 30/15        |       |       |       |

**HSUPA**

The following tests were conducted according to the test requirements outlines in section 5.2 of the 3GPP TS34.121-1 specification.

|                                        | Mode                             | HSUPA                                                                                                                                        | HSUPA | HSUPA                                                | HSUPA | HSUPA                                                                                                                                        |
|----------------------------------------|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-------|------------------------------------------------------|-------|----------------------------------------------------------------------------------------------------------------------------------------------|
|                                        | Subset                           | 1                                                                                                                                            | 2     | 3                                                    | 4     | 5                                                                                                                                            |
| <b>WCDMA<br/>General<br/>Settings</b>  | Loopback Mode                    | Test Mode 1                                                                                                                                  |       |                                                      |       |                                                                                                                                              |
|                                        | Rel99 RMC                        | 12.2kbps RMC                                                                                                                                 |       |                                                      |       |                                                                                                                                              |
|                                        | HSDPA FRC                        | H-Set1                                                                                                                                       |       |                                                      |       |                                                                                                                                              |
|                                        | HSUPA Test                       | HSUPA Loopback                                                                                                                               |       |                                                      |       |                                                                                                                                              |
|                                        | Power Control Algorithm          | Algorithm2                                                                                                                                   |       |                                                      |       |                                                                                                                                              |
|                                        | $\beta_c$                        | 11/15                                                                                                                                        | 6/15  | 15/15                                                | 2/15  | 15/15                                                                                                                                        |
|                                        | $\beta_d$                        | 15/15                                                                                                                                        | 15/15 | 9/15                                                 | 15/15 | 0                                                                                                                                            |
|                                        | $\beta_{ec}$                     | 209/225                                                                                                                                      | 12/15 | 30/15                                                | 2/15  | 5/15                                                                                                                                         |
|                                        | $\beta_c/\beta_d$                | 11/15                                                                                                                                        | 6/15  | 15/9                                                 | 2/15  | -                                                                                                                                            |
|                                        | $\beta_{hs}$                     | 22/15                                                                                                                                        | 12/15 | 30/15                                                | 4/15  | 5/15                                                                                                                                         |
|                                        | CM(dB)                           | 1.0                                                                                                                                          | 3.0   | 2.0                                                  | 3.0   | 1.0                                                                                                                                          |
|                                        | MPR(dB)                          | 0                                                                                                                                            | 2     | 1                                                    | 2     | 0                                                                                                                                            |
| <b>HSDPA<br/>Specific<br/>Settings</b> | DACK                             | 8                                                                                                                                            |       |                                                      |       |                                                                                                                                              |
|                                        | DNAK                             | 8                                                                                                                                            |       |                                                      |       |                                                                                                                                              |
|                                        | DCQI                             | 8                                                                                                                                            |       |                                                      |       |                                                                                                                                              |
|                                        | Ack-Nack repetition factor       | 3                                                                                                                                            |       |                                                      |       |                                                                                                                                              |
|                                        | CQI Feedback                     | 4ms                                                                                                                                          |       |                                                      |       |                                                                                                                                              |
|                                        | CQI Repetition Factor            | 2                                                                                                                                            |       |                                                      |       |                                                                                                                                              |
|                                        | $A_{hs}=\beta_{hs}/\beta_c$      | 30/15                                                                                                                                        |       |                                                      |       |                                                                                                                                              |
| <b>HSUPA<br/>Specific<br/>Settings</b> | DE-DPCCH                         | 6                                                                                                                                            | 8     | 8                                                    | 5     | 7                                                                                                                                            |
|                                        | DHARQ                            | 0                                                                                                                                            | 0     | 0                                                    | 0     | 0                                                                                                                                            |
|                                        | AG Index                         | 20                                                                                                                                           | 12    | 15                                                   | 17    | 21                                                                                                                                           |
|                                        | ETFCI                            | 75                                                                                                                                           | 67    | 92                                                   | 71    | 81                                                                                                                                           |
|                                        | Associated Max UL Data Rate kbps | 242.1                                                                                                                                        | 174.9 | 482.8                                                | 205.8 | 308.9                                                                                                                                        |
|                                        | Reference E_FCI's                | E-TFCI 11 E<br>E-TFCI PO 4<br>E-TFCI 67<br>E-TFCI PO 18<br>E-TFCI 71<br>E-TFCI PO23<br>E-TFCI 75<br>E-TFCI PO26<br>E-TFCI 81<br>E-TFCI PO 27 |       | E-TFCI 11<br>E-TFCI PO4<br>E-TFCI 92<br>E-TFCI PO 18 |       | E-TFCI 11 E<br>E-TFCI PO 4<br>E-TFCI 67<br>E-TFCI PO 18<br>E-TFCI 71<br>E-TFCI PO23<br>E-TFCI 75<br>E-TFCI PO26<br>E-TFCI 81<br>E-TFCI PO 27 |
|                                        |                                  |                                                                                                                                              |       |                                                      |       |                                                                                                                                              |

**FDD-LTE**

For UE Power Class 1 and 3, the allowed Maximum Power Reduction (MPR) for the maximum output power in Table 6.2.2-1 due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1.

**Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1 and 3**

| Modulation | Channel bandwidth / Transmission bandwidth ( $N_{RB}$ ) |          |          |           |           |           | MPR (dB) |
|------------|---------------------------------------------------------|----------|----------|-----------|-----------|-----------|----------|
|            | 1.4 MHz                                                 | 3.0 MHz  | 5 MHz    | 10 MHz    | 15 MHz    | 20 MHz    |          |
| QPSK       | > 5                                                     | > 4      | > 8      | > 12      | > 16      | > 18      | $\leq 1$ |
| 16 QAM     | $\leq 5$                                                | $\leq 4$ | $\leq 8$ | $\leq 12$ | $\leq 16$ | $\leq 18$ | $\leq 1$ |
| 16 QAM     | > 5                                                     | > 4      | > 8      | > 12      | > 16      | > 18      | $\leq 2$ |

For UE Power Class 1 and 3 the specific requirements and identified sub clauses are specified in Table 6.2.4-1 along with the allowed A-MPR values that may be used to meet these requirements. The allowed A-MPR values specified below in Table 6.2.4-1 to 6.2.4-15 are in addition to the allowed MPR requirements specified in sub clause 6.2.3.

**Table 6.2.4-1: Additional Maximum Power Reduction (A-MPR)**

| Network Signalling value | Requirements (subclause) | E-UTRA Band              | Channel bandwidth (MHz) | Resources Blocks ( $N_{RB}$ )                  | A-MPR (dB) |
|--------------------------|--------------------------|--------------------------|-------------------------|------------------------------------------------|------------|
| NS_01                    | 6.6.2.1.1                | Table 5.5-1              | 1.4, 3, 5, 10, 15, 20   | Table 5.6-1                                    | N/A        |
| NS_03                    | 6.6.2.2.1                | 2, 4, 10, 23, 25, 35, 36 | 3                       | >5                                             | $\leq 1$   |
|                          |                          |                          | 5                       | >6                                             | $\leq 1$   |
|                          |                          |                          | 10                      | >6                                             | $\leq 1$   |
|                          |                          |                          | 15                      | >8                                             | $\leq 1$   |
|                          |                          |                          | 20                      | >10                                            | $\leq 1$   |
| NS_04                    | 6.6.2.2.2                | 41                       | 5                       | >6                                             | $\leq 1$   |
|                          |                          |                          | 10, 15, 20              | Table 6.2.4-4                                  |            |
| NS_05                    | 6.6.3.3.1                | 1                        | 10, 15, 20              | $\geq 50$                                      | $\leq 1$   |
| NS_06                    | 6.6.2.2.3                | 12, 13, 14, 17           | 1.4, 3, 5, 10           | Table 5.6-1                                    | N/A        |
| NS_07                    | 6.6.2.2.3<br>6.6.3.3.2   | 13                       | 10                      | Table 6.2.4-2                                  |            |
| NS_08                    | 6.6.3.3.3                | 19                       | 10, 15                  | > 44                                           | $\leq 3$   |
|                          |                          |                          |                         | > 40                                           | $\leq 1$   |
|                          |                          |                          |                         | > 55                                           | $\leq 2$   |
| NS_09                    | 6.6.3.3.4                | 21                       | 10, 15                  | Table 6.2.4-3                                  |            |
| NS_10                    |                          | 20                       | 15, 20                  |                                                |            |
| NS_11                    | 6.6.2.2.1                | 23                       | 1.4, 3, 5, 10, 15, 20   | Table 6.2.4-5                                  |            |
| NS_12                    | 6.6.3.3.5                | 26                       | 1.4, 3, 5               | Table 6.2.4-6                                  |            |
| NS_13                    | 6.6.3.3.6                | 26                       | 5                       | Table 6.2.4-7                                  |            |
| NS_14                    | 6.6.3.3.7                | 26                       | 10, 15                  | Table 6.2.4-8                                  |            |
| NS_15                    | 6.6.3.3.8                | 26                       | 1.4, 3, 5, 10, 15       | Table 6.2.4-9                                  |            |
|                          |                          |                          |                         | Table 6.2.4-10                                 |            |
| NS_16                    | 6.6.3.3.9                | 27                       | 3, 5, 10                | Table 6.2.4-11, Table 6.2.4-12, Table 6.2.4-13 |            |
| NS_17                    | 6.6.3.3.10               | 28                       | 5, 10                   | Table 5.6-1                                    | N/A        |
| NS_18                    | 6.6.3.3.11               | 28                       | 5                       | $\geq 2$                                       | $\leq 1$   |
|                          |                          |                          | 10, 15, 20              | $\geq 1$                                       | $\leq 4$   |
| NS_19                    | 6.6.3.3.12               | 44                       | 10, 15, 20              | Table 6.2.4-14                                 |            |
| NS_20                    | 6.2.2                    | 23                       | 5, 10, 15, 20           | Table 6.2.4-15                                 |            |
|                          | 6.6.2.2.1                |                          |                         |                                                |            |
|                          | 6.6.3.2                  |                          |                         |                                                |            |
| ...                      |                          |                          |                         |                                                |            |
| NS_32                    | -                        | -                        | -                       | -                                              | -          |

## TDD-LTE

LTE TDD Band 41 supports 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations and Table 4.2-1 for Special subframe configurations.

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

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

Table 4.2-2: Uplink-downlink configurations.

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

Calculated Duty Cycle

| Uplink-Downlink Configuration | Downlink-to-Uplink Switch-point Periodicity | Subframe Number |   |   |   |   |   |   |   |   |   | Calculated Duty Cycle (%) |
|-------------------------------|---------------------------------------------|-----------------|---|---|---|---|---|---|---|---|---|---------------------------|
|                               |                                             | 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |                           |
| 0                             | 5 ms                                        | D               | S | U | U | U | D | S | U | U | U | 63.33                     |
| 1                             | 5 ms                                        | D               | S | U | U | D | D | S | U | U | D | 43.33                     |
| 2                             | 5 ms                                        | D               | S | U | D | D | D | S | U | D | D | 23.33                     |
| 3                             | 10 ms                                       | D               | S | U | U | U | D | D | D | D | D | 31.67                     |
| 4                             | 10 ms                                       | D               | S | U | U | D | D | D | D | D | D | 21.67                     |
| 5                             | 10 ms                                       | D               | S | U | D | D | D | D | D | D | D | 11.67                     |
| 6                             | 5 ms                                        | D               | S | U | U | U | D | S | U | U | D | 53.33                     |

We used configuration 0 for LTE Band 38/41 SAR test, that is 63.33%(1:1.58)for duty cycle.

### 7.3 Maximum Target Output Power

| Mode/Band          | Max Target Power(dBm) |        |      |            |
|--------------------|-----------------------|--------|------|------------|
|                    | Channel               |        |      |            |
|                    | Low                   | Middle | High | Additional |
| GSM 850            | 33.5                  | 33.5   | 33.5 | /          |
| GPRS 1 TX Slot     | 33.5                  | 33.5   | 33.5 | /          |
| GPRS 2 TX Slot     | 32.1                  | 32.1   | 32.1 | /          |
| GPRS 3 TX Slot     | 30                    | 30     | 30   | /          |
| GPRS 4 TX Slot     | 29                    | 29     | 29   | /          |
| EDGE 1 TX Slot     | 28                    | 28     | 28   | /          |
| EDGE 2 TX Slot     | 27                    | 27     | 27   | /          |
| EDGE 3 TX Slot     | 25                    | 25     | 25   | /          |
| EDGE 4 TX Slot     | 23.5                  | 23.5   | 23.5 | /          |
| PCS 1900           | 29.5                  | 29.5   | 29.5 | /          |
| GPRS 1 TX Slot     | 29.5                  | 29.5   | 29.5 | /          |
| GPRS 2 TX Slot     | 28.5                  | 28.5   | 28.5 | /          |
| GPRS 3 TX Slot     | 26.5                  | 26.5   | 26.5 | /          |
| GPRS 4 TX Slot     | 25.5                  | 25.5   | 25.5 | /          |
| EDGE 1 TX Slot     | 26.5                  | 26.5   | 26.5 | /          |
| EDGE 2 TX Slot     | 25.5                  | 25.5   | 25.5 | /          |
| EDGE 3 TX Slot     | 23.5                  | 23.5   | 23.5 | /          |
| EDGE 4 TX Slot     | 22.5                  | 22.5   | 22.5 | /          |
| WCDMA Band 2       | 23.5                  | 23.5   | 23.5 | /          |
| HSDPA              | 21.5                  | 21.5   | 21.5 | /          |
| HSUPA              | 21                    | 21     | 21   | /          |
| WCDMA Band 4       | 22.5                  | 22.5   | 22.5 | /          |
| HSDPA              | 21.5                  | 21.5   | 21.5 | /          |
| HSUPA              | 20.5                  | 20.5   | 20.5 | /          |
| WCDMA Band 5       | 24                    | 24     | 24   | /          |
| HSDPA              | 22.5                  | 22.5   | 22.5 | /          |
| HSUPA              | 22                    | 22     | 22   | /          |
| LTE Band 2 1RB     | 23                    | 24     | 23.5 | /          |
| LTE Band 2 50%RB   | 22.5                  | 22.5   | 22.5 | /          |
| LTE Band 2 100%RB  | 22.5                  | 22.5   | 22.5 | /          |
| LTE Band 4 1RB     | 24                    | 24     | 24.5 | /          |
| LTE Band 4 50%RB   | 23                    | 23     | 23   | /          |
| LTE Band 4 100%RB  | 23                    | 23     | 23   | /          |
| LTE Band 5 1RB     | 24.5                  | 24.5   | 24.5 | /          |
| LTE Band 5 50%RB   | 23                    | 23     | 23   | /          |
| LTE Band 5 100%RB  | 23                    | 23     | 23   | /          |
| LTE Band 7 1RB     | 23.5                  | 23.5   | 23.5 | /          |
| LTE Band 7 50%RB   | 22.5                  | 22.5   | 22.5 | /          |
| LTE Band 7 100%RB  | 22.5                  | 22.5   | 22.5 | /          |
| LTE Band 12 1RB    | 24.5                  | 24.5   | 24.5 | /          |
| LTE Band 12 50%RB  | 23.5                  | 23.5   | 23.5 | /          |
| LTE Band 12 100%RB | 23                    | 23     | 23   | /          |
| LTE Band 17 1RB    | 24.5                  | 24.5   | 24.5 | /          |
| LTE Band 17 50%RB  | 23.5                  | 23.5   | 23.5 | /          |

| Mode/Band             | Max Target Power(dBm) |        |      |            |
|-----------------------|-----------------------|--------|------|------------|
|                       | Channel               |        |      |            |
|                       | Low                   | Middle | High | Additional |
| LTE Band 17 100%RB    | 23                    | 23     | 23   | /          |
| LTE Band 26 1RB       | 24.5                  | 24.5   | 24.5 | /          |
| LTE Band 26 50%RB     | 23                    | 23     | 23   | /          |
| LTE Band 26 100%RB    | 23                    | 23     | 23   | /          |
| LTE Band 38 1RB       | 24.1                  | 24.1   | 24.1 | /          |
| LTE Band 38 50%RB     | 23                    | 23     | 23   | /          |
| LTE Band 38 100%RB    | 22.5                  | 22.5   | 22.5 | /          |
| LTE Band 41 1RB       | 24.1                  | 24.1   | 24.1 | 24.1       |
| LTE Band 41 50%RB     | 23                    | 23     | 23   | 23         |
| LTE Band 41 100%RB    | 22.5                  | 22.5   | 22.5 | 22.5       |
| LTE Band 66 1RB       | 24                    | 24     | 24.5 | /          |
| LTE Band 66 50%RB     | 23                    | 23     | 23   | /          |
| LTE Band 66 100%RB    | 23                    | 23     | 23   | /          |
| WLAN 2.4G(802.11b)    | 14.5                  | 15.5   | 13.5 | /          |
| WLAN 2.4G(802.11g)    | 14                    | 15     | 13.5 | /          |
| WLAN 2.4G(802.11n20)  | 13                    | 14     | 12.5 | /          |
| WLAN 2.4G(802.11n40)  | 12                    | 13.5   | 12.5 | /          |
| WLAN 5.2G(802.11a)    | 16                    | 16     | 16   | /          |
| WLAN 5.2G(802.11n20)  | 16                    | 16     | 16   | /          |
| WLAN 5.2G(802.11n40)  | 13.5                  | /      | 13.5 | /          |
| WLAN 5.2G(802.11ac80) | /                     | 14.5   | /    | /          |
| WLAN 5.3G(802.11a)    | 16                    | 16     | 16.5 | /          |
| WLAN 5.3G(802.11n20)  | 16                    | 16     | 16.5 | /          |
| WLAN 5.3G(802.11n40)  | 14                    | /      | 14   | /          |
| WLAN 5.3G(802.11ac80) | /                     | 15     | /    | /          |
| WLAN 5.6G(802.11a)    | 17.5                  | 17.5   | 17.5 | 15.5       |
| WLAN 5.6G(802.11n20)  | 17.5                  | 17.5   | 17.5 | 16         |
| WLAN 5.6G(802.11n40)  | 15.5                  | 15.5   | 15.5 | 14.5       |
| WLAN 5.6G(802.11ac80) | 16.5                  | /      | 16.5 | 16.5       |
| WLAN 5.8G(802.11a)    | 17.5                  | 17.5   | 17.5 | /          |
| WLAN 5.8G(802.11n20)  | 17.5                  | 17.5   | 17.5 | /          |
| WLAN 5.8G(802.11n40)  | 15                    | /      | 15   | /          |
| WLAN 5.8G(802.11ac80) | /                     | 16     | /    | /          |
| BT (GFSK)             | 2                     | 2.5    | -0.5 | /          |
| BT ( $\pi/4$ -DQPSK)  | 2                     | 2.5    | -1   | /          |
| BT (8DPSK)            | 2                     | 3      | -0.5 | /          |
| BLE 1M                | 2                     | 2      | -1   | /          |
| PTT_FM 12.5kHz        | 36.8                  | 36.8   | 36.8 | /          |
| PTT_4FSK 12.5kHz      | 36.8                  | 36.8   | 36.8 | /          |

Note:

1. The Maximum Target Power for LTE bands corresponds to their maximum power in QPSK modes with maximum bandwidth.
2. The additional channel frequency of LTE Band 41 is 2549.5MHz/2636.5MHz, the additional channel frequency of WLAN 5.6G is 5720MHz/5710MHz/5690MHz.

**7.4 Test Results:****GSM:**

| Band     | Channel No. | Frequency (MHz) | RF Output Power (dBm) |
|----------|-------------|-----------------|-----------------------|
| GSM 850  | 251         | 848.8           | 32.92                 |
|          | 128         | 824.2           | <b>33.11</b>          |
|          | 190         | 836.6           | 33.08                 |
| PCS 1900 | 810         | 1909.8          | 29.28                 |
|          | 512         | 1850.2          | <b>29.34</b>          |
|          | 661         | 1880            | 29.21                 |

**GPRS:**

| Band     | Channel No. | Frequency (MHz) | RF Output Power (dBm) |         |         |         |
|----------|-------------|-----------------|-----------------------|---------|---------|---------|
|          |             |                 | 1 slot                | 2 slots | 3 slots | 4 slots |
| GSM 850  | 128         | 824.2           | 32.98                 | 31.74   | 29.50   | 28.28   |
|          | 190         | 836.6           | 33.12                 | 31.92   | 29.79   | 28.71   |
|          | 251         | 848.8           | <b>33.14</b>          | 32.01   | 29.69   | 28.57   |
| PCS 1900 | 512         | 1850.2          | <b>29.37</b>          | 28.27   | 26.21   | 25.10   |
|          | 661         | 1880            | 29.29                 | 28.40   | 26.34   | 25.22   |
|          | 810         | 1909.8          | 29.10                 | 28.25   | 26.23   | 25.05   |

**EDGE:**

| Band     | Channel No. | Frequency (MHz) | RF Output Power (dBm) |         |         |         |
|----------|-------------|-----------------|-----------------------|---------|---------|---------|
|          |             |                 | 1 slot                | 2 slots | 3 slots | 4 slots |
| GSM 850  | 128         | 824.2           | 27.69                 | 26.52   | 24.49   | 23.12   |
|          | 190         | 836.6           | 27.58                 | 26.55   | 24.53   | 23.19   |
|          | 251         | 848.8           | <b>27.73</b>          | 26.54   | 24.35   | 23.32   |
| PCS 1900 | 512         | 1850.2          | 26.13                 | 25.10   | 22.97   | 21.94   |
|          | 661         | 1880            | <b>26.43</b>          | 25.45   | 23.17   | 22.06   |
|          | 810         | 1909.8          | 26.27                 | 25.22   | 23.15   | 21.97   |

**For SAR, the time based average power is relevant, the difference in between depends on the duty cycle of the TDMA signal.**

| Number of Time slot                                  | 1     | 2     | 3        | 4     |
|------------------------------------------------------|-------|-------|----------|-------|
| Duty Cycle                                           | 1:8   | 1:4   | 1:2.66   | 1:2   |
| Time based Ave. power compared to slotted Ave. power | -9 dB | -6 dB | -4.25 dB | -3 dB |
| Crest Factor                                         | 8     | 4     | 2.66     | 2     |

**The time based average power for GSM**

| Band     | Channel No. | Frequency (MHz) | RF Output Power (dBm) |
|----------|-------------|-----------------|-----------------------|
| GSM 850  | 251         | 848.8           | 23.92                 |
|          | 128         | 824.2           | 24.11                 |
|          | 190         | 836.6           | 24.08                 |
| PCS 1900 | 810         | 1909.8          | 20.28                 |
|          | 512         | 1850.2          | 20.34                 |
|          | 661         | 1880            | 20.21                 |

**The time based average power for GPRS**

| Band     | Channel No. | Frequency (MHz) | RF Output Power (dBm) |              |         |         |
|----------|-------------|-----------------|-----------------------|--------------|---------|---------|
|          |             |                 | 1 slot                | 2 slots      | 3 slots | 4 slots |
| GSM 850  | 128         | 824.2           | 23.98                 | 25.74        | 25.25   | 25.28   |
|          | 190         | 836.6           | 24.12                 | 25.92        | 25.54   | 25.71   |
|          | 251         | 848.8           | 24.14                 | <b>26.01</b> | 25.44   | 25.57   |
| PCS 1900 | 512         | 1850.2          | 20.37                 | 22.27        | 21.96   | 22.10   |
|          | 661         | 1880            | 20.29                 | <b>22.40</b> | 22.09   | 22.22   |
|          | 810         | 1909.8          | 20.10                 | 22.25        | 21.98   | 22.05   |

**The time based average power for EDGE**

| Band     | Channel No. | Frequency (MHz) | RF Output Power (dBm) |         |         |         |
|----------|-------------|-----------------|-----------------------|---------|---------|---------|
|          |             |                 | 1 slot                | 2 slots | 3 slots | 4 slots |
| GSM 850  | 128         | 824.2           | 18.69                 | 20.52   | 20.24   | 20.12   |
|          | 190         | 836.6           | 18.58                 | 20.55   | 20.28   | 20.19   |
|          | 251         | 848.8           | 18.73                 | 20.54   | 20.10   | 20.32   |
| PCS 1900 | 512         | 1850.2          | 17.13                 | 19.10   | 18.72   | 18.94   |
|          | 661         | 1880            | 17.43                 | 19.45   | 18.92   | 19.06   |
|          | 810         | 1909.8          | 17.27                 | 19.22   | 18.90   | 18.97   |

**Note:**

1. Radio Communication Tester (8960) was used for the measurement of GSM peak and average output power for active timeslots.
2. For GSM voice, 1 timeslot has been activated with power level 5 (850 MHz band) and 0 (1900 MHz band).
3. For GPRS, 1, 2, 3 and 4 timeslots has been activated separately with power level 3(850 MHz band) and 3(1900 MHz band).

MHz band).

4. For EGPRS, 1, 2, 3 and 4 timeslots has been activated separately with power level 6(850 MHz band) and 5(1900 MHz band).

5. According to KDB941225D01-SAR for EGPRS mode are not required when the source-based time-averaged output power for data mode is lower than that in the normal GPRS mode.

**WCDMA:****WCDMA Band 2:**

| Test Mode      | Conducted Average Output Power(dBm) |                |                 |
|----------------|-------------------------------------|----------------|-----------------|
|                | Lowest Channel                      | Middle Channel | Highest Channel |
| WCDMA          | 22.97                               | 23.05          | 23.06           |
| HSDPA Subset 1 | 21.00                               | 21.04          | 21.05           |
| HSDPA Subset 2 | 21.03                               | 21.13          | 20.86           |
| HSDPA Subset 3 | 21.10                               | 21.03          | 20.80           |
| HSDPA Subset 4 | 20.96                               | 21.05          | 21.00           |
| HSUPA Subset 1 | 20.51                               | 20.62          | 20.35           |
| HSUPA Subset 2 | 20.58                               | 20.59          | 20.41           |
| HSUPA Subset 3 | 20.47                               | 20.63          | 20.40           |
| HSUPA Subset 4 | 20.60                               | 20.62          | 20.48           |
| HSUPA Subset 5 | 20.58                               | 20.55          | 20.51           |

**WCDMA Band 4:**

| Test Mode      | Conducted Average Output Power(dBm) |                |                 |
|----------------|-------------------------------------|----------------|-----------------|
|                | Lowest Channel                      | Middle Channel | Highest Channel |
| WCDMA          | 22.41                               | 22.38          | 22.23           |
| HSDPA Subset 1 | 20.97                               | 20.54          | 20.65           |
| HSDPA Subset 2 | 20.88                               | 20.73          | 20.74           |
| HSDPA Subset 3 | 20.80                               | 20.72          | 20.63           |
| HSDPA Subset 4 | 20.73                               | 20.54          | 20.52           |
| HSUPA Subset 1 | 20.21                               | 20.02          | 19.86           |
| HSUPA Subset 2 | 20.04                               | 20.06          | 19.95           |
| HSUPA Subset 3 | 20.16                               | 19.95          | 19.93           |
| HSUPA Subset 4 | 20.06                               | 20.06          | 19.79           |
| HSUPA Subset 5 | 20.16                               | 20.00          | 19.91           |

**WCDMA Band 5:**

| Test Mode      | Conducted Average Output Power(dBm) |                |                 |
|----------------|-------------------------------------|----------------|-----------------|
|                | Lowest Channel                      | Middle Channel | Highest Channel |
| WCDMA          | 23.81                               | 23.56          | 23.50           |
| HSDPA Subset 1 | 22.19                               | 22.09          | 21.89           |
| HSDPA Subset 2 | 22.20                               | 22.20          | 21.97           |
| HSDPA Subset 3 | 22.28                               | 22.07          | 22.05           |
| HSDPA Subset 4 | 22.15                               | 22.03          | 21.99           |
| HSUPA Subset 1 | 21.89                               | 21.63          | 21.62           |
| HSUPA Subset 2 | 21.70                               | 21.74          | 21.60           |
| HSUPA Subset 3 | 21.72                               | 21.60          | 21.61           |
| HSUPA Subset 4 | 21.88                               | 21.64          | 21.71           |
| HSUPA Subset 5 | 21.82                               | 21.68          | 21.71           |

**Note:**

1. The default test configuration is to measure SAR with an established radio link between the EUT and a communication test set using a 12.2 kbps RMC (reference measurement Channel) Configured in All 1.
2. KDB 941225 D01-Body SAR is not required for HSDPA/HSUPA when the maximum average output of each RF channel is less than ¼ dB higher than measured 12.2kbps RMC or the maximum SAR for 12.2kbps RMC is < 75% of SAR limit.

**LTE Band 2:**

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 1.4M           | QPSK            | RB1#0                      | 22.98             | 22.86                | 22.91              |
|                |                 | RB1#3                      | 23.25             | 23.01                | 23.33              |
|                |                 | RB1#5                      | 23.24             | 23.08                | 23.21              |
|                |                 | RB3#0                      | 22.78             | 22.97                | 22.89              |
|                |                 | RB3#1                      | 23.02             | 23.17                | 23.12              |
|                |                 | RB3#3                      | 22.91             | 22.78                | 23.16              |
|                |                 | RB6#0                      | 21.81             | 22.11                | 22.02              |
|                | 16QAM           | RB1#0                      | 21.57             | 21.88                | 21.75              |
|                |                 | RB1#3                      | 22.15             | 21.97                | 22.00              |
|                |                 | RB1#5                      | 21.56             | 21.88                | 21.89              |
|                |                 | RB3#0                      | 22.05             | 22.31                | 22.23              |
|                |                 | RB3#1                      | 21.92             | 22.19                | 22.18              |
|                |                 | RB3#3                      | 21.99             | 22.09                | 21.94              |
|                |                 | RB6#0                      | 20.91             | 21.52                | 20.97              |
| 3M             | QPSK            | RB1#0                      | 22.63             | 22.88                | 23.13              |
|                |                 | RB1#8                      | 22.61             | 23.02                | 22.93              |
|                |                 | RB1#14                     | 23.06             | 23.09                | 23.51              |
|                |                 | RB8#0                      | 21.83             | 22.21                | 22.11              |
|                |                 | RB8#4                      | 22.04             | 21.95                | 22.10              |
|                |                 | RB8#7                      | 22.02             | 21.98                | 22.13              |
|                |                 | RB15#0                     | 21.84             | 22.03                | 22.01              |
|                | 16QAM           | RB1#0                      | 21.52             | 22.38                | 22.64              |
|                |                 | RB1#8                      | 21.64             | 22.09                | 22.33              |
|                |                 | RB1#14                     | 21.77             | 22.35                | 21.72              |
|                |                 | RB8#0                      | 20.99             | 21.24                | 21.06              |
|                |                 | RB8#4                      | 20.77             | 20.73                | 21.13              |
|                |                 | RB8#7                      | 21.05             | 21.25                | 21.40              |
|                |                 | RB15#0                     | 20.93             | 21.19                | 21.08              |
| 5M             | QPSK            | RB1#0                      | 22.66             | 23.04                | 22.85              |
|                |                 | RB1#12                     | 22.99             | 22.99                | 23.23              |
|                |                 | RB1#24                     | 22.87             | 23.21                | 23.05              |
|                |                 | RB12#0                     | 21.85             | 22.18                | 21.97              |
|                |                 | RB12#7                     | 21.95             | 22.20                | 22.06              |
|                |                 | RB12#13                    | 21.93             | 22.20                | 22.20              |
|                |                 | RB25#0                     | 22.09             | 22.17                | 22.19              |
|                | 16QAM           | RB1#0                      | 21.37             | 21.46                | 21.70              |
|                |                 | RB1#12                     | 21.95             | 21.41                | 22.54              |
|                |                 | RB1#24                     | 21.79             | 21.78                | 21.94              |
|                |                 | RB12#0                     | 20.98             | 21.42                | 20.97              |
|                |                 | RB12#7                     | 21.05             | 21.27                | 20.91              |
|                |                 | RB12#13                    | 21.03             | 21.39                | 21.37              |
|                |                 | RB25#0                     | 21.12             | 21.31                | 21.37              |

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 10M            | QPSK            | RB1#0                      | 22.74             | 22.64                | 22.63              |
|                |                 | RB1#25                     | 22.97             | 23.88                | 23.74              |
|                |                 | RB1#49                     | 22.59             | 23.06                | 23.35              |
|                |                 | RB25#0                     | 21.90             | 21.95                | 21.88              |
|                |                 | RB25#12                    | 21.83             | 22.13                | 21.96              |
|                |                 | RB25#25                    | 21.82             | 22.18                | 22.17              |
|                |                 | RB50#0                     | 21.78             | 21.96                | 22.04              |
|                | 16QAM           | RB1#0                      | 21.70             | 21.56                | 21.86              |
|                |                 | RB1#25                     | 21.74             | 22.56                | 22.44              |
|                |                 | RB1#49                     | 21.61             | 22.23                | 21.91              |
|                |                 | RB25#0                     | 21.06             | 21.10                | 21.06              |
|                |                 | RB25#12                    | 21.18             | 21.10                | 21.11              |
|                |                 | RB25#25                    | 21.03             | 21.18                | 21.25              |
|                |                 | RB50#0                     | 20.94             | 21.03                | 21.03              |
| 15M            | QPSK            | RB1#0                      | 22.85             | 22.60                | 22.67              |
|                |                 | RB1#37                     | 23.34             | 23.74                | 23.08              |
|                |                 | RB1#74                     | 22.93             | 23.03                | 23.54              |
|                |                 | RB36#0                     | 22.00             | 22.14                | 21.83              |
|                |                 | RB36#20                    | 21.77             | 22.24                | 22.05              |
|                |                 | RB36#39                    | 21.84             | 22.08                | 21.99              |
|                |                 | RB75#0                     | 21.91             | 21.94                | 21.95              |
|                | 16QAM           | RB1#0                      | 22.24             | 21.54                | 22.12              |
|                |                 | RB1#37                     | 22.67             | 22.89                | 22.27              |
|                |                 | RB1#74                     | 21.89             | 22.77                | 21.71              |
|                |                 | RB36#0                     | 20.94             | 21.13                | 20.81              |
|                |                 | RB36#20                    | 20.87             | 21.32                | 20.91              |
|                |                 | RB36#39                    | 20.81             | 21.01                | 21.14              |
|                |                 | RB75#0                     | 20.82             | 21.09                | 20.71              |
| 20M            | QPSK            | RB1#0                      | 22.62             | 22.58                | 22.66              |
|                |                 | RB1#49                     | 22.78             | 23.56                | 23.09              |
|                |                 | RB1#99                     | 22.34             | 22.73                | 23.12              |
|                |                 | RB50#0                     | 22.08             | 22.11                | 21.78              |
|                |                 | RB50#24                    | 21.97             | 22.27                | 21.92              |
|                |                 | RB50#50                    | 22.01             | 22.12                | 22.06              |
|                |                 | RB100#0                    | 21.99             | 22.07                | 21.94              |
|                | 16QAM           | RB1#0                      | 21.25             | 21.82                | 22.07              |
|                |                 | RB1#49                     | 22.34             | 22.25                | 21.59              |
|                |                 | RB1#99                     | 21.64             | 21.97                | 22.08              |
|                |                 | RB50#0                     | 21.07             | 21.13                | 20.58              |
|                |                 | RB50#24                    | 21.12             | 21.22                | 20.75              |
|                |                 | RB50#50                    | 20.79             | 21.20                | 20.98              |
|                |                 | RB100#0                    | 21.06             | 21.04                | 21.00              |

**LTE Band 4:**

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 1.4M           | QPSK            | RB1#0                      | 22.47             | 22.36                | 22.59              |
|                |                 | RB1#3                      | 22.81             | 22.72                | 22.73              |
|                |                 | RB1#5                      | 22.52             | 22.71                | 22.75              |
|                |                 | RB3#0                      | 22.47             | 22.50                | 22.73              |
|                |                 | RB3#1                      | 22.54             | 22.52                | 22.77              |
|                |                 | RB3#3                      | 22.51             | 22.43                | 22.72              |
|                |                 | RB6#0                      | 21.69             | 21.61                | 21.73              |
|                | 16QAM           | RB1#0                      | 21.68             | 21.44                | 21.34              |
|                |                 | RB1#3                      | 21.44             | 21.37                | 21.31              |
|                |                 | RB1#5                      | 21.19             | 21.26                | 21.37              |
|                |                 | RB3#0                      | 21.69             | 21.49                | 21.70              |
|                |                 | RB3#1                      | 21.66             | 21.65                | 21.82              |
|                |                 | RB3#3                      | 21.41             | 21.52                | 21.92              |
|                |                 | RB6#0                      | 20.21             | 20.46                | 20.88              |
| 3M             | QPSK            | RB1#0                      | 22.45             | 22.64                | 22.47              |
|                |                 | RB1#8                      | 22.23             | 22.40                | 22.66              |
|                |                 | RB1#14                     | 22.64             | 22.54                | 22.85              |
|                |                 | RB8#0                      | 21.44             | 21.41                | 21.57              |
|                |                 | RB8#4                      | 21.49             | 21.54                | 21.50              |
|                |                 | RB8#7                      | 21.57             | 21.57                | 21.62              |
|                |                 | RB15#0                     | 21.44             | 21.43                | 21.52              |
|                | 16QAM           | RB1#0                      | 21.29             | 21.63                | 21.05              |
|                |                 | RB1#8                      | 21.15             | 21.48                | 21.55              |
|                |                 | RB1#14                     | 21.42             | 21.52                | 21.10              |
|                |                 | RB8#0                      | 20.55             | 20.50                | 20.63              |
|                |                 | RB8#4                      | 20.39             | 20.30                | 20.61              |
|                |                 | RB8#7                      | 20.19             | 20.56                | 20.64              |
|                |                 | RB15#0                     | 20.46             | 20.61                | 20.57              |
| 5M             | QPSK            | RB1#0                      | 22.31             | 22.58                | 22.23              |
|                |                 | RB1#12                     | 22.63             | 22.74                | 22.42              |
|                |                 | RB1#24                     | 22.67             | 22.70                | 22.90              |
|                |                 | RB12#0                     | 21.65             | 21.50                | 21.68              |
|                |                 | RB12#7                     | 21.51             | 21.44                | 21.61              |
|                |                 | RB12#13                    | 21.53             | 21.39                | 21.72              |
|                |                 | RB25#0                     | 21.63             | 21.47                | 21.66              |
|                | 16QAM           | RB1#0                      | 21.19             | 20.64                | 21.46              |
|                |                 | RB1#12                     | 21.00             | 20.61                | 21.06              |
|                |                 | RB1#24                     | 21.02             | 20.91                | 21.35              |
|                |                 | RB12#0                     | 20.58             | 20.43                | 20.52              |
|                |                 | RB12#7                     | 20.54             | 20.54                | 20.27              |
|                |                 | RB12#13                    | 20.74             | 20.50                | 20.64              |
|                |                 | RB25#0                     | 20.59             | 20.76                | 20.63              |

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 10M            | QPSK            | RB1#0                      | 22.57             | 22.66                | 23.04              |
|                |                 | RB1#25                     | 22.60             | 22.78                | 22.99              |
|                |                 | RB1#49                     | 22.50             | 22.73                | 22.95              |
|                |                 | RB25#0                     | 21.70             | 21.47                | 21.78              |
|                |                 | RB25#12                    | 21.53             | 21.38                | 21.73              |
|                |                 | RB25#25                    | 21.55             | 21.70                | 21.55              |
|                |                 | RB50#0                     | 21.73             | 21.43                | 21.48              |
|                | 16QAM           | RB1#0                      | 21.26             | 21.66                | 21.66              |
|                |                 | RB1#25                     | 21.39             | 21.71                | 21.93              |
|                |                 | RB1#49                     | 21.27             | 21.70                | 21.90              |
|                |                 | RB25#0                     | 20.95             | 20.65                | 20.96              |
|                |                 | RB25#12                    | 20.93             | 20.54                | 20.89              |
|                |                 | RB25#25                    | 21.02             | 20.53                | 20.80              |
|                |                 | RB50#0                     | 20.73             | 20.60                | 20.66              |
| 15M            | QPSK            | RB1#0                      | 22.44             | 22.60                | 22.64              |
|                |                 | RB1#37                     | 22.82             | 23.09                | 22.75              |
|                |                 | RB1#74                     | 22.44             | 22.58                | 23.03              |
|                |                 | RB36#0                     | 21.45             | 22.17                | 21.68              |
|                |                 | RB36#20                    | 21.54             | 22.23                | 21.66              |
|                |                 | RB36#39                    | 21.53             | 22.26                | 21.57              |
|                |                 | RB75#0                     | 22.15             | 21.38                | 21.74              |
|                | 16QAM           | RB1#0                      | 22.64             | 22.89                | 21.86              |
|                |                 | RB1#37                     | 21.86             | 21.13                | 22.06              |
|                |                 | RB1#74                     | 21.76             | 21.65                | 21.96              |
|                |                 | RB36#0                     | 20.61             | 20.70                | 20.87              |
|                |                 | RB36#20                    | 20.51             | 20.43                | 20.58              |
|                |                 | RB36#39                    | 20.56             | 20.59                | 20.53              |
|                |                 | RB75#0                     | 20.53             | 20.35                | 20.55              |
| 20M            | QPSK            | RB1#0                      | 22.27             | 22.26                | 23.20              |
|                |                 | RB1#49                     | 22.50             | 22.79                | 22.83              |
|                |                 | RB1#99                     | 22.61             | 22.46                | 22.92              |
|                |                 | RB50#0                     | 21.72             | 21.54                | 21.82              |
|                |                 | RB50#24                    | 21.56             | 21.65                | 22.32              |
|                |                 | RB50#50                    | 21.69             | 21.71                | 21.52              |
|                |                 | RB100#0                    | 21.55             | 21.72                | 21.85              |
|                | 16QAM           | RB1#0                      | 21.21             | 21.10                | 21.68              |
|                |                 | RB1#49                     | 21.41             | 21.75                | 21.63              |
|                |                 | RB1#99                     | 21.24             | 21.28                | 21.60              |
|                |                 | RB50#0                     | 20.71             | 20.55                | 20.74              |
|                |                 | RB50#24                    | 20.67             | 20.72                | 20.78              |
|                |                 | RB50#50                    | 20.56             | 20.77                | 20.64              |
|                |                 | RB100#0                    | 20.59             | 20.61                | 20.60              |

**LTE Band 5:**

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 1.4M           | QPSK            | RB1#0                      | 23.08             | 23.07                | 22.60              |
|                |                 | RB1#3                      | 23.09             | 22.97                | 22.52              |
|                |                 | RB1#5                      | 23.07             | 23.04                | 22.53              |
|                |                 | RB3#0                      | 23.17             | 23.04                | 22.53              |
|                |                 | RB3#1                      | 23.24             | 23.07                | 22.54              |
|                |                 | RB3#3                      | 22.94             | 23.03                | 22.59              |
|                |                 | RB6#0                      | 22.00             | 22.02                | 21.60              |
|                | 16QAM           | RB1#0                      | 21.72             | 21.82                | 21.09              |
|                |                 | RB1#3                      | 21.81             | 22.12                | 21.42              |
|                |                 | RB1#5                      | 21.76             | 22.33                | 21.29              |
|                |                 | RB3#0                      | 21.97             | 22.31                | 21.90              |
|                |                 | RB3#1                      | 21.94             | 22.29                | 21.65              |
|                |                 | RB3#3                      | 21.81             | 22.24                | 21.58              |
|                |                 | RB6#0                      | 21.31             | 20.84                | 20.43              |
| 3M             | QPSK            | RB1#0                      | 22.88             | 23.08                | 22.44              |
|                |                 | RB1#8                      | 23.08             | 23.13                | 22.39              |
|                |                 | RB1#14                     | 23.01             | 23.00                | 22.38              |
|                |                 | RB8#0                      | 21.91             | 22.18                | 21.37              |
|                |                 | RB8#4                      | 22.12             | 22.23                | 21.41              |
|                |                 | RB8#7                      | 22.07             | 22.20                | 21.34              |
|                |                 | RB15#0                     | 22.08             | 22.09                | 21.52              |
|                | 16QAM           | RB1#0                      | 22.18             | 21.55                | 21.37              |
|                |                 | RB1#8                      | 21.90             | 22.36                | 21.29              |
|                |                 | RB1#14                     | 21.73             | 22.36                | 21.33              |
|                |                 | RB8#0                      | 20.69             | 21.12                | 20.42              |
|                |                 | RB8#4                      | 20.72             | 21.44                | 20.44              |
|                |                 | RB8#7                      | 20.59             | 21.06                | 20.46              |
|                |                 | RB15#0                     | 21.02             | 21.10                | 20.36              |
| 5M             | QPSK            | RB1#0                      | 22.90             | 22.86                | 22.55              |
|                |                 | RB1#12                     | 23.11             | 23.03                | 22.44              |
|                |                 | RB1#24                     | 22.79             | 22.75                | 22.50              |
|                |                 | RB12#0                     | 21.92             | 21.96                | 21.65              |
|                |                 | RB12#7                     | 21.93             | 22.03                | 21.37              |
|                |                 | RB12#13                    | 21.79             | 21.92                | 21.44              |
|                |                 | RB25#0                     | 22.06             | 22.12                | 21.65              |
|                | 16QAM           | RB1#0                      | 21.34             | 21.55                | 21.37              |
|                |                 | RB1#12                     | 21.54             | 21.85                | 21.26              |
|                |                 | RB1#24                     | 21.31             | 21.92                | 21.19              |
|                |                 | RB12#0                     | 21.03             | 21.06                | 20.75              |
|                |                 | RB12#7                     | 21.20             | 20.99                | 20.57              |
|                |                 | RB12#13                    | 20.74             | 21.11                | 20.55              |
|                |                 | RB25#0                     | 21.03             | 21.09                | 20.76              |

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 10M            | QPSK            | RB1#0                      | 22.80             | 22.87                | 23.63              |
|                |                 | RB1#25                     | 22.90             | 23.21                | 23.47              |
|                |                 | RB1#49                     | 22.94             | 23.03                | 23.19              |
|                |                 | RB25#0                     | 22.02             | 22.16                | 22.44              |
|                |                 | RB25#12                    | 21.99             | 22.06                | 22.31              |
|                |                 | RB25#25                    | 21.99             | 22.00                | 22.26              |
|                |                 | RB50#0                     | 22.11             | 22.02                | 22.41              |
|                | 16QAM           | RB1#0                      | 21.83             | 22.09                | 22.50              |
|                |                 | RB1#25                     | 21.62             | 22.66                | 22.47              |
|                |                 | RB1#49                     | 21.80             | 22.77                | 22.15              |
|                |                 | RB25#0                     | 21.13             | 21.82                | 21.67              |
|                |                 | RB25#12                    | 21.29             | 21.81                | 21.45              |
|                |                 | RB25#25                    | 21.12             | 21.63                | 21.31              |
|                |                 | RB50#0                     | 21.05             | 21.75                | 21.50              |

**LTE Band 7:**

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 5M             | QPSK            | RB1#0                      | 22.57             | 22.49                | 22.66              |
|                |                 | RB1#12                     | 22.71             | 23.10                | 22.87              |
|                |                 | RB1#24                     | 22.44             | 22.65                | 22.76              |
|                |                 | RB12#0                     | 21.76             | 21.79                | 21.49              |
|                |                 | RB12#7                     | 21.74             | 21.76                | 21.57              |
|                |                 | RB12#13                    | 21.77             | 21.67                | 21.67              |
|                |                 | RB25#0                     | 21.71             | 21.78                | 21.49              |
|                | 16QAM           | RB1#0                      | 21.68             | 21.52                | 20.68              |
|                |                 | RB1#12                     | 21.38             | 21.26                | 20.97              |
|                |                 | RB1#24                     | 21.28             | 21.21                | 20.86              |
|                |                 | RB12#0                     | 20.75             | 20.87                | 20.59              |
|                |                 | RB12#7                     | 20.54             | 20.83                | 20.49              |
|                |                 | RB12#13                    | 20.53             | 20.81                | 20.67              |
|                |                 | RB25#0                     | 20.94             | 20.81                | 20.66              |
| 10M            | QPSK            | RB1#0                      | 22.89             | 22.89                | 22.73              |
|                |                 | RB1#25                     | 22.74             | 23.02                | 22.78              |
|                |                 | RB1#49                     | 22.74             | 22.83                | 22.65              |
|                |                 | RB25#0                     | 21.91             | 21.88                | 21.77              |
|                |                 | RB25#12                    | 21.77             | 21.90                | 21.50              |
|                |                 | RB25#25                    | 21.88             | 21.84                | 21.61              |
|                |                 | RB50#0                     | 21.96             | 21.87                | 21.68              |
|                | 16QAM           | RB1#0                      | 21.61             | 22.09                | 21.91              |
|                |                 | RB1#25                     | 21.62             | 21.88                | 21.60              |
|                |                 | RB1#49                     | 21.58             | 21.69                | 21.49              |
|                |                 | RB25#0                     | 21.01             | 21.08                | 21.00              |
|                |                 | RB25#12                    | 20.84             | 20.88                | 20.71              |
|                |                 | RB25#25                    | 21.14             | 20.90                | 20.69              |
|                |                 | RB50#0                     | 20.91             | 21.02                | 20.83              |
| 15M            | QPSK            | RB1#0                      | 23.45             | 23.11                | 23.00              |
|                |                 | RB1#37                     | 23.04             | 23.29                | 22.82              |
|                |                 | RB1#74                     | 23.39             | 23.10                | 22.78              |
|                |                 | RB36#0                     | 22.03             | 21.85                | 21.99              |
|                |                 | RB36#20                    | 21.86             | 21.84                | 21.89              |
|                |                 | RB36#39                    | 22.10             | 21.84                | 21.95              |
|                |                 | RB75#0                     | 22.00             | 21.83                | 21.64              |
|                | 16QAM           | RB1#0                      | 22.39             | 22.15                | 21.94              |
|                |                 | RB1#37                     | 21.90             | 22.51                | 22.22              |
|                |                 | RB1#74                     | 22.70             | 22.31                | 21.90              |
|                |                 | RB36#0                     | 21.16             | 20.94                | 20.82              |
|                |                 | RB36#20                    | 21.00             | 20.89                | 20.84              |
|                |                 | RB36#39                    | 21.11             | 20.90                | 20.92              |
|                |                 | RB75#0                     | 21.02             | 21.12                | 20.81              |

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 20M            | QPSK            | RB1#0                      | 22.69             | 23.36                | 22.82              |
|                |                 | RB1#49                     | 22.78             | 23.24                | 22.83              |
|                |                 | RB1#99                     | 23.03             | 23.20                | 22.91              |
|                |                 | RB50#0                     | 21.98             | 22.03                | 21.98              |
|                |                 | RB50#24                    | 21.94             | 21.85                | 21.87              |
|                |                 | RB50#50                    | 22.15             | 21.97                | 21.94              |
|                |                 | RB100#0                    | 21.94             | 22.03                | 21.81              |
|                | 16QAM           | RB1#0                      | 21.68             | 21.72                | 21.86              |
|                |                 | RB1#49                     | 21.52             | 21.63                | 21.64              |
|                |                 | RB1#99                     | 21.96             | 21.42                | 21.71              |
|                |                 | RB50#0                     | 21.10             | 21.16                | 20.76              |
|                |                 | RB50#24                    | 20.77             | 20.95                | 20.88              |
|                |                 | RB50#50                    | 21.37             | 21.03                | 20.90              |
|                |                 | RB100#0                    | 21.11             | 21.01                | 20.96              |

**LTE Band 12:**

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 1.4M           | QPSK            | RB1#0                      | 23.81             | 23.69                | 23.08              |
|                |                 | RB1#3                      | 23.96             | 23.55                | 23.32              |
|                |                 | RB1#5                      | 24.08             | 23.90                | 23.35              |
|                |                 | RB3#0                      | 23.91             | 23.68                | 23.10              |
|                |                 | RB3#1                      | 23.81             | 23.70                | 23.31              |
|                |                 | RB3#3                      | 23.80             | 23.64                | 23.46              |
|                |                 | RB6#0                      | 22.58             | 22.52                | 22.34              |
|                | 16QAM           | RB1#0                      | 22.62             | 22.13                | 21.90              |
|                |                 | RB1#3                      | 22.21             | 22.47                | 22.20              |
|                |                 | RB1#5                      | 22.28             | 22.27                | 22.33              |
|                |                 | RB3#0                      | 22.86             | 22.70                | 22.22              |
|                |                 | RB3#1                      | 23.13             | 22.59                | 22.04              |
|                |                 | RB3#3                      | 22.76             | 22.90                | 22.62              |
|                |                 | RB6#0                      | 21.75             | 21.56                | 21.60              |
| 3M             | QPSK            | RB1#0                      | 23.59             | 23.78                | 23.57              |
|                |                 | RB1#8                      | 23.72             | 23.92                | 23.18              |
|                |                 | RB1#14                     | 22.64             | 23.94                | 23.63              |
|                |                 | RB8#0                      | 22.78             | 22.42                | 22.43              |
|                |                 | RB8#4                      | 22.68             | 22.70                | 22.14              |
|                |                 | RB8#7                      | 22.63             | 22.58                | 22.26              |
|                |                 | RB15#0                     | 22.65             | 22.58                | 22.28              |
|                | 16QAM           | RB1#0                      | 22.87             | 23.16                | 22.23              |
|                |                 | RB1#8                      | 22.64             | 21.87                | 21.94              |
|                |                 | RB1#14                     | 22.59             | 22.12                | 22.33              |
|                |                 | RB8#0                      | 21.66             | 21.69                | 21.04              |
|                |                 | RB8#4                      | 21.66             | 21.76                | 21.19              |
|                |                 | RB8#7                      | 21.75             | 21.85                | 21.15              |
|                |                 | RB15#0                     | 21.70             | 21.63                | 21.28              |
| 5M             | QPSK            | RB1#0                      | 22.45             | 23.88                | 23.34              |
|                |                 | RB1#12                     | 23.64             | 23.67                | 23.40              |
|                |                 | RB1#24                     | 23.56             | 23.58                | 23.28              |
|                |                 | RB12#0                     | 22.71             | 22.65                | 22.28              |
|                |                 | RB12#7                     | 22.47             | 22.62                | 22.23              |
|                |                 | RB12#13                    | 22.44             | 22.62                | 22.34              |
|                |                 | RB25#0                     | 22.69             | 22.53                | 22.34              |
|                | 16QAM           | RB1#0                      | 22.27             | 22.59                | 21.95              |
|                |                 | RB1#12                     | 21.98             | 22.40                | 21.75              |
|                |                 | RB1#24                     | 22.35             | 22.04                | 22.12              |
|                |                 | RB12#0                     | 21.79             | 21.57                | 21.39              |
|                |                 | RB12#7                     | 21.63             | 21.52                | 21.01              |
|                |                 | RB12#13                    | 21.63             | 21.66                | 21.36              |
|                |                 | RB25#0                     | 21.84             | 21.56                | 21.31              |

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 10M            | QPSK            | RB1#0                      | 23.96             | 24.03                | 24.16              |
|                |                 | RB1#25                     | 23.95             | 24.24                | 24.05              |
|                |                 | RB1#49                     | 24.27             | 23.96                | 24.33              |
|                |                 | RB25#0                     | 23.07             | 23.05                | 23.09              |
|                |                 | RB25#12                    | 22.93             | 23.02                | 22.92              |
|                |                 | RB25#25                    | 23.19             | 23.08                | 22.98              |
|                |                 | RB50#0                     | 22.62             | 22.73                | 22.63              |
|                | 16QAM           | RB1#0                      | 22.37             | 22.44                | 22.89              |
|                |                 | RB1#25                     | 22.37             | 22.51                | 22.45              |
|                |                 | RB1#49                     | 22.23             | 22.21                | 22.60              |
|                |                 | RB25#0                     | 21.78             | 21.74                | 21.94              |
|                |                 | RB25#12                    | 21.63             | 21.65                | 21.50              |
|                |                 | RB25#25                    | 21.84             | 21.54                | 21.49              |
|                |                 | RB50#0                     | 21.62             | 21.63                | 21.53              |

**LTE Band 17:**

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 5M             | QPSK            | RB1#0                      | 23.84             | 23.65                | 23.45              |
|                |                 | RB1#12                     | 24.18             | 23.79                | 23.62              |
|                |                 | RB1#24                     | 23.68             | 23.77                | 23.57              |
|                |                 | RB12#0                     | 22.79             | 22.92                | 22.75              |
|                |                 | RB12#7                     | 22.91             | 22.78                | 22.74              |
|                |                 | RB12#13                    | 23.11             | 22.76                | 22.41              |
|                |                 | RB25#0                     | 22.98             | 22.74                | 22.82              |
|                | 16QAM           | RB1#0                      | 22.40             | 22.72                | 22.43              |
|                |                 | RB1#12                     | 22.32             | 22.74                | 22.08              |
|                |                 | RB1#24                     | 22.60             | 22.42                | 22.04              |
|                |                 | RB12#0                     | 21.83             | 21.89                | 21.69              |
|                |                 | RB12#7                     | 21.90             | 21.74                | 21.64              |
|                |                 | RB12#13                    | 22.00             | 21.59                | 21.57              |
|                |                 | RB25#0                     | 22.04             | 21.78                | 21.71              |
| 10M            | QPSK            | RB1#0                      | 24.22             | 23.90                | 23.75              |
|                |                 | RB1#25                     | 24.12             | 23.92                | 23.62              |
|                |                 | RB1#49                     | 23.79             | 23.64                | 23.24              |
|                |                 | RB25#0                     | 23.04             | 22.94                | 22.91              |
|                |                 | RB25#12                    | 23.00             | 22.76                | 22.87              |
|                |                 | RB25#25                    | 22.96             | 22.81                | 22.79              |
|                |                 | RB50#0                     | 22.80             | 22.70                | 22.94              |
|                | 16QAM           | RB1#0                      | 23.17             | 22.71                | 22.65              |
|                |                 | RB1#25                     | 22.81             | 22.78                | 22.40              |
|                |                 | RB1#49                     | 23.01             | 22.94                | 22.05              |
|                |                 | RB25#0                     | 22.02             | 22.07                | 22.10              |
|                |                 | RB25#12                    | 22.02             | 21.80                | 22.05              |
|                |                 | RB25#25                    | 21.98             | 21.98                | 21.90              |
|                |                 | RB50#0                     | 21.97             | 21.75                | 21.66              |

**LTE Band 26:**

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 1.4M           | QPSK            | RB1#0                      | 23.50             | 23.60                | 23.12              |
|                |                 | RB1#3                      | 23.83             | 23.81                | 23.49              |
|                |                 | RB1#5                      | 23.58             | 23.54                | 23.40              |
|                |                 | RB3#0                      | 23.67             | 23.41                | 23.47              |
|                |                 | RB3#1                      | 23.69             | 23.52                | 23.26              |
|                |                 | RB3#3                      | 23.62             | 23.67                | 23.60              |
|                |                 | RB6#0                      | 22.53             | 22.43                | 22.32              |
|                | 16-QAM          | RB1#0                      | 22.41             | 22.77                | 22.22              |
|                |                 | RB1#3                      | 22.49             | 22.69                | 22.46              |
|                |                 | RB1#5                      | 22.39             | 22.38                | 22.00              |
|                |                 | RB3#0                      | 22.85             | 22.83                | 22.44              |
|                |                 | RB3#1                      | 22.39             | 22.69                | 22.64              |
|                |                 | RB3#3                      | 22.44             | 22.71                | 22.33              |
|                |                 | RB6#0                      | 21.41             | 21.18                | 21.31              |
| 3M             | QPSK            | RB1#0                      | 23.69             | 23.67                | 23.83              |
|                |                 | RB1#8                      | 23.45             | 23.61                | 23.37              |
|                |                 | RB1#14                     | 23.53             | 23.65                | 23.48              |
|                |                 | RB8#0                      | 22.67             | 22.59                | 22.40              |
|                |                 | RB8#4                      | 22.64             | 22.50                | 22.57              |
|                |                 | RB8#7                      | 22.58             | 22.65                | 22.52              |
|                |                 | RB15#0                     | 22.57             | 22.50                | 22.47              |
|                | 16-QAM          | RB1#0                      | 22.54             | 22.90                | 22.98              |
|                |                 | RB1#8                      | 22.29             | 22.28                | 22.61              |
|                |                 | RB1#14                     | 22.45             | 22.90                | 22.74              |
|                |                 | RB8#0                      | 21.50             | 21.45                | 21.87              |
|                |                 | RB8#4                      | 21.53             | 21.58                | 21.37              |
|                |                 | RB8#7                      | 21.54             | 21.75                | 21.43              |
|                |                 | RB15#0                     | 21.39             | 21.85                | 21.39              |
| 5M             | QPSK            | RB1#0                      | 23.63             | 23.45                | 23.40              |
|                |                 | RB1#12                     | 23.86             | 23.67                | 23.67              |
|                |                 | RB1#24                     | 23.75             | 23.84                | 23.50              |
|                |                 | RB12#0                     | 22.63             | 22.67                | 22.59              |
|                |                 | RB12#7                     | 22.63             | 22.57                | 22.58              |
|                |                 | RB12#13                    | 22.58             | 22.77                | 22.32              |
|                |                 | RB25#0                     | 22.78             | 22.67                | 22.60              |
|                | 16-QAM          | RB1#0                      | 22.01             | 22.64                | 22.79              |
|                |                 | RB1#12                     | 22.28             | 22.36                | 22.18              |
|                |                 | RB1#24                     | 22.36             | 22.62                | 21.94              |
|                |                 | RB12#0                     | 21.78             | 21.54                | 21.81              |
|                |                 | RB12#7                     | 21.81             | 21.58                | 21.55              |
|                |                 | RB12#13                    | 21.43             | 21.70                | 21.42              |
|                |                 | RB25#0                     | 21.80             | 21.76                | 21.69              |

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 10M            | QPSK            | RB1#0                      | 23.74             | 23.87                | 23.97              |
|                |                 | RB1#25                     | 23.53             | 23.82                | 23.78              |
|                |                 | RB1#49                     | 23.64             | 23.86                | 23.42              |
|                |                 | RB25#0                     | 22.78             | 22.62                | 22.67              |
|                |                 | RB25#12                    | 22.57             | 22.60                | 22.76              |
|                |                 | RB25#25                    | 22.84             | 22.82                | 22.48              |
|                |                 | RB50#0                     | 22.76             | 22.77                | 22.61              |
|                | 16-QAM          | RB1#0                      | 22.59             | 22.87                | 23.03              |
|                |                 | RB1#25                     | 22.43             | 22.72                | 22.96              |
|                |                 | RB1#49                     | 22.61             | 22.82                | 22.70              |
|                |                 | RB25#0                     | 21.75             | 21.80                | 21.75              |
|                |                 | RB25#12                    | 21.73             | 21.81                | 21.86              |
|                |                 | RB25#25                    | 21.87             | 21.81                | 21.49              |
|                |                 | RB50#0                     | 21.70             | 21.74                | 21.54              |
| 15M            | QPSK            | RB1#0                      | 24.01             | 23.76                | 24.07              |
|                |                 | RB1#37                     | 23.91             | 23.96                | 24.03              |
|                |                 | RB1#74                     | 24.13             | 23.88                | 23.66              |
|                |                 | RB36#0                     | 22.71             | 22.72                | 22.67              |
|                |                 | RB36#20                    | 22.64             | 22.76                | 22.63              |
|                |                 | RB36#39                    | 22.88             | 22.69                | 22.75              |
|                |                 | RB75#0                     | 22.65             | 22.62                | 22.48              |
|                | 16-QAM          | RB1#0                      | 22.89             | 23.09                | 23.02              |
|                |                 | RB1#37                     | 22.84             | 22.95                | 22.55              |
|                |                 | RB1#74                     | 23.07             | 22.94                | 22.29              |
|                |                 | RB36#0                     | 21.66             | 21.76                | 21.50              |
|                |                 | RB36#20                    | 21.80             | 21.77                | 21.51              |
|                |                 | RB36#39                    | 21.84             | 21.68                | 21.43              |
|                |                 | RB75#0                     | 21.76             | 21.66                | 21.77              |

**LTE Band 38:**

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 5M             | QPSK            | RB1#0                      | 23.23             | 23.30                | 22.91              |
|                |                 | RB1#12                     | 23.40             | 23.41                | 23.59              |
|                |                 | RB1#24                     | 23.49             | 23.37                | 23.04              |
|                |                 | RB12#0                     | 22.64             | 22.36                | 22.13              |
|                |                 | RB12#7                     | 22.49             | 22.30                | 22.15              |
|                |                 | RB12#13                    | 22.54             | 22.47                | 22.29              |
|                |                 | RB25#0                     | 22.66             | 22.25                | 22.16              |
|                | 16QAM           | RB1#0                      | 22.33             | 21.95                | 22.13              |
|                |                 | RB1#12                     | 22.74             | 21.85                | 22.00              |
|                |                 | RB1#24                     | 22.53             | 21.91                | 21.86              |
|                |                 | RB12#0                     | 21.32             | 21.01                | 21.04              |
|                |                 | RB12#7                     | 21.48             | 21.11                | 21.10              |
|                |                 | RB12#13                    | 21.48             | 21.32                | 21.15              |
|                |                 | RB25#0                     | 21.63             | 21.44                | 21.51              |
| 10M            | QPSK            | RB1#0                      | 23.61             | 23.32                | 23.19              |
|                |                 | RB1#25                     | 23.53             | 23.43                | 23.17              |
|                |                 | RB1#49                     | 23.29             | 23.73                | 23.16              |
|                |                 | RB25#0                     | 22.58             | 22.48                | 22.06              |
|                |                 | RB25#12                    | 22.21             | 22.35                | 22.13              |
|                |                 | RB25#25                    | 22.39             | 22.33                | 22.27              |
|                |                 | RB50#0                     | 22.70             | 22.37                | 22.22              |
|                | 16QAM           | RB1#0                      | 23.20             | 22.25                | 21.45              |
|                |                 | RB1#25                     | 23.12             | 22.40                | 22.01              |
|                |                 | RB1#49                     | 23.33             | 22.97                | 21.79              |
|                |                 | RB25#0                     | 21.56             | 21.23                | 21.07              |
|                |                 | RB25#12                    | 21.39             | 21.36                | 21.08              |
|                |                 | RB25#25                    | 21.46             | 21.28                | 21.10              |
|                |                 | RB50#0                     | 21.43             | 21.49                | 21.24              |
| 15M            | QPSK            | RB1#0                      | 23.66             | 23.48                | 22.88              |
|                |                 | RB1#37                     | 23.52             | 23.33                | 22.91              |
|                |                 | RB1#74                     | 23.56             | 24.01                | 23.04              |
|                |                 | RB36#0                     | 22.50             | 22.30                | 22.00              |
|                |                 | RB36#20                    | 22.14             | 22.07                | 22.19              |
|                |                 | RB36#39                    | 22.53             | 22.26                | 22.47              |
|                |                 | RB75#0                     | 22.53             | 22.26                | 22.29              |
|                | 16QAM           | RB1#0                      | 22.99             | 22.32                | 21.72              |
|                |                 | RB1#37                     | 22.79             | 22.21                | 21.71              |
|                |                 | RB1#74                     | 22.67             | 22.12                | 21.84              |
|                |                 | RB36#0                     | 21.68             | 21.57                | 21.02              |
|                |                 | RB36#20                    | 21.52             | 21.58                | 21.14              |
|                |                 | RB36#39                    | 21.47             | 21.53                | 21.14              |
|                |                 | RB75#0                     | 21.48             | 21.21                | 21.19              |

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 20M            | QPSK            | RB1#0                      | 23.50             | 23.13                | 23.42              |
|                |                 | RB1#49                     | 23.32             | 23.47                | 23.29              |
|                |                 | RB1#99                     | 23.21             | 22.95                | 23.50              |
|                |                 | RB50#0                     | 22.42             | 22.29                | 22.16              |
|                |                 | RB50#24                    | 22.29             | 22.35                | 22.23              |
|                |                 | RB50#50                    | 22.28             | 22.53                | 22.42              |
|                |                 | RB100#0                    | 22.33             | 22.18                | 22.13              |
|                | 16QAM           | RB1#0                      | 22.08             | 22.56                | 21.54              |
|                |                 | RB1#49                     | 22.36             | 22.50                | 21.83              |
|                |                 | RB1#99                     | 22.09             | 21.95                | 21.82              |
|                |                 | RB50#0                     | 21.52             | 21.44                | 20.89              |
|                |                 | RB50#24                    | 21.56             | 21.43                | 21.24              |
|                |                 | RB50#50                    | 21.50             | 21.56                | 21.10              |
|                |                 | RB100#0                    | 21.30             | 21.39                | 21.09              |

## LTE Band 41:

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | 2549.5 MHz (dBm) | Middle Channel (dBm) | 2636.5 MHz (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|------------------|----------------------|------------------|--------------------|
| 5M             | QPSK            | RB1#0                      | 22.55             | 22.85            | 22.91                | 22.89            | 22.86              |
|                |                 | RB1#12                     | 23.26             | 23.02            | 23.03                | 22.76            | 22.78              |
|                |                 | RB1#24                     | 23.00             | 23.34            | 23.14                | 22.73            | 22.91              |
|                |                 | RB12#0                     | 22.15             | 21.72            | 21.99                | 21.94            | 22.03              |
|                |                 | RB12#7                     | 22.14             | 21.81            | 22.04                | 21.97            | 21.82              |
|                |                 | RB12#13                    | 22.12             | 22.05            | 22.14                | 22.16            | 22.11              |
|                |                 | RB25#0                     | 22.24             | 22.04            | 22.29                | 22.03            | 22.12              |
|                | 16QAM           | RB1#0                      | 21.80             | 21.70            | 21.62                | 21.97            | 22.05              |
|                |                 | RB1#12                     | 22.11             | 21.66            | 21.65                | 22.19            | 22.21              |
|                |                 | RB1#24                     | 21.60             | 21.70            | 21.79                | 22.24            | 22.04              |
|                |                 | RB12#0                     | 20.90             | 21.03            | 21.08                | 21.04            | 20.98              |
|                |                 | RB12#7                     | 21.21             | 21.14            | 20.94                | 20.89            | 21.04              |
|                |                 | RB12#13                    | 21.18             | 20.85            | 21.08                | 20.81            | 20.87              |
|                |                 | RB25#0                     | 21.35             | 21.05            | 21.04                | 20.89            | 21.14              |
| 10M            | QPSK            | RB1#0                      | 22.92             | 23.32            | 23.45                | 23.12            | 23.04              |
|                |                 | RB1#25                     | 23.25             | 23.35            | 23.51                | 23.21            | 23.16              |
|                |                 | RB1#49                     | 23.31             | 23.13            | 23.39                | 22.71            | 22.80              |
|                |                 | RB25#0                     | 22.04             | 22.31            | 22.35                | 22.99            | 22.79              |
|                |                 | RB25#12                    | 22.06             | 22.24            | 22.14                | 22.18            | 22.06              |
|                |                 | RB25#25                    | 22.09             | 22.51            | 22.39                | 22.09            | 22.10              |
|                |                 | RB50#0                     | 22.47             | 22.24            | 22.04                | 22.04            | 22.24              |
|                | 16QAM           | RB1#0                      | 21.82             | 22.40            | 22.46                | 22.07            | 22.08              |
|                |                 | RB1#25                     | 21.57             | 23.03            | 23.01                | 22.44            | 22.29              |
|                |                 | RB1#49                     | 21.56             | 22.90            | 22.91                | 21.49            | 21.76              |
|                |                 | RB25#0                     | 21.15             | 21.21            | 21.34                | 21.61            | 21.79              |
|                |                 | RB25#12                    | 20.95             | 21.05            | 21.04                | 20.96            | 20.94              |
|                |                 | RB25#25                    | 21.65             | 21.17            | 21.11                | 20.76            | 21.02              |
|                |                 | RB50#0                     | 21.46             | 21.00            | 21.11                | 21.16            | 20.97              |
| 15M            | QPSK            | RB1#0                      | 23.03             | 23.59            | 23.63                | 23.10            | 22.97              |
|                |                 | RB1#37                     | 22.98             | 23.49            | 23.30                | 22.76            | 22.92              |
|                |                 | RB1#74                     | 22.85             | 23.13            | 23.35                | 22.52            | 22.75              |
|                |                 | RB36#0                     | 22.15             | 22.27            | 22.43                | 22.57            | 22.45              |
|                |                 | RB36#20                    | 22.04             | 22.18            | 22.24                | 21.84            | 22.10              |
|                |                 | RB36#39                    | 22.36             | 22.38            | 22.29                | 21.84            | 22.11              |
|                |                 | RB75#0                     | 22.40             | 22.03            | 22.23                | 22.00            | 22.18              |
|                | 16QAM           | RB1#0                      | 21.88             | 22.63            | 22.57                | 22.19            | 22.07              |
|                |                 | RB1#37                     | 21.76             | 22.61            | 22.41                | 22.21            | 22.33              |
|                |                 | RB1#74                     | 21.81             | 22.50            | 22.54                | 21.47            | 21.62              |
|                |                 | RB36#0                     | 20.98             | 21.68            | 21.48                | 21.63            | 21.74              |
|                |                 | RB36#20                    | 20.98             | 21.10            | 21.23                | 21.35            | 21.29              |
|                |                 | RB36#39                    | 21.16             | 21.14            | 21.39                | 21.28            | 21.23              |
|                |                 | RB75#0                     | 21.25             | 21.04            | 21.09                | 20.94            | 21.12              |

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | 2549.5 MHz (dBm) | Middle Channel (dBm) | 2636.5 MHz (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|------------------|----------------------|------------------|--------------------|
| 20M            | QPSK            | RB1#0                      | 23.63             | 23.35            | 23.67                | 23.22            | 23.42              |
|                |                 | RB1#49                     | 23.87             | 23.69            | 23.73                | 23.18            | 23.44              |
|                |                 | RB1#99                     | 23.71             | 23.37            | 23.61                | 23.02            | 23.06              |
|                |                 | RB50#0                     | 22.76             | 22.69            | 22.78                | 22.53            | 22.62              |
|                |                 | RB50#24                    | 22.68             | 22.79            | 22.84                | 22.77            | 22.66              |
|                |                 | RB50#50                    | 22.78             | 22.54            | 22.83                | 22.69            | 22.81              |
|                |                 | RB100#0                    | 22.35             | 22.28            | 22.38                | 22.29            | 22.37              |
|                | 16QAM           | RB1#0                      | 21.41             | 21.80            | 21.89                | 21.87            | 21.78              |
|                |                 | RB1#49                     | 21.78             | 22.12            | 22.20                | 22.20            | 22.07              |
|                |                 | RB1#99                     | 21.48             | 21.65            | 21.77                | 21.67            | 21.59              |
|                |                 | RB50#0                     | 20.92             | 21.40            | 21.23                | 21.30            | 21.17              |
|                |                 | RB50#24                    | 21.04             | 21.07            | 21.30                | 21.35            | 21.25              |
|                |                 | RB50#50                    | 21.06             | 21.06            | 21.08                | 21.53            | 21.38              |
|                |                 | RB100#0                    | 20.88             | 21.32            | 21.17                | 20.85            | 21.05              |

## LTE Band 66:

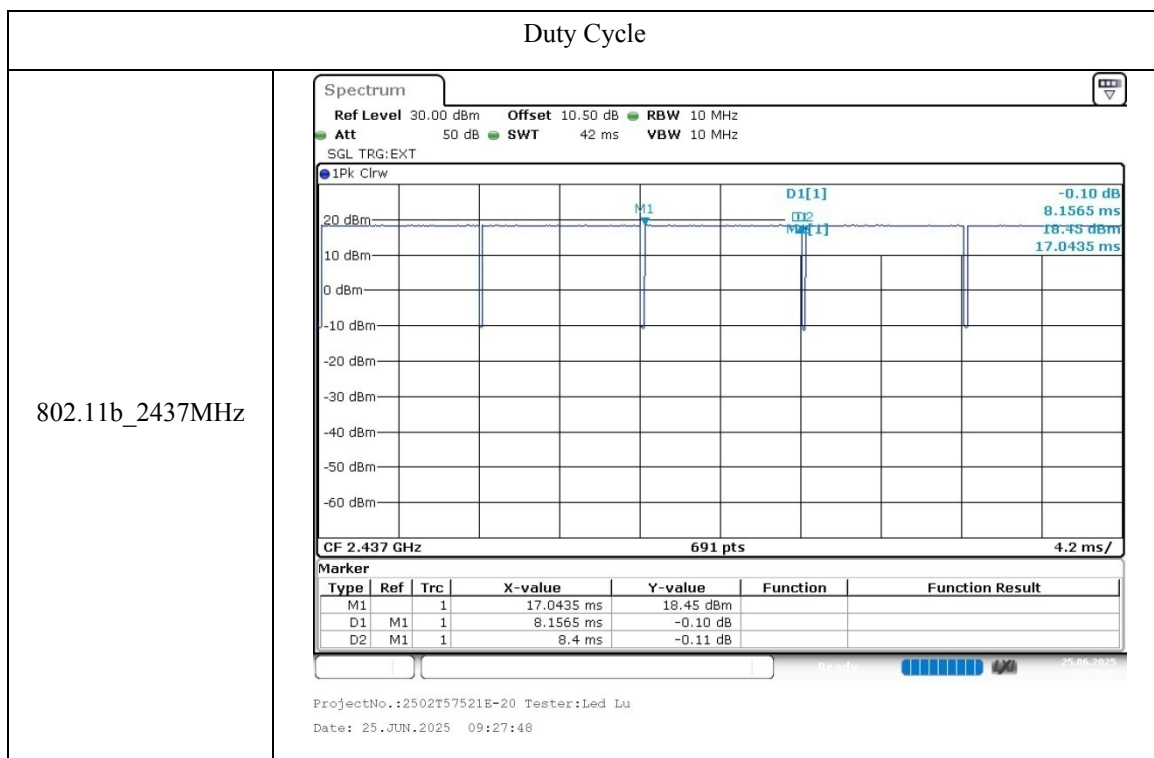
| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 1.4M           | QPSK            | RB1#0                      | 23.64             | 23.44                | 23.44              |
|                |                 | RB1#3                      | 23.74             | 23.81                | 23.62              |
|                |                 | RB1#5                      | 23.53             | 23.88                | 23.37              |
|                |                 | RB3#0                      | 23.40             | 23.59                | 23.43              |
|                |                 | RB3#1                      | 23.48             | 23.74                | 23.38              |
|                |                 | RB3#3                      | 23.41             | 23.45                | 23.36              |
|                |                 | RB6#0                      | 22.37             | 22.67                | 23.26              |
|                | 16QAM           | RB1#0                      | 22.62             | 22.66                | 22.25              |
|                |                 | RB1#3                      | 22.53             | 22.71                | 22.66              |
|                |                 | RB1#5                      | 22.51             | 22.51                | 22.05              |
|                |                 | RB3#0                      | 22.59             | 22.78                | 22.44              |
|                |                 | RB3#1                      | 22.61             | 22.83                | 22.36              |
|                |                 | RB3#3                      | 22.59             | 22.75                | 22.47              |
|                |                 | RB6#0                      | 21.23             | 21.67                | 21.72              |
| 3M             | QPSK            | RB1#0                      | 23.29             | 23.85                | 23.55              |
|                |                 | RB1#8                      | 23.30             | 23.37                | 23.49              |
|                |                 | RB1#14                     | 23.20             | 23.44                | 23.50              |
|                |                 | RB8#0                      | 22.33             | 22.64                | 22.51              |
|                |                 | RB8#4                      | 22.42             | 22.65                | 22.50              |
|                |                 | RB8#7                      | 22.19             | 22.58                | 22.49              |
|                |                 | RB15#0                     | 22.36             | 22.65                | 23.54              |
|                | 16QAM           | RB1#0                      | 22.86             | 22.66                | 22.75              |
|                |                 | RB1#8                      | 22.66             | 22.64                | 22.68              |
|                |                 | RB1#14                     | 22.49             | 22.64                | 22.74              |
|                |                 | RB8#0                      | 21.36             | 21.70                | 21.51              |
|                |                 | RB8#4                      | 21.51             | 21.71                | 21.64              |
|                |                 | RB8#7                      | 21.39             | 21.50                | 21.52              |
|                |                 | RB15#0                     | 21.41             | 21.56                | 22.51              |
| 5M             | QPSK            | RB1#0                      | 23.33             | 23.79                | 23.23              |
|                |                 | RB1#12                     | 23.63             | 23.89                | 23.55              |
|                |                 | RB1#24                     | 23.54             | 23.64                | 23.40              |
|                |                 | RB12#0                     | 22.62             | 22.66                | 23.03              |
|                |                 | RB12#7                     | 22.36             | 22.58                | 22.62              |
|                |                 | RB12#13                    | 22.36             | 22.63                | 22.61              |
|                |                 | RB25#0                     | 22.57             | 22.77                | 22.53              |
|                | 16QAM           | RB1#0                      | 22.36             | 22.28                | 22.19              |
|                |                 | RB1#12                     | 22.59             | 22.28                | 21.89              |
|                |                 | RB1#24                     | 22.23             | 22.28                | 22.18              |
|                |                 | RB12#0                     | 21.69             | 21.65                | 21.14              |
|                |                 | RB12#7                     | 21.46             | 21.61                | 21.32              |
|                |                 | RB12#13                    | 21.36             | 21.71                | 21.13              |
|                |                 | RB25#0                     | 21.72             | 21.69                | 21.63              |

| Test Bandwidth | Test Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|----------------|-----------------|----------------------------|-------------------|----------------------|--------------------|
| 10M            | QPSK            | RB1#0                      | 23.66             | 23.63                | 23.41              |
|                |                 | RB1#25                     | 23.32             | 23.44                | 23.36              |
|                |                 | RB1#49                     | 23.49             | 22.84                | 22.58              |
|                |                 | RB25#0                     | 22.52             | 22.78                | 22.66              |
|                |                 | RB25#12                    | 22.29             | 22.67                | 22.41              |
|                |                 | RB25#25                    | 22.46             | 22.57                | 22.42              |
|                |                 | RB50#0                     | 22.48             | 22.71                | 22.49              |
|                | 16QAM           | RB1#0                      | 22.66             | 22.91                | 22.14              |
|                |                 | RB1#25                     | 22.65             | 22.95                | 22.79              |
|                |                 | RB1#49                     | 22.39             | 22.14                | 21.79              |
|                |                 | RB25#0                     | 21.68             | 21.71                | 21.63              |
|                |                 | RB25#12                    | 21.42             | 21.70                | 21.56              |
|                |                 | RB25#25                    | 21.46             | 21.69                | 21.50              |
|                |                 | RB50#0                     | 21.65             | 21.77                | 21.61              |
| 15M            | QPSK            | RB1#0                      | 23.43             | 23.61                | 23.33              |
|                |                 | RB1#37                     | 23.22             | 23.61                | 23.78              |
|                |                 | RB1#74                     | 23.28             | 22.59                | 22.56              |
|                |                 | RB36#0                     | 22.42             | 22.74                | 22.80              |
|                |                 | RB36#20                    | 22.43             | 22.58                | 22.55              |
|                |                 | RB36#39                    | 22.53             | 22.51                | 22.39              |
|                |                 | RB75#0                     | 22.50             | 22.67                | 22.62              |
|                | 16QAM           | RB1#0                      | 23.07             | 23.05                | 22.42              |
|                |                 | RB1#37                     | 23.34             | 23.34                | 22.09              |
|                |                 | RB1#74                     | 23.23             | 21.88                | 21.68              |
|                |                 | RB36#0                     | 21.56             | 21.78                | 21.77              |
|                |                 | RB36#20                    | 21.54             | 21.79                | 21.40              |
|                |                 | RB36#39                    | 21.63             | 21.68                | 21.43              |
|                |                 | RB75#0                     | 21.43             | 21.68                | 21.60              |
| 20M            | QPSK            | RB1#0                      | 23.38             | 23.42                | 23.24              |
|                |                 | RB1#49                     | 23.48             | 23.43                | 24.25              |
|                |                 | RB1#99                     | 23.68             | 22.48                | 22.52              |
|                |                 | RB50#0                     | 22.48             | 22.73                | 22.42              |
|                |                 | RB50#24                    | 22.49             | 22.65                | 22.58              |
|                |                 | RB50#50                    | 22.51             | 22.50                | 22.39              |
|                |                 | RB100#0                    | 22.48             | 22.73                | 22.65              |
|                | 16QAM           | RB1#0                      | 22.82             | 22.44                | 21.87              |
|                |                 | RB1#49                     | 21.93             | 22.24                | 22.46              |
|                |                 | RB1#99                     | 21.89             | 21.68                | 21.57              |
|                |                 | RB50#0                     | 21.49             | 21.73                | 21.37              |
|                |                 | RB50#24                    | 21.39             | 21.82                | 21.54              |
|                |                 | RB50#50                    | 21.53             | 21.52                | 21.50              |
|                |                 | RB100#0                    | 21.42             | 21.73                | 21.60              |

**WLAN: 2.4G**

| Mode      | Channel frequency (MHz) | Data Rate | Duty cycle (%) | Average Output Power (dBm) |
|-----------|-------------------------|-----------|----------------|----------------------------|
| 802.11b   | 2412                    | 1Mbps     | 97.11          | 14.12                      |
|           | 2437                    |           |                | <b>15.34</b>               |
|           | 2462                    |           |                | 13.26                      |
| 802.11g   | 2412                    | 6Mbps     | /              | 13.89                      |
|           | 2437                    |           |                | 14.95                      |
|           | 2462                    |           |                | 13.04                      |
| 802.11n20 | 2412                    | MCS0      | /              | 12.91                      |
|           | 2437                    |           |                | 13.94                      |
|           | 2462                    |           |                | 12.18                      |
| 802.11n40 | 2422                    | MCS0      | /              | 11.93                      |
|           | 2437                    |           |                | 13.02                      |
|           | 2452                    |           |                | 12.36                      |

| Test Modes      | Ton (ms) | Ton+off (ms) | Duty cycle (%) | Scaled Factor (1/duty cycle) |
|-----------------|----------|--------------|----------------|------------------------------|
| 802.11b_2437MHz | 8.157    | 8.400        | 97.11          | 1.03                         |



Note: The duty cycle was measured under conducted method.

**WLAN: 5.2G**

| Mode       | Channel frequency (MHz) | Data Rate | Duty cycle (%) | Average Output Power (dBm) |
|------------|-------------------------|-----------|----------------|----------------------------|
| 802.11a    | 5180                    | 6Mbps     | 86.59          | 15.67                      |
|            | 5200                    |           |                | <b>15.76</b>               |
|            | 5240                    |           |                | 15.72                      |
| 802.11n20  | 5180                    | MCS0      | /              | 15.32                      |
|            | 5200                    |           |                | 15.51                      |
|            | 5240                    |           |                | 15.71                      |
| 802.11n40  | 5190                    | MCS0      | /              | 13.27                      |
|            | 5230                    |           |                | 13.13                      |
| 802.11ac80 | 5210                    | MCS0      | /              | 14.03                      |

*Note:*

1.The system support 802.11a/n20/n40/ac20/ac40/ac80, the ac20 and ac40 were reduced since the identical parameters with 802.11n20 and n40.

**WLAN: 5.3G**

| Mode       | Channel frequency (MHz) | Data Rate | Duty cycle (%) | Average Output Power (dBm) |
|------------|-------------------------|-----------|----------------|----------------------------|
| 802.11a    | 5260                    | 6Mbps     | 86.59          | 15.63                      |
|            | 5280                    |           |                | 15.86                      |
|            | 5320                    |           |                | <b>16.39</b>               |
| 802.11n20  | 5260                    | MCS0      | /              | 15.51                      |
|            | 5280                    |           |                | 15.85                      |
|            | 5320                    |           |                | 16.30                      |
| 802.11n40  | 5270                    | MCS0      | /              | 13.46                      |
|            | 5310                    |           |                | 13.89                      |
| 802.11ac80 | 5290                    | MCS0      | /              | 14.57                      |

Note:

1.The system support 802.11a/n20/n40/ac20/ac40/ac80, the ac20 and ac40 were reduced since the identical parameters with 802.11n20 and n40.

**WLAN: 5.6G**

| Mode       | Channel frequency (MHz) | Data Rate | Duty cycle (%) | Average Output Power (dBm) |
|------------|-------------------------|-----------|----------------|----------------------------|
| 802.11a    | 5500                    | 6Mbps     | 86.59          | 17.08                      |
|            | 5580                    |           |                | <b>17.17</b>               |
|            | 5700                    |           |                | 16.76                      |
|            | 5720*                   |           |                | 15.40                      |
| 802.11n20  | 5500                    | MCS0      | /              | 17.11                      |
|            | 5580                    |           |                | 17.09                      |
|            | 5700                    |           |                | 16.62                      |
|            | 5720*                   |           |                | 15.60                      |
| 802.11n40  | 5510                    | MCS0      | /              | 15.03                      |
|            | 5550                    |           |                | 14.94                      |
|            | 5670                    |           |                | 14.43                      |
|            | 5710*                   |           |                | 14.20                      |
| 802.11ac80 | 5530                    | MCS0      | /              | 15.98                      |
|            | 5610                    |           |                | 15.67                      |
|            | 5690*                   |           |                | 15.34                      |

Note:

1.The system support 802.11a/n20/n40/ac20/ac40/ac80, the ac20 and ac40 were reduced since the identical parameters with 802.11n20 and n40.

2. \*: Additional channels cross the band 5470-5725MHz and 5725-5850 MHz.

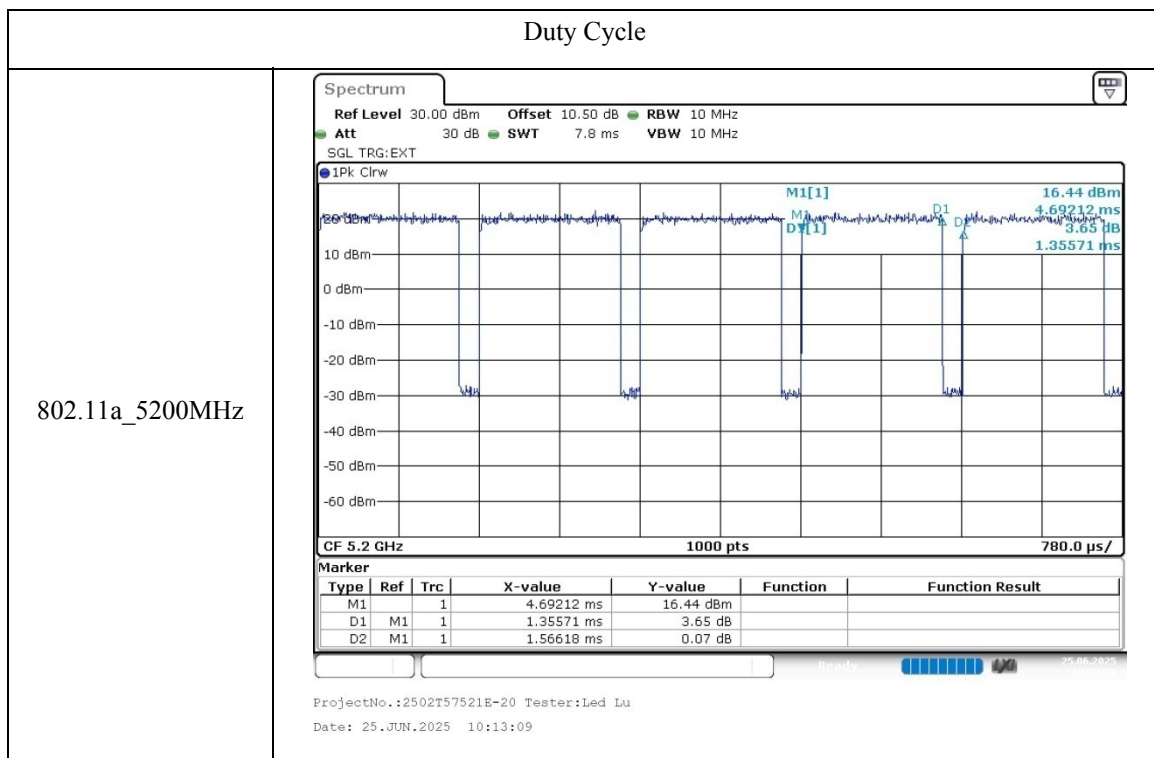
**WLAN: 5.8G**

| Mode       | Channel frequency (MHz) | Data Rate | Duty cycle (%) | Average Output Power (dBm) |
|------------|-------------------------|-----------|----------------|----------------------------|
| 802.11a    | 5745                    | 6Mbps     | 86.59          | 16.87                      |
|            | 5785                    |           |                | <b>17.09</b>               |
|            | 5825                    |           |                | 17.05                      |
| 802.11n20  | 5745                    | MCS0      | /              | 16.80                      |
|            | 5785                    |           |                | 17.04                      |
|            | 5825                    |           |                | 16.98                      |
| 802.11n40  | 5755                    | MCS0      | /              | 14.18                      |
|            | 5795                    |           |                | 14.82                      |
| 802.11ac80 | 5775                    | MCS0      | /              | 15.56                      |

Note:

1.The system support 802.11a/n20/n40/ac20/ac40/ac80, the ac20 and ac40 were reduced since the identical parameters with 802.11n20 and n40.

| Test Modes      | Ton (ms) | Ton+off (ms) | Duty cycle (%) | Scaled Factor (1/duty cycle) |
|-----------------|----------|--------------|----------------|------------------------------|
| 802.11a_5200MHz | 1.356    | 1.566        | 86.59          | 1.15                         |



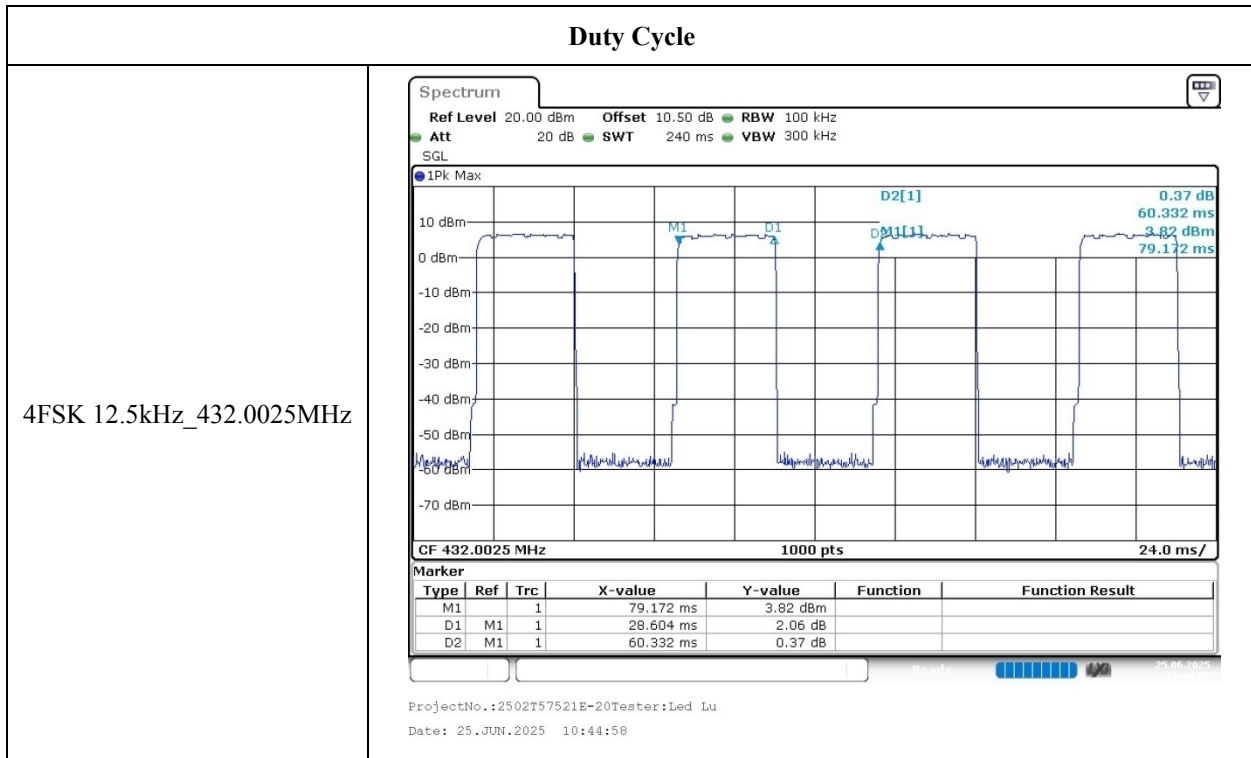
Note: The duty cycle was measured under conducted method.

**Bluetooth:**

| Mode           | Channel frequency (MHz) | RF Output Power (dBm) |
|----------------|-------------------------|-----------------------|
| GFSK           | 2402                    | 1.62                  |
|                | 2441                    | 2.13                  |
|                | 2480                    | -0.86                 |
| $\pi/4$ -DQPSK | 2402                    | 1.64                  |
|                | 2441                    | 2.34                  |
|                | 2480                    | -1.17                 |
| 8DPSK          | 2402                    | 1.85                  |
|                | 2441                    | <b>2.60</b>           |
|                | 2480                    | -0.83                 |
| BLE 1M         | 2402                    | 1.25                  |
|                | 2440                    | 1.83                  |
|                | 2480                    | -1.16                 |

| Test Mode           |              | Frequency (MHz) | Measured Output Power Unit (dBm) | Power level |
|---------------------|--------------|-----------------|----------------------------------|-------------|
| PTT<br>(400-480MHz) | FM 12.5kHz   | 400.0125        | 35.99                            | High        |
|                     |              | 416.0075        | 36.28                            | High        |
|                     |              | 432.0025        | 36.26                            | High        |
|                     |              | 447.9975        | <b>36.68</b>                     | High        |
|                     |              | 463.9925        | 36.37                            | High        |
|                     |              | 479.9875        | 36.09                            | High        |
|                     | 4FSK 12.5kHz | 400.0125        | 35.33                            | High        |
|                     |              | 416.0075        | 35.52                            | High        |
|                     |              | 432.0025        | 35.82                            | High        |
|                     |              | 447.9975        | 36.16                            | High        |
|                     |              | 463.9925        | 35.95                            | High        |
|                     |              | 479.9875        | 35.87                            | High        |

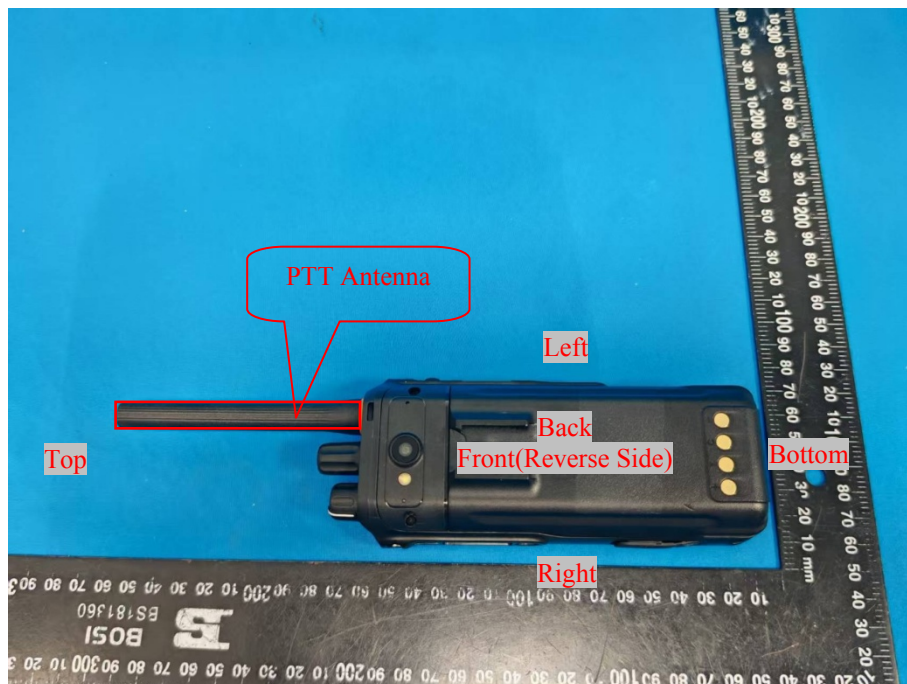
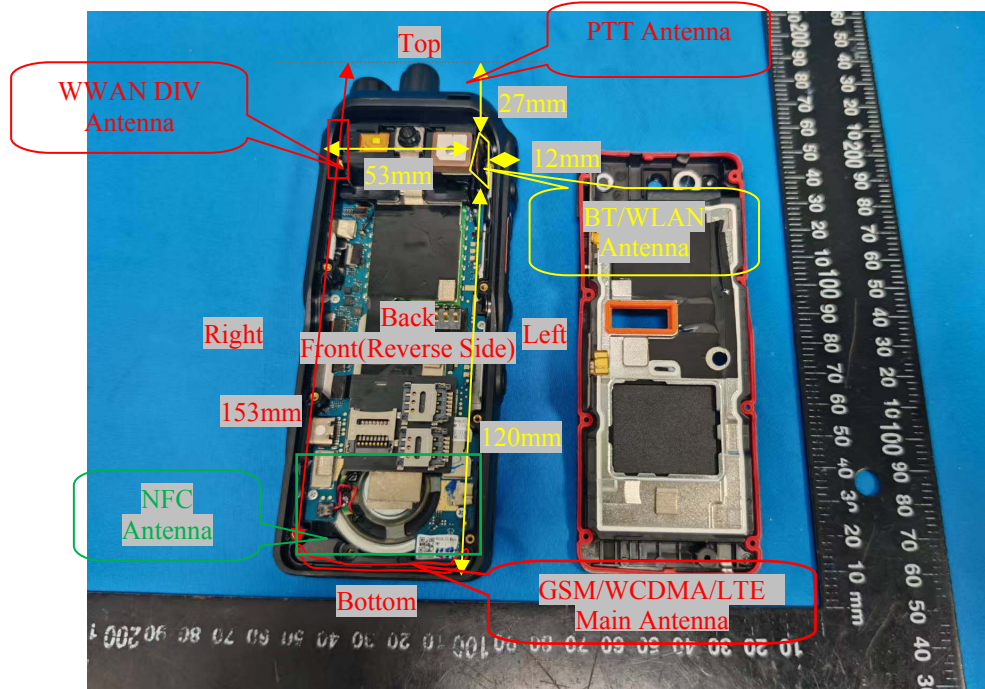
| Test Modes               | Ton (ms) | Ton+off (ms) | Duty cycle (%) | Scaled Factor (1/duty cycle) |
|--------------------------|----------|--------------|----------------|------------------------------|
| 4FSK 12.5kHz_432.0025MHz | 28.6     | 60.3         | 47.4%          | 2                            |



*Note: The duty cycle of 4FSK mode was measured under radiation method.*

## 8. STANDALONE SAR TEST EXCLUSION CONSIDERATIONS

### 8.1 Antennas Location:



Note: DIV antenna is only used for receiving.

### 8.2 Antenna Distance To Edge

| Antenna Distance To Edge(mm) |      |       |      |       |     |        |
|------------------------------|------|-------|------|-------|-----|--------|
| Antenna                      | Back | Front | Left | Right | Top | Bottom |
| WWAN Antenna(GSM/WCDMA/LTE)  | < 5  | < 5   | < 5  | < 5   | 153 | < 5    |
| WLAN/BT Antenna              | < 5  | < 5   | 12   | 53    | 27  | 120    |

### 8.3 Standalone SAR test exclusion considerations

| Mode      | Frequency (MHz) | Output Power (dBm) | Output Power (mW) | Distance (mm) | Calculated value | Threshold (1-g) | SAR Test Exclusion |
|-----------|-----------------|--------------------|-------------------|---------------|------------------|-----------------|--------------------|
| WLAN 2.4G | 2462            | 15.5               | 35.48             | 0             | 11.1             | 3               | NO                 |
| WLAN 5.2G | 5240            | 16                 | 39.81             | 0             | 18.2             | 3               | NO                 |
| WLAN 5.3G | 5320            | 16.5               | 44.67             | 0             | 20.6             | 3               | NO                 |
| WLAN 5.6G | 5720            | 17.5               | 56.23             | 0             | 26.9             | 3               | NO                 |
| WLAN 5.8G | 5825            | 17.5               | 56.23             | 0             | 27.1             | 3               | NO                 |
| Bluetooth | 2480            | 3                  | 2.00              | 0             | 0.6              | 3               | YES                |

Note: The WLAN based average power for calculation. and bluetooth based peak output power for calculation.

#### NOTE:

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

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

1.  $f(\text{GHz})$  is the RF channel transmit frequency in GHz.
2. Power and distance are rounded to the nearest mW and mm before calculation.
3. The result is rounded to one decimal place for comparison.
4. When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm is applied to determine SAR test Exclusion.

According to KDB447498 D01 General RF Exposure Guidance v06: 4.3. General SAR test exclusion guidance

c) For frequencies below 100 MHz, the following may be considered for SAR test exclusion (also illustrated in Appendix C):

- 1) For test separation distances  $> 50$  mm and  $< 200$  mm, the power threshold at the corresponding test separation distance at 100 MHz in step b) is multiplied by  $[1 + \log(100/f(\text{MHz}))]$
- 2) For test separation distances  $\leq 50$  mm, the power threshold determined by the equation in c) 1) for 50 mm and 100 MHz is multiplied by  $\frac{1}{2}$
- 3) SAR measurement procedures are not established below 100 MHz

#### Measurement Result:

For NFC, the power of EUT: E Field@3m is 62.05 dBuV/m = -33.15 dBm (0.0005mW)

Note:  $E[\text{dB}\mu\text{V/m}] = \text{EIRP}[\text{dBm}] + 95.2$  for  $d = 3$  m.

SAR test exclusion threshold for NFC(13.56MHz) separation distance  $< 50$ mm

$$= [474 * (1 + \log(100/f(\text{MHz}))) / 2]$$

$$= 443\text{mW}$$

$$> 0.0005\text{mW}$$

#### Conclusion:

The NFC SAR evaluation can be exempted.

#### Note:

1. The E Field value of NFC, please refer to the report: 2502T57521E-RF-00F, which was issued by Bay Area Compliance Laboratories Corp. (Dongguan).

**8.4 Standalone SAR estimation:**

| Mode    | Frequency (MHz) | Output Power (dBm) | Output Power (mW) | Distance (mm) | Estimated 1-g (W/kg) |
|---------|-----------------|--------------------|-------------------|---------------|----------------------|
| BT Head | 2480            | 3                  | 2.00              | 0             | 0.08                 |
| BT Body | 2480            | 3                  | 2.00              | 0             | 0.08                 |

Note: The bluetooth based peak power for calculation.

When standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:

$$\left[ \frac{(\text{max. power of channel, including tune-up tolerance, mW})}{(\text{min. test separation distance, mm})} \right] \cdot \sqrt{f(\text{GHz})/x}$$

W/kg for test separation distances  $\leq 50$  mm;

where  $x = 7.5$  for 1-g SAR.

When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm is applied to determine SAR test Exclusion

## 9. SAR MEASUREMENT RESULTS

This page summarizes the results of the performed dosimetric evaluation.

### 9.1 SAR Test Data

#### Environmental Conditions

|                           |            |            |            |            |            |
|---------------------------|------------|------------|------------|------------|------------|
| <b>Temperature:</b>       | 21.3-22.1℃ | 20.4-21.6℃ | 21.5-22.1℃ | 21.6-22.5℃ | 21.4-22.1℃ |
| <b>Relative Humidity:</b> | 40%        | 45%        | 47%        | 41%        | 40%        |
| <b>ATM Pressure:</b>      | 100.9 kPa  | 101.0 kPa  | 100.4 kPa  | 100.1 kPa  | 100.3 kPa  |
| <b>Test Date:</b>         | 2025/08/15 | 2025/08/17 | 2025/08/18 | 2025/08/19 | 2025/08/20 |

Testing was performed by Lily Yang, Mikasa Mo, Led Lu.

|                           |            |            |            |   |   |
|---------------------------|------------|------------|------------|---|---|
| <b>Temperature:</b>       | 21.2-22.1℃ | 21.6-22.5℃ | 20.7-21.8℃ | / | / |
| <b>Relative Humidity:</b> | 47%        | 49%        | 40%        | / | / |
| <b>ATM Pressure:</b>      | 101.0 kPa  | 100.4 kPa  | 100.4 kPa  | / | / |
| <b>Test Date:</b>         | 2025/08/24 | 2025/08/25 | 2025/08/27 | / | / |

Testing was performed by Lily Yang, Mikasa Mo, Led Lu.

**GSM 850:**

| EUT Position                   | Frequency (MHz) | Test Mode | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | 1g SAR (W/kg) |           |             |      |
|--------------------------------|-----------------|-----------|------------------------|------------------------|---------------|-----------|-------------|------|
|                                |                 |           |                        |                        | Scaled Factor | Meas. SAR | Scaled SAR  | Plot |
| Head Left Cheek                | 824.2           | GPRS      | /                      | /                      | /             | /         | /           | /    |
|                                | 836.6           | GPRS      | 31.92                  | 32.1                   | 1.042         | 0.685     | 0.71        | /    |
|                                | 848.8           | GPRS      | /                      | /                      | /             | /         | /           | /    |
| Head Left Tilt                 | 824.2           | GPRS      | /                      | /                      | /             | /         | /           | /    |
|                                | 836.6           | GPRS      | 31.92                  | 32.1                   | 1.042         | 0.323     | 0.34        | /    |
|                                | 848.8           | GPRS      | /                      | /                      | /             | /         | /           | /    |
| Head Right Cheek               | 824.2           | GPRS      | /                      | /                      | /             | /         | /           | /    |
|                                | 836.6           | GPRS      | 31.92                  | 32.1                   | 1.042         | 0.761     | <b>0.79</b> | 1#   |
|                                | 848.8           | GPRS      | /                      | /                      | /             | /         | /           | /    |
| Head Right Tilt                | 824.2           | GPRS      | /                      | /                      | /             | /         | /           | /    |
|                                | 836.6           | GPRS      | 31.92                  | 32.1                   | 1.042         | 0.406     | 0.42        | /    |
|                                | 848.8           | GPRS      | /                      | /                      | /             | /         | /           | /    |
| Body Front (5mm)               | 824.2           | GPRS      | /                      | /                      | /             | /         | /           | /    |
|                                | 836.6           | GPRS      | 31.92                  | 32.1                   | 1.042         | 0.544     | <b>0.57</b> | 2#   |
|                                | 848.8           | GPRS      | /                      | /                      | /             | /         | /           | /    |
| Body Back With Belt Clip (0mm) | 824.2           | GPRS      | /                      | /                      | /             | /         | /           | /    |
|                                | 836.6           | GPRS      | 31.92                  | 32.1                   | 1.042         | 0.447     | 0.47        | /    |
|                                | 848.8           | GPRS      | /                      | /                      | /             | /         | /           | /    |
| Body Bottom (5mm)              | 824.2           | GPRS      | /                      | /                      | /             | /         | /           | /    |
|                                | 836.6           | GPRS      | 31.92                  | 32.1                   | 1.042         | 0.189     | 0.2         | /    |
|                                | 848.8           | GPRS      | /                      | /                      | /             | /         | /           | /    |

**Note:**

1. When the 1-g SAR is  $\leq 0.8\text{W/Kg}$ , testing for other channels are optional.
2. The EUT transmit and receive through the same GSM antenna while testing SAR.
3. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.
4. When the maximum output power variation across the required test channels is  $> 0.5\text{ dB}$ , instead of the middle channel, the highest output power channel must be used.
5. The Multi-slot Classes of EUT is Class 12 which has maximum 4 Downlink slots and 4 Uplink slots, the maximum active slots is 5, when perform the multiple slots scan, 3DL+2UL is the worst case.
6. The max. time based average power of GSM/GPRS/EGPRS mode was selected to Head/Body SAR testing.

**PCS 1900:**

| EUT Position                   | Frequency (MHz) | Test Mode | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | 1g SAR (W/kg) |           |             |           |
|--------------------------------|-----------------|-----------|------------------------|------------------------|---------------|-----------|-------------|-----------|
|                                |                 |           |                        |                        | Scaled Factor | Meas. SAR | Scaled SAR  | Plot      |
| Head Left Cheek                | 1850.2          | GPRS      | /                      | /                      | /             | /         | /           | /         |
|                                | 1880            | GPRS      | 28.40                  | 28.5                   | 1.023         | 0.221     | <b>0.23</b> | <b>3#</b> |
|                                | 1909.8          | GPRS      | /                      | /                      | /             | /         | /           | /         |
| Head Left Tilt                 | 1850.2          | GPRS      | /                      | /                      | /             | /         | /           | /         |
|                                | 1880            | GPRS      | 28.40                  | 28.5                   | 1.023         | 0.055     | 0.06        | /         |
|                                | 1909.8          | GPRS      | /                      | /                      | /             | /         | /           | /         |
| Head Right Cheek               | 1850.2          | GPRS      | /                      | /                      | /             | /         | /           | /         |
|                                | 1880            | GPRS      | 28.40                  | 28.5                   | 1.023         | 0.190     | 0.19        | /         |
|                                | 1909.8          | GPRS      | /                      | /                      | /             | /         | /           | /         |
| Head Right Tilt                | 1850.2          | GPRS      | /                      | /                      | /             | /         | /           | /         |
|                                | 1880            | GPRS      | 28.40                  | 28.5                   | 1.023         | 0.041     | 0.04        | /         |
|                                | 1909.8          | GPRS      | /                      | /                      | /             | /         | /           | /         |
| Body Front (5mm)               | 1850.2          | GPRS      | /                      | /                      | /             | /         | /           | /         |
|                                | 1880            | GPRS      | 28.40                  | 28.5                   | 1.023         | 0.395     | 0.4         | /         |
|                                | 1909.8          | GPRS      | /                      | /                      | /             | /         | /           | /         |
| Body Back With Belt Clip (0mm) | 1850.2          | GPRS      | /                      | /                      | /             | /         | /           | /         |
|                                | 1880            | GPRS      | 28.40                  | 28.5                   | 1.023         | 0.105     | 0.11        | /         |
|                                | 1909.8          | GPRS      | /                      | /                      | /             | /         | /           | /         |
| Body Bottom (5mm)              | 1850.2          | GPRS      | /                      | /                      | /             | /         | /           | /         |
|                                | 1880            | GPRS      | 28.40                  | 28.5                   | 1.023         | 0.529     | <b>0.54</b> | <b>4#</b> |
|                                | 1909.8          | GPRS      | /                      | /                      | /             | /         | /           | /         |

**Note:**

1. When the 1-g SAR is  $\leq 0.8\text{W/Kg}$ , testing for other channels are optional.
2. The EUT transmit and receive through the same GSM antenna while testing SAR.
3. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.
4. When the maximum output power variation across the required test channels is  $> 0.5\text{ dB}$ , instead of the middle channel, the highest output power channel must be used.
5. The Multi-slot Classes of EUT is Class 12 which has maximum 4 Downlink slots and 4 Uplink slots, the maximum active slots is 5, when perform the multiple slots scan, 3DL+2UL is the worst case.
6. The max. time based average power of GSM/GPRS/EGPRS mode was selected to Head/Body SAR testing.

**WCDMA Band 2:**

| EUT Position                   | Frequency (MHz) | Test Mode | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | 1g SAR (W/kg) |           |             |           |
|--------------------------------|-----------------|-----------|------------------------|------------------------|---------------|-----------|-------------|-----------|
|                                |                 |           |                        |                        | Scaled Factor | Meas. SAR | Scaled SAR  | Plot      |
| Head Left Cheek                | 1852.4          | RMC       | /                      | /                      | /             | /         | /           | /         |
|                                | 1880            | RMC       | 23.05                  | 23.5                   | 1.109         | 0.068     | 0.08        | /         |
|                                | 1907.6          | RMC       | /                      | /                      | /             | /         | /           | /         |
| Head Left Tilt                 | 1852.4          | RMC       | /                      | /                      | /             | /         | /           | /         |
|                                | 1880            | RMC       | 23.05                  | 23.5                   | 1.109         | 0.031     | 0.03        | /         |
|                                | 1907.6          | RMC       | /                      | /                      | /             | /         | /           | /         |
| Head Right Cheek               | 1852.4          | RMC       | /                      | /                      | /             | /         | /           | /         |
|                                | 1880            | RMC       | 23.05                  | 23.5                   | 1.109         | 0.134     | <b>0.15</b> | <b>5#</b> |
|                                | 1907.6          | RMC       | /                      | /                      | /             | /         | /           | /         |
| Head Right Tilt                | 1852.4          | RMC       | /                      | /                      | /             | /         | /           | /         |
|                                | 1880            | RMC       | 23.05                  | 23.5                   | 1.109         | 0.017     | 0.02        | /         |
|                                | 1907.6          | RMC       | /                      | /                      | /             | /         | /           | /         |
| Body Front (5mm)               | 1852.4          | RMC       | /                      | /                      | /             | /         | /           | /         |
|                                | 1880            | RMC       | 23.05                  | 23.5                   | 1.109         | 0.192     | 0.21        | /         |
|                                | 1907.6          | RMC       | /                      | /                      | /             | /         | /           | /         |
| Body Back With Belt Clip (0mm) | 1852.4          | RMC       | /                      | /                      | /             | /         | /           | /         |
|                                | 1880            | RMC       | 23.05                  | 23.5                   | 1.109         | 0.054     | 0.06        | /         |
|                                | 1907.6          | RMC       | /                      | /                      | /             | /         | /           | /         |
| Body Bottom (5mm)              | 1852.4          | RMC       | /                      | /                      | /             | /         | /           | /         |
|                                | 1880            | RMC       | 23.05                  | 23.5                   | 1.109         | 0.260     | <b>0.29</b> | <b>6#</b> |
|                                | 1907.6          | RMC       | /                      | /                      | /             | /         | /           | /         |

**WCDMA Band 4:**

| EUT Position                   | Frequency (MHz) | Test Mode | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | 1g SAR (W/kg) |           |             |           |
|--------------------------------|-----------------|-----------|------------------------|------------------------|---------------|-----------|-------------|-----------|
|                                |                 |           |                        |                        | Scaled Factor | Meas. SAR | Scaled SAR  | Plot      |
| Head Left Cheek                | 1712.4          | RMC       | /                      | /                      | /             | /         | /           | /         |
|                                | 1732.6          | RMC       | 22.38                  | 22.5                   | 1.028         | 0.050     | <b>0.05</b> | <b>7#</b> |
|                                | 1752.6          | RMC       | /                      | /                      | /             | /         | /           | /         |
| Head Left Tilt                 | 1712.4          | RMC       | /                      | /                      | /             | /         | /           | /         |
|                                | 1732.6          | RMC       | 22.38                  | 22.5                   | 1.028         | <0.01     | 0.01        | /         |
|                                | 1752.6          | RMC       | /                      | /                      | /             | /         | /           | /         |
| Head Right Cheek               | 1712.4          | RMC       | /                      | /                      | /             | /         | /           | /         |
|                                | 1732.6          | RMC       | 22.38                  | 22.5                   | 1.028         | 0.027     | 0.03        | /         |
|                                | 1752.6          | RMC       | /                      | /                      | /             | /         | /           | /         |
| Head Right Tilt                | 1712.4          | RMC       | /                      | /                      | /             | /         | /           | /         |
|                                | 1732.6          | RMC       | 22.38                  | 22.5                   | 1.028         | <0.01     | 0.01        | /         |
|                                | 1752.6          | RMC       | /                      | /                      | /             | /         | /           | /         |
| Body Front (5mm)               | 1712.4          | RMC       | /                      | /                      | /             | /         | /           | /         |
|                                | 1732.6          | RMC       | 22.38                  | 22.5                   | 1.028         | 0.086     | <b>0.09</b> | <b>8#</b> |
|                                | 1752.6          | RMC       | /                      | /                      | /             | /         | /           | /         |
| Body Back With Belt Clip (0mm) | 1712.4          | RMC       | /                      | /                      | /             | /         | /           | /         |
|                                | 1732.6          | RMC       | 22.38                  | 22.5                   | 1.028         | 0.027     | 0.03        | /         |
|                                | 1752.6          | RMC       | /                      | /                      | /             | /         | /           | /         |
| Body Bottom (5mm)              | 1712.4          | RMC       | /                      | /                      | /             | /         | /           | /         |
|                                | 1732.6          | RMC       | 22.38                  | 22.5                   | 1.028         | 0.080     | 0.08        | /         |
|                                | 1752.6          | RMC       | /                      | /                      | /             | /         | /           | /         |

Note: The test data above was performed on 2025/08/20.

**WCDMA Band 5:**

| EUT Position                   | Frequency (MHz) | Test Mode | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | 1g SAR (W/kg) |           |             |            |
|--------------------------------|-----------------|-----------|------------------------|------------------------|---------------|-----------|-------------|------------|
|                                |                 |           |                        |                        | Scaled Factor | Meas. SAR | Scaled SAR  | Plot       |
| Head Left Cheek                | 826.4           | RMC       | /                      | /                      | /             | /         | /           | /          |
|                                | 836.6           | RMC       | 23.56                  | 24                     | 1.107         | 0.222     | 0.25        | /          |
|                                | 846.6           | RMC       | /                      | /                      | /             | /         | /           | /          |
| Head Left Tilt                 | 826.4           | RMC       | /                      | /                      | /             | /         | /           | /          |
|                                | 836.6           | RMC       | 23.56                  | 24                     | 1.107         | 0.113     | 0.13        | /          |
|                                | 846.6           | RMC       | /                      | /                      | /             | /         | /           | /          |
| Head Right Cheek               | 826.4           | RMC       | /                      | /                      | /             | /         | /           | /          |
|                                | 836.6           | RMC       | 23.56                  | 24                     | 1.107         | 0.340     | <b>0.38</b> | <b>9#</b>  |
|                                | 846.6           | RMC       | /                      | /                      | /             | /         | /           | /          |
| Head Right Tilt                | 826.4           | RMC       | /                      | /                      | /             | /         | /           | /          |
|                                | 836.6           | RMC       | 23.56                  | 24                     | 1.107         | 0.187     | 0.21        | /          |
|                                | 846.6           | RMC       | /                      | /                      | /             | /         | /           | /          |
| Body Front (5mm)               | 826.4           | RMC       | /                      | /                      | /             | /         | /           | /          |
|                                | 836.6           | RMC       | 23.56                  | 24                     | 1.107         | 0.189     | <b>0.21</b> | <b>10#</b> |
|                                | 846.6           | RMC       | /                      | /                      | /             | /         | /           | /          |
| Body Back With Belt Clip (0mm) | 826.4           | RMC       | /                      | /                      | /             | /         | /           | /          |
|                                | 836.6           | RMC       | 23.56                  | 24                     | 1.107         | 0.134     | 0.15        | /          |
|                                | 846.6           | RMC       | /                      | /                      | /             | /         | /           | /          |
| Body Bottom (5mm)              | 826.4           | RMC       | /                      | /                      | /             | /         | /           | /          |
|                                | 836.6           | RMC       | 23.56                  | 24                     | 1.107         | 0.065     | 0.07        | /          |
|                                | 846.6           | RMC       | /                      | /                      | /             | /         | /           | /          |

**Note:**

1. When the 1-g SAR is  $\leq 0.8\text{W/Kg}$ , testing for other channels are optional.
2. The EUT transmit and receive through the same antenna while testing SAR.
3. The default test configuration is to measure SAR with an established radio link between the EUT and a communication test set using a 12.2 kbps RMC(reference measurement Channel) Configured in All 1.
4. KDB 941225 D01-Body SAR is not required for HSDPA/HSUPA when the maximum average output of each RF channel is less than  $\frac{1}{4}$  dB higher than measured 12.2kbps RMC or the maximum SAR for 12.2kbps RMC is  $< 75\%$  of SAR limit.
5. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.

**LTE Band 2:**

| EUT Position                   | Frequency (MHz) | Bandwidth (MHz) | Test Mode | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | 1g SAR (W/kg) |           |             |            |
|--------------------------------|-----------------|-----------------|-----------|------------------------|------------------------|---------------|-----------|-------------|------------|
|                                |                 |                 |           |                        |                        | Scaled Factor | Meas. SAR | Scaled SAR  | Plot       |
| Head Left Cheek                | 1860            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1880            | 20              | 1RB       | 23.56                  | 24                     | 1.107         | 0.091     | <b>0.10</b> | <b>11#</b> |
|                                | 1900            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1880            | 20              | 50%RB     | 22.27                  | 22.5                   | 1.054         | 0.065     | 0.07        | /          |
| Head Left Tilt                 | 1860            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1880            | 20              | 1RB       | 23.56                  | 24                     | 1.107         | 0.029     | 0.03        | /          |
|                                | 1900            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1880            | 20              | 50%RB     | 22.27                  | 22.5                   | 1.054         | 0.019     | 0.02        | /          |
| Head Right Cheek               | 1860            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1880            | 20              | 1RB       | 23.56                  | 24                     | 1.107         | 0.067     | 0.07        | /          |
|                                | 1900            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1880            | 20              | 50%RB     | 22.27                  | 22.5                   | 1.054         | 0.052     | 0.06        | /          |
| Head Right Tilt                | 1860            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1880            | 20              | 1RB       | 23.56                  | 24                     | 1.107         | 0.016     | 0.02        | /          |
|                                | 1900            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1880            | 20              | 50%RB     | 22.27                  | 22.5                   | 1.054         | 0.016     | 0.02        | /          |
| Body Front (5mm)               | 1860            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1880            | 20              | 1RB       | 23.56                  | 24                     | 1.107         | 0.251     | <b>0.28</b> | <b>12#</b> |
|                                | 1900            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1880            | 20              | 50%RB     | 22.27                  | 22.5                   | 1.054         | 0.179     | 0.19        | /          |
| Body Back With Belt Clip (0mm) | 1860            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1880            | 20              | 1RB       | 23.56                  | 24                     | 1.107         | 0.056     | 0.06        | /          |
|                                | 1900            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1880            | 20              | 50%RB     | 22.27                  | 22.5                   | 1.054         | 0.041     | 0.04        | /          |
| Body Bottom (5mm)              | 1860            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1880            | 20              | 1RB       | 23.56                  | 24                     | 1.107         | 0.239     | 0.27        | /          |
|                                | 1900            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1880            | 20              | 50%RB     | 22.27                  | 22.5                   | 1.054         | 0.176     | 0.19        | /          |

**LTE Band 7:**

| EUT Position                   | Frequency (MHz) | Bandwidth (MHz) | Test Mode | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | 1g SAR (W/kg) |           |             |            |
|--------------------------------|-----------------|-----------------|-----------|------------------------|------------------------|---------------|-----------|-------------|------------|
|                                |                 |                 |           |                        |                        | Scaled Factor | Meas. SAR | Scaled SAR  | Plot       |
| Head Left Cheek                | 2510            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2535            | 20              | 1RB       | 23.36                  | 23.5                   | 1.033         | 0.098     | <b>0.10</b> | <b>13#</b> |
|                                | 2560            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2535            | 20              | 50%RB     | 22.03                  | 22.5                   | 1.114         | 0.078     | 0.09        | /          |
| Head Left Tilt                 | 2510            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2535            | 20              | 1RB       | 23.36                  | 23.5                   | 1.033         | 0.022     | 0.02        | /          |
|                                | 2560            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2535            | 20              | 50%RB     | 22.03                  | 22.5                   | 1.114         | 0.019     | 0.02        | /          |
| Head Right Cheek               | 2510            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2535            | 20              | 1RB       | 23.36                  | 23.5                   | 1.033         | 0.020     | 0.02        | /          |
|                                | 2560            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2535            | 20              | 50%RB     | 22.03                  | 22.5                   | 1.114         | 0.016     | 0.02        | /          |
| Head Right Tilt                | 2510            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2535            | 20              | 1RB       | 23.36                  | 23.5                   | 1.033         | 0.00917   | 0.01        | /          |
|                                | 2560            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2535            | 20              | 50%RB     | 22.03                  | 22.5                   | 1.114         | <0.01     | 0.01        | /          |
| Body Front (5mm)               | 2510            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2535            | 20              | 1RB       | 23.36                  | 23.5                   | 1.033         | 0.083     | 0.09        | /          |
|                                | 2560            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2535            | 20              | 50%RB     | 22.03                  | 22.5                   | 1.114         | 0.050     | 0.06        | /          |
| Body Back With Belt Clip (0mm) | 2510            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2535            | 20              | 1RB       | 23.36                  | 23.5                   | 1.033         | 0.059     | 0.06        | /          |
|                                | 2560            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2535            | 20              | 50%RB     | 22.03                  | 22.5                   | 1.114         | 0.043     | 0.05        | /          |
| Body Bottom (5mm)              | 2510            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2535            | 20              | 1RB       | 23.36                  | 23.5                   | 1.033         | 0.321     | <b>0.33</b> | <b>14#</b> |
|                                | 2560            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2535            | 20              | 50%RB     | 22.03                  | 22.5                   | 1.114         | 0.245     | 0.27        | /          |

**LTE Band 12&17:**

| EUT Position                   | Frequency (MHz) | Bandwidth (MHz) | Test Mode | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | 1g SAR (W/kg) |           |             |            |
|--------------------------------|-----------------|-----------------|-----------|------------------------|------------------------|---------------|-----------|-------------|------------|
|                                |                 |                 |           |                        |                        | Scaled Factor | Meas. SAR | Scaled SAR  | Plot       |
| Head Left Cheek                | 704             | 10              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 707.5           | 10              | 1RB       | 24.24                  | 24.5                   | 1.062         | 0.082     | 0.09        | /          |
|                                | 711             | 10              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 707.5           | 10              | 50%RB     | 23.08                  | 23.5                   | 1.102         | 0.066     | 0.07        | /          |
| Head Left Tilt                 | 704             | 10              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 707.5           | 10              | 1RB       | 24.24                  | 24.5                   | 1.062         | 0.053     | 0.06        | /          |
|                                | 711             | 10              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 707.5           | 10              | 50%RB     | 23.08                  | 23.5                   | 1.102         | 0.042     | 0.05        | /          |
| Head Right Cheek               | 704             | 10              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 707.5           | 10              | 1RB       | 24.24                  | 24.5                   | 1.062         | 0.090     | <b>0.10</b> | <b>15#</b> |
|                                | 711             | 10              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 707.5           | 10              | 50%RB     | 23.08                  | 23.5                   | 1.102         | 0.070     | 0.08        | /          |
| Head Right Tilt                | 704             | 10              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 707.5           | 10              | 1RB       | 24.24                  | 24.5                   | 1.062         | 0.062     | 0.07        | /          |
|                                | 711             | 10              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 707.5           | 10              | 50%RB     | 23.08                  | 23.5                   | 1.102         | 0.051     | 0.06        | /          |
| Body Front (5mm)               | 704             | 10              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 707.5           | 10              | 1RB       | 24.24                  | 24.5                   | 1.062         | 0.109     | <b>0.12</b> | <b>16#</b> |
|                                | 711             | 10              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 707.5           | 10              | 50%RB     | 23.08                  | 23.5                   | 1.102         | 0.091     | 0.10        | /          |
| Body Back With Belt Clip (0mm) | 704             | 10              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 707.5           | 10              | 1RB       | 24.24                  | 24.5                   | 1.062         | 0.088     | 0.09        | /          |
|                                | 711             | 10              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 707.5           | 10              | 50%RB     | 23.08                  | 23.5                   | 1.102         | 0.070     | 0.08        | /          |
| Body Bottom (5mm)              | 704             | 10              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 707.5           | 10              | 1RB       | 24.24                  | 24.5                   | 1.062         | 0.013     | 0.01        | /          |
|                                | 711             | 10              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 707.5           | 10              | 50%RB     | 23.08                  | 23.5                   | 1.102         | 0.010     | 0.01        | /          |

## Note:

1. The E-UTRA Operating Band 17 is a subset of band 12, and they are same in modulation type and rated output power, therefore, they were considered as one frequency band during SAR measurement, LTE Band 12 (the wide frequency range) was selected to test.

**LTE Band 26&5:**

| EUT Position                   | Frequency (MHz) | Bandwidth (MHz) | Test Mode | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | 1g SAR (W/kg) |           |             |            |
|--------------------------------|-----------------|-----------------|-----------|------------------------|------------------------|---------------|-----------|-------------|------------|
|                                |                 |                 |           |                        |                        | Scaled Factor | Meas. SAR | Scaled SAR  | Plot       |
| Head Left Cheek                | 821.5           | 15              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 831.5           | 15              | 1RB       | 23.96                  | 24.5                   | 1.132         | 0.158     | 0.18        | /          |
|                                | 841.5           | 15              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 831.5           | 15              | 50%RB     | 22.76                  | 23                     | 1.057         | 0.125     | 0.13        | /          |
| Head Left Tilt                 | 821.5           | 15              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 831.5           | 15              | 1RB       | 23.96                  | 24.5                   | 1.132         | 0.090     | 0.10        | /          |
|                                | 841.5           | 15              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 831.5           | 15              | 50%RB     | 22.76                  | 23                     | 1.057         | 0.070     | 0.07        | /          |
| Head Right Cheek               | 821.5           | 15              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 831.5           | 15              | 1RB       | 23.96                  | 24.5                   | 1.132         | 0.198     | <b>0.22</b> | <b>17#</b> |
|                                | 841.5           | 15              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 831.5           | 15              | 50%RB     | 22.76                  | 23                     | 1.057         | 0.146     | 0.15        | /          |
| Head Right Tilt                | 821.5           | 15              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 831.5           | 15              | 1RB       | 23.96                  | 24.5                   | 1.132         | 0.132     | 0.15        | /          |
|                                | 841.5           | 15              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 831.5           | 15              | 50%RB     | 22.76                  | 23                     | 1.057         | 0.106     | 0.11        | /          |
| Body Front (5mm)               | 821.5           | 15              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 831.5           | 15              | 1RB       | 23.96                  | 24.5                   | 1.132         | 0.175     | <b>0.20</b> | <b>18#</b> |
|                                | 841.5           | 15              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 831.5           | 15              | 50%RB     | 22.76                  | 23                     | 1.057         | 0.131     | 0.14        | /          |
| Body Back With Belt Clip (0mm) | 821.5           | 15              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 831.5           | 15              | 1RB       | 23.96                  | 24.5                   | 1.132         | 0.141     | 0.16        | /          |
|                                | 841.5           | 15              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 831.5           | 15              | 50%RB     | 22.76                  | 23                     | 1.057         | 0.105     | 0.11        | /          |
| Body Bottom (5mm)              | 821.5           | 15              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 831.5           | 15              | 1RB       | 23.96                  | 24.5                   | 1.132         | 0.033     | 0.04        | /          |
|                                | 841.5           | 15              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 831.5           | 15              | 50%RB     | 22.76                  | 23                     | 1.057         | 0.024     | 0.03        | /          |

Note:

1. The E-UTRA Operating Band 5 is a subset of band 26, and they are same in modulation type and rated output power, therefore, they were considered as one frequency band during SAR measurement, LTE Band 26 (the wide frequency range) was selected to test.

**LTE Band 41&38:**

| EUT Position                   | Frequency (MHz) | Bandwidth (MHz) | Test Mode | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | 1g SAR (W/kg) |           |             |            |
|--------------------------------|-----------------|-----------------|-----------|------------------------|------------------------|---------------|-----------|-------------|------------|
|                                |                 |                 |           |                        |                        | Scaled Factor | Meas. SAR | Scaled SAR  | Plot       |
| Head Left Cheek                | 2506            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2549.5          | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2593            | 20              | 1RB       | 23.73                  | 24.1                   | 1.089         | 0.042     | <b>0.05</b> | <b>19#</b> |
|                                | 2636.5          | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2680            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2593            | 20              | 50%RB     | 22.84                  | 23                     | 1.038         | 0.033     | 0.03        | /          |
| Head Left Tilt                 | 2506            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2549.5          | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2593            | 20              | 1RB       | 23.73                  | 24.1                   | 1.089         | <0.01     | 0.01        | /          |
|                                | 2636.5          | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2680            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2593            | 20              | 50%RB     | 22.84                  | 23                     | 1.038         | <0.01     | 0.01        | /          |
| Head Right Cheek               | 2506            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2549.5          | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2593            | 20              | 1RB       | 23.73                  | 24.1                   | 1.089         | 0.022     | 0.02        | /          |
|                                | 2636.5          | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2680            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2593            | 20              | 50%RB     | 22.84                  | 23                     | 1.038         | 0.018     | 0.02        | /          |
| Head Right Tilt                | 2506            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2549.5          | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2593            | 20              | 1RB       | 23.73                  | 24.1                   | 1.089         | <0.01     | 0.01        | /          |
|                                | 2636.5          | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2680            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2593            | 20              | 50%RB     | 22.84                  | 23                     | 1.038         | <0.01     | 0.01        | /          |
| Body Front (5mm)               | 2506            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2549.5          | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2593            | 20              | 1RB       | 23.73                  | 24.1                   | 1.089         | 0.025     | 0.03        | /          |
|                                | 2636.5          | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2680            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2593            | 20              | 50%RB     | 22.84                  | 23                     | 1.038         | 0.019     | 0.02        | /          |
| Body Back With Belt Clip (0mm) | 2506            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2549.5          | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2593            | 20              | 1RB       | 23.73                  | 24.1                   | 1.089         | 0.022     | 0.02        | /          |
|                                | 2636.5          | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2680            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2593            | 20              | 50%RB     | 22.84                  | 23                     | 1.038         | 0.022     | 0.02        | /          |
| Body Bottom (5mm)              | 2506            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2549.5          | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2593            | 20              | 1RB       | 23.73                  | 24.1                   | 1.089         | 0.085     | <b>0.09</b> | <b>20#</b> |
|                                | 2636.5          | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2680            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 2593            | 20              | 50%RB     | 22.84                  | 23                     | 1.038         | 0.063     | 0.07        | /          |

Note:

1.The E-UTRA Operating Band 38 is a subset of band 41, and they are same in modulation type and rated output power, therefore, they were considered as one frequency band during SAR measurement, LTE Band 41 (the wide frequency range) was selected to test.

2.The frequency range of LTE Band 41 is 2496~ 2690MHz. Per KDB 447498 D01, according to the following formula Calculate  $N_c$  is 5.

3.KDB procedures the following should be applied to determine the number of required test channels. The test channels should be evenly spread across the transmission frequency band of each wireless mode.

$$N_c = \text{Round}\{[100(f_{\text{high}} - f_{\text{low}})/f_c]^{0.5} \times (f_c/100)^{0.2}\},$$

where

- $N_c$  is the number of test channels,rounded to nearest integer,
- $f_{\text{high}}$  and  $f_{\text{low}}$  are the highest and lowest channel frequencies within the transmission band,
- $f_c$  is the mid-band channel frequency,
- all frequencies are in MHz.

4. The power class 3 used for LTE Band 41 SAR testing.

**LTE Band 66&4:**

| EUT Position                   | Frequency (MHz) | Bandwidth (MHz) | Test Mode | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | 1g SAR (W/kg) |           |             |            |
|--------------------------------|-----------------|-----------------|-----------|------------------------|------------------------|---------------|-----------|-------------|------------|
|                                |                 |                 |           |                        |                        | Scaled Factor | Meas. SAR | Scaled SAR  | Plot       |
| Head Left Cheek                | 1720            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1745            | 20              | 1RB       | 23.43                  | 24                     | 1.14          | 0.054     | <b>0.06</b> | <b>21#</b> |
|                                | 1770            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1745            | 20              | 50%RB     | 22.73                  | 23                     | 1.064         | 0.042     | 0.05        | /          |
| Head Left Tilt                 | 1720            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1745            | 20              | 1RB       | 23.43                  | 24                     | 1.14          | <0.01     | 0.01        | /          |
|                                | 1770            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1745            | 20              | 50%RB     | 22.73                  | 23                     | 1.064         | <0.01     | 0.01        | /          |
| Head Right Cheek               | 1720            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1745            | 20              | 1RB       | 23.43                  | 24                     | 1.14          | 0.019     | 0.02        | /          |
|                                | 1770            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1745            | 20              | 50%RB     | 22.73                  | 23                     | 1.064         | 0.016     | 0.02        | /          |
| Head Right Tilt                | 1720            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1745            | 20              | 1RB       | 23.43                  | 24                     | 1.14          | <0.01     | 0.01        | /          |
|                                | 1770            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1745            | 20              | 50%RB     | 22.73                  | 23                     | 1.064         | <0.01     | 0.01        | /          |
| Body Front (5mm)               | 1720            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1745            | 20              | 1RB       | 23.43                  | 24                     | 1.14          | 0.127     | <b>0.15</b> | <b>22#</b> |
|                                | 1770            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1745            | 20              | 50%RB     | 22.73                  | 23                     | 1.064         | 0.111     | 0.12        | /          |
| Body Back With Belt Clip (0mm) | 1720            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1745            | 20              | 1RB       | 23.43                  | 24                     | 1.14          | 0.036     | 0.04        | /          |
|                                | 1770            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1745            | 20              | 50%RB     | 22.73                  | 23                     | 1.064         | 0.029     | 0.03        | /          |
| Body Bottom (5mm)              | 1720            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1745            | 20              | 1RB       | 23.43                  | 24                     | 1.14          | 0.091     | 0.10        | /          |
|                                | 1770            | 20              | 1RB       | /                      | /                      | /             | /         | /           | /          |
|                                | 1745            | 20              | 50%RB     | 22.73                  | 23                     | 1.064         | 0.068     | 0.07        | /          |

Note: The test data above was performed on 2025/08/17.

## Note:

1.The E-UTRA Operating Band 4 is a subset of band 66, and they are same in modulation type and rated output power, therefore, they were considered as one frequency band during SAR measurement, LTE Band 66 (the wide frequency range) was selected to test.

**Note:**

1. When the 1-g SAR is  $\leq 0.8\text{W/Kg}$ , testing for other channels are optional.
2. SAR for LTE band exposure configurations is measured according to the procedures of KDB 941225 D05 SAR for LTE Devices v02r05.
3. KDB 941225 D05-SAR for higher order modulation is required only when the highest maximum output power for the configuration in the higher order modulation is  $> 0.5\text{ dB}$  higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is  $> 1.45\text{ W/kg}$
4. KDB 941225 D05-For QPSK with 100% RB allocation, when the reported SAR measured for the Highest output power channel is  $< 1.45\text{ W/kg}$ , tests for the remaining required test channels are optional.
5. KDB 941225 D05- For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are  $\leq 0.8\text{ W/kg}$ .
6. KDB 941225 D05- Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offset the upper edge, middle and lower edge of each required test channel.
7. KDB 941225 D05- other channel bandwidths SAR test is required when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is  $> 0.5\text{ dB}$  higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is  $> 1.45\text{ W/kg}$ .

**WLAN 2.4G:**

| EUT Position                   | Frequency (MHz) | Test Mode | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | 1g SAR (W/kg) |                   |           |             |            |
|--------------------------------|-----------------|-----------|------------------------|------------------------|---------------|-------------------|-----------|-------------|------------|
|                                |                 |           |                        |                        | Scaled Factor | Duty cycle Factor | Meas. SAR | Scaled SAR  | Plot       |
| Head Left Cheek                | 2412            | 802.11b   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 2437            | 802.11b   | 15.34                  | 15.5                   | 1.038         | 1.03              | 0.103     | 0.11        | /          |
|                                | 2462            | 802.11b   | /                      | /                      | /             | /                 | /         | /           | /          |
| Head Left Tilt                 | 2412            | 802.11b   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 2437            | 802.11b   | 15.34                  | 15.5                   | 1.038         | 1.03              | 0.071     | 0.08        | /          |
|                                | 2462            | 802.11b   | /                      | /                      | /             | /                 | /         | /           | /          |
| Head Right Cheek               | 2412            | 802.11b   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 2437            | 802.11b   | 15.34                  | 15.5                   | 1.038         | 1.03              | 0.252     | <b>0.27</b> | <b>23#</b> |
|                                | 2462            | 802.11b   | /                      | /                      | /             | /                 | /         | /           | /          |
| Head Right Tilt                | 2412            | 802.11b   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 2437            | 802.11b   | 15.34                  | 15.5                   | 1.038         | 1.03              | 0.159     | 0.17        | /          |
|                                | 2462            | 802.11b   | /                      | /                      | /             | /                 | /         | /           | /          |
| Body Front (5mm)               | 2412            | 802.11b   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 2437            | 802.11b   | 15.34                  | 15.5                   | 1.038         | 1.03              | 0.037     | <b>0.04</b> | <b>24#</b> |
|                                | 2462            | 802.11b   | /                      | /                      | /             | /                 | /         | /           | /          |
| Body Back With Belt Clip (0mm) | 2412            | 802.11b   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 2437            | 802.11b   | 15.34                  | 15.5                   | 1.038         | 1.03              | 0.036     | 0.04        | /          |
|                                | 2462            | 802.11b   | /                      | /                      | /             | /                 | /         | /           | /          |

**Note:**

1. When the 1-g SAR is  $\leq 0.8\text{W/kg}$ , testing for other channels are optional.
2. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.
3. KDB 248227 D01-SAR measurement is not required for 2.4 GHz OFDM(802.11g/n) when the highest reported SAR for DSSS(802.11b) is  $\leq 1.2\text{ W/kg}$ , and the output power for DSSS is not less than that for OFDM.
4. According KDB 248227 D01, for SAR testing of WLAN with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)".

**WLAN 5.2G:**

| EUT Position                   | Frequency (MHz) | Test Mode | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | 1g SAR (W/kg) |                   |           |             |            |
|--------------------------------|-----------------|-----------|------------------------|------------------------|---------------|-------------------|-----------|-------------|------------|
|                                |                 |           |                        |                        | Scaled Factor | Duty cycle Factor | Meas. SAR | Scaled SAR  | Plot       |
| Head Left Cheek (0mm)          | 5180            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5200            | 802.11a   | 15.76                  | 16                     | 1.057         | 1.15              | 0.155     | 0.19        | /          |
|                                | 5240            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
| Head Left Tilt (0mm)           | 5180            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5200            | 802.11a   | 15.76                  | 16                     | 1.057         | 1.15              | 0.150     | 0.18        | /          |
|                                | 5240            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
| Head Right Cheek (0mm)         | 5180            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5200            | 802.11a   | 15.76                  | 16                     | 1.057         | 1.15              | 0.172     | <b>0.21</b> | <b>25#</b> |
|                                | 5240            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
| Head Right Tilt (0mm)          | 5180            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5200            | 802.11a   | 15.76                  | 16                     | 1.057         | 1.15              | 0.160     | 0.19        | /          |
|                                | 5240            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
| Body Front (5mm)               | 5180            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5200            | 802.11a   | 15.76                  | 16                     | 1.057         | 1.15              | 0.169     | <b>0.21</b> | <b>26#</b> |
|                                | 5240            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
| Body Back With Belt Clip (0mm) | 5180            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5200            | 802.11a   | 15.76                  | 16                     | 1.057         | 1.15              | 0.038     | 0.05        | /          |
|                                | 5240            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |

**Note:**

1. When the 1-g SAR is  $\leq 0.8\text{W/kg}$ , testing for other channels are optional.
2. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.
3. For 802.11a mode power is the largest among 802.11a/n/ac, 802.11a mode as initial test configuration is selected to test.
4. According KDB 248227 D01, for SAR testing of WLAN with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)".

**WLAN 5.3G:**

| EUT Position                   | Frequency (MHz) | Test Mode | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | 1g SAR (W/kg) |                   |           |             |            |
|--------------------------------|-----------------|-----------|------------------------|------------------------|---------------|-------------------|-----------|-------------|------------|
|                                |                 |           |                        |                        | Scaled Factor | Duty cycle Factor | Meas. SAR | Scaled SAR  | Plot       |
| Head Left Cheek (0mm)          | 5260            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5280            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5320            | 802.11a   | 16.39                  | 16.5                   | 1.026         | 1.15              | 0.111     | 0.13        | /          |
| Head Left Tilt (0mm)           | 5260            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5280            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5320            | 802.11a   | 16.39                  | 16.5                   | 1.026         | 1.15              | 0.167     | 0.2         | /          |
| Head Right Cheek (0mm)         | 5260            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5280            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5320            | 802.11a   | 16.39                  | 16.5                   | 1.026         | 1.15              | 0.203     | <b>0.24</b> | <b>27#</b> |
| Head Right Tilt (0mm)          | 5260            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5280            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5320            | 802.11a   | 16.39                  | 16.5                   | 1.026         | 1.15              | 0.165     | 0.19        | /          |
| Body Front (5mm)               | 5260            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5280            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5320            | 802.11a   | 16.39                  | 16.5                   | 1.026         | 1.15              | 0.180     | <b>0.21</b> | <b>28#</b> |
| Body Back With Belt Clip (0mm) | 5260            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5280            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5320            | 802.11a   | 16.39                  | 16.5                   | 1.026         | 1.15              | 0.043     | 0.05        | /          |

**Note:**

1. When the 1-g SAR is  $\leq 0.8\text{W/kg}$ , testing for other channels are optional.
2. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.
3. For 802.11a mode power is the largest among 802.11a/n/ac, 802.11a mode as initial test configuration is selected to test.
4. According KDB 248227 D01, for SAR testing of WLAN with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)".

**WLAN 5.6G:**

| EUT                            | Frequency (MHz) | Test Mode | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | 1g SAR (W/kg) |                   |           |             |            |
|--------------------------------|-----------------|-----------|------------------------|------------------------|---------------|-------------------|-----------|-------------|------------|
|                                |                 |           |                        |                        | Scaled Factor | Duty cycle Factor | Meas. SAR | Scaled SAR  | Plot       |
| Head Left Cheek (0mm)          | 5500            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5580            | 802.11a   | 17.17                  | 17.5                   | 1.079         | 1.15              | 0.152     | 0.19        | /          |
|                                | 5700            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
| Head Left Tilt (0mm)           | 5500            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5580            | 802.11a   | 17.17                  | 17.5                   | 1.079         | 1.15              | 0.248     | 0.31        | /          |
|                                | 5700            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
| Head Right Cheek (0mm)         | 5500            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5580            | 802.11a   | 17.17                  | 17.5                   | 1.079         | 1.15              | 0.298     | 0.37        | /          |
|                                | 5700            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
| Head Right Tilt (0mm)          | 5500            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5580            | 802.11a   | 17.17                  | 17.5                   | 1.079         | 1.15              | 0.345     | <b>0.43</b> | <b>29#</b> |
|                                | 5700            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
| Body Front (5mm)               | 5500            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5580            | 802.11a   | 17.17                  | 17.5                   | 1.079         | 1.15              | 0.125     | <b>0.16</b> | <b>30#</b> |
|                                | 5700            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
| Body Back With Belt Clip (0mm) | 5500            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5580            | 802.11a   | 17.17                  | 17.5                   | 1.079         | 1.15              | 0.053     | 0.07        | /          |
|                                | 5700            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |

**Note:**

1. When the 1-g SAR is  $\leq 0.8\text{W/kg}$ , testing for other channels are optional.
2. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.
3. For 802.11a mode power is the largest among 802.11a/n/ac, 802.11a mode as initial test configuration is selected to test.
4. According KDB 248227 D01, for SAR testing of WLAN with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)".

**WLAN 5.8G:**

| EUT Position                   | Frequency (MHz) | Test Mode | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | 1g SAR (W/kg) |                   |           |             |            |
|--------------------------------|-----------------|-----------|------------------------|------------------------|---------------|-------------------|-----------|-------------|------------|
|                                |                 |           |                        |                        | Scaled Factor | Duty cycle Factor | Meas. SAR | Scaled SAR  | Plot       |
| Head Left Cheek (0mm)          | 5745            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5785            | 802.11a   | 17.09                  | 17.5                   | 1.099         | 1.15              | 0.254     | 0.32        | /          |
|                                | 5825            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
| Head Left Tilt (0mm)           | 5745            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5785            | 802.11a   | 17.09                  | 17.5                   | 1.099         | 1.15              | 0.206     | 0.26        | /          |
|                                | 5825            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
| Head Right Cheek (0mm)         | 5745            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5785            | 802.11a   | 17.09                  | 17.5                   | 1.099         | 1.15              | 0.413     | <b>0.52</b> | <b>31#</b> |
|                                | 5825            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
| Head Right Tilt (0mm)          | 5745            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5785            | 802.11a   | 17.09                  | 17.5                   | 1.099         | 1.15              | 0.374     | 0.47        | /          |
|                                | 5825            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
| Body Front (5mm)               | 5745            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5785            | 802.11a   | 17.09                  | 17.5                   | 1.099         | 1.15              | 0.241     | <b>0.3</b>  | <b>32#</b> |
|                                | 5825            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
| Body Back With Belt Clip (0mm) | 5745            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |
|                                | 5785            | 802.11a   | 17.09                  | 17.5                   | 1.099         | 1.15              | 0.079     | 0.1         | /          |
|                                | 5825            | 802.11a   | /                      | /                      | /             | /                 | /         | /           | /          |

**Note:**

1. When the 1-g SAR is  $\leq 0.8\text{W/kg}$ , testing for other channels are optional.
2. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.
3. For 802.11a mode power is the largest among 802.11a/n/ac, 802.11a mode as initial test configuration is selected to test.
4. According KDB 248227 D01, for SAR testing of WLAN with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)".

**PTT(400-480MHz):**

*Pre-Scan all 6 Channels, the peak SAR located on 432.0025 MHz for Face Up mode and Body Back mode.*

| Test Position           | Channel Separation | Frequency (MHz) | Worn Accessories  | Max. Meas. Power (dBm) | Max. Rated Power (dBm) | 1g SAR Value(W/kg)  |           |                |             |            |
|-------------------------|--------------------|-----------------|-------------------|------------------------|------------------------|---------------------|-----------|----------------|-------------|------------|
|                         |                    |                 |                   |                        |                        | Power Scaled Factor | Meas. SAR | PTT 50% Factor | Scaled SAR  | Plot       |
| Head Face Up<br>(25 mm) | FM<br>12.5kHz      | 400.0125        | None              | /                      | /                      | /                   | /         | /              | /           | /          |
|                         |                    | 416.0075        | None              | /                      | /                      | /                   | /         | /              | /           | /          |
|                         |                    | 432.0025        | None              | 36.26                  | 36.8                   | 1.132               | 4.25      | 2.125          | <b>2.41</b> | <b>33#</b> |
|                         |                    | 447.9975        | None              | /                      | /                      | /                   | /         | /              | /           | /          |
|                         |                    | 463.9925        | None              | /                      | /                      | /                   | /         | /              | /           | /          |
|                         |                    | 479.9875        | None              | /                      | /                      | /                   | /         | /              | /           | /          |
|                         | 4FSK<br>12.5kHz    | 400.0125        | None              | /                      | /                      | /                   | /         | /              | /           | /          |
|                         |                    | 416.0075        | None              | /                      | /                      | /                   | /         | /              | /           | /          |
|                         |                    | 432.0025        | None              | 35.82                  | 36.8                   | 1.253               | 2.34      | 1.17           | 1.47        | /          |
|                         |                    | 447.9975        | None              | /                      | /                      | /                   | /         | /              | /           | /          |
|                         |                    | 463.9925        | None              | /                      | /                      | /                   | /         | /              | /           | /          |
|                         |                    | 479.9875        | None              | /                      | /                      | /                   | /         | /              | /           | /          |
| Body Back<br>(0 mm)     | FM<br>12.5kHz      | 400.0125        | Belt Clip+Headset | 35.99                  | 36.8                   | 1.205               | 5.75      | 2.875          | 3.46        | /          |
|                         |                    | 416.0075        | Belt Clip+Headset | 36.28                  | 36.8                   | 1.127               | 6.28      | 3.14           | 3.54        | /          |
|                         |                    | 432.0025        | Belt Clip+Headset | 36.26                  | 36.8                   | 1.132               | 6.36      | 3.18           | <b>3.60</b> | <b>34#</b> |
|                         |                    | 447.9975        | Belt Clip+Headset | 36.68                  | 36.8                   | 1.028               | 5.72      | 2.86           | 2.94        | /          |
|                         |                    | 463.9925        | Belt Clip+Headset | 36.37                  | 36.8                   | 1.104               | 4.08      | 2.04           | 2.25        | /          |
|                         |                    | 479.9875        | Belt Clip+Headset | 36.09                  | 36.8                   | 1.178               | 2.67      | 1.335          | 1.57        | /          |
|                         | 4FSK<br>12.5kHz    | 400.0125        | Belt Clip+Headset | /                      | /                      | /                   | /         | /              | /           | /          |
|                         |                    | 416.0075        | Belt Clip+Headset | /                      | /                      | /                   | /         | /              | /           | /          |
|                         |                    | 432.0025        | Belt Clip+Headset | 35.82                  | 36.8                   | 1.253               | 2.59      | 1.295          | 1.62        | /          |
|                         |                    | 447.9975        | Belt Clip+Headset | /                      | /                      | /                   | /         | /              | /           | /          |
|                         |                    | 463.9925        | Belt Clip+Headset | /                      | /                      | /                   | /         | /              | /           | /          |
|                         |                    | 479.9875        | Belt Clip+Headset | /                      | /                      | /                   | /         | /              | /           | /          |

**Note:**

1. When the 1-g SAR is  $\leq 3.5\text{W/kg}$ , testing for other channels are optional.
2. For a PTT, only simplex communication technology was supported, so the SAR value need to be corrected by Multiplying 50%.
3. Passive body-worn and audio accessories generally do not apply to the head SAR of PTT radios.
5. The whole antenna and radiating structures that may contribute to the measured SAR or influence the SAR distribution has been included in the area scan.
- 5.The UHF bands in this device operate in a half duplex system. A half duplex system only allows the user to transmit or receive. This device cannot transmit and receive simultaneously. The user must stop transmitting in order to receive a signal or listen for a response, regardless of PTT button or with a VOX(Voice Activated Transmit) capacity. This type of operation, along with the RF safety booklet, which instructs the user to transmit no more than 50% of the time, justifies the use of 50% duty factor for this device.

## 10. MEASUREMENT VARIABILITY

In accordance with published RF Exposure KDB procedure 865664 D01 SAR measurement 100 MHz to 6 GHz v01. 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 ( $\sim 10\%$  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  $> 1.20$ .

*Note: The same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.*

### The Highest Measured SAR Configuration in Each Frequency Band

#### Head

| SAR probe calibration point | Frequency Band | Freq.(MHz) | EUT Position        | 1g Meas. SAR (W/kg) |          | Largest to Smallest SAR Ratio |
|-----------------------------|----------------|------------|---------------------|---------------------|----------|-------------------------------|
|                             |                |            |                     | Original            | Repeated |                               |
| 450MHz                      | FM 12.5kHz     | 432.0025   | Head Face Up (25mm) | 4.25                | 4.20     | 1.01                          |

#### Body

| SAR probe calibration point | Frequency Band | Freq.(MHz) | EUT Position    | 1g Meas. SAR (W/kg) |          | Largest to Smallest SAR Ratio |
|-----------------------------|----------------|------------|-----------------|---------------------|----------|-------------------------------|
|                             |                |            |                 | Original            | Repeated |                               |
| 450MHz                      | FM 12.5kHz     | 432.0025   | Body Back (0mm) | 6.36                | 6.13     | 1.04                          |

#### Note:

1. The measured SAR results **do not** have to be scaled to the maximum tune-up tolerance to determine if repeated measurements are required.
2. SAR measurement variability must be assessed for each frequency band, which is determined by the **SAR probe calibration point and tissue-equivalent medium** used for the device measurements.

## 11. DUT HOLDER PERTURBATIONS

In accordance with TCB workshop October 2016:

- 1) SAR perturbation due to test device holders, depending on antenna locations, buttons locations on phones or device, form factor (e.g. dongles etc.), the measured SAR could be influenced by the relative positions of the test device and its holder
- 2) SAR measurement standards have included protocols to evaluate this with a flat phantom, with and without the device holder
- 3) When the highest reported SAR of an antenna is  $> 1.2$  W/kg, holder perturbation verification is required for each antenna, using the highest SAR configuration among all applicable frequency bands in the same exact device and holder positions used for head and body SAR measurements; i.e. same device/button locations in the holder

Per IEEE 1528: 2013/Annex E/E.4.1.1: Device holder perturbation tolerance for a specific test device: Type B

When it is unknown if a device holder perturbs the fields of a test device, the SAR uncertainty shall be assessed with a flat phantom (see Clause 5) by comparing the SAR with and without the device holder according to the following tests:

The SAR tolerance for device holder disturbance is computed using Equation (E.21) and entered in the corresponding row of the appropriate uncertainty table with an assumed rectangular probability distribution and  $\nu_i = \infty$  degrees of freedom:

$$SAR_{\text{tolerance}} [\%] = 100 \times \left( \frac{SAR_{\text{w/holder}} - SAR_{\text{w/o holder}}}{SAR_{\text{w/o holder}}} \right) \quad (\text{E.21})$$

### The Highest Measured SAR Configuration among all applicable Frequency Band

| Frequency Band | Freq.(MHz) | EUT Position | Meas. SAR (W/kg) |                | The Device holder perturbation uncertainty |
|----------------|------------|--------------|------------------|----------------|--------------------------------------------|
|                |            |              | With holder      | Without holder |                                            |
| 450MHz         | 432.0025   | Body Back    | 6.36             | 6.30           | 1.0%                                       |

## 12. SAR SIMULTANEOUS TRANSMISSION DESCRIPTION

### 12.1 Simultaneous Transmission:

| Description of Simultaneous Transmit Capabilities |               |
|---------------------------------------------------|---------------|
| Transmitter Combination                           | Simultaneous? |
| WWAN(GSM/WCDMA/LTE) + WLAN 2.4G + NFC             | √             |
| WWAN(GSM/WCDMA/LTE) + WLAN 5G + NFC               | √             |
| WWAN(GSM/WCDMA/LTE) + Bluetooth+ NFC              | √             |
| WLAN 2.4G+ Bluetooth                              | ×             |
| WLAN 5G + Bluetooth                               | ×             |
| WLAN 2.4G + WLAN 5G                               | ×             |
| WWAN(GSM/WCDMA/LTE) + PTT                         | √             |
| WLAN 2.4G/5G/Bluetooth + PTT                      | √             |
| WWAN(GSM/WCDMA/LTE) + WLAN + PTT +NFC             | √             |
| WWAN(GSM/WCDMA/LTE) + Bluetooth+ PTT +NFC         | √             |

Note:

- 1.The EUT(Equipment Under Test) does not support hotspot mode
- 2.In a WWAN antenna, only a single antenna in one band operates at a time.

### 12.2 Simultaneous SAR test exclusion considerations:

| Mode(SAR1+SAR2)                 | Position | Reported SAR(W/kg) |      | ΣSAR < 1.6W/kg |
|---------------------------------|----------|--------------------|------|----------------|
|                                 |          | SAR1               | SAR2 |                |
| WWAN(GSM/WCDMA/LTE) + Bluetooth | Head     | 0.79               | 0.08 | 0.87           |
|                                 | Body     | 0.57               | 0.08 | 0.65           |
| WWAN(GSM/WCDMA/LTE) + WLAN 2.4G | Head     | 0.79               | 0.27 | 1.06           |
|                                 | Body     | 0.57               | 0.04 | 0.61           |
| WWAN(GSM/WCDMA/LTE) + WLAN 5G   | Head     | 0.79               | 0.52 | <b>1.31</b>    |
|                                 | Body     | 0.57               | 0.30 | 0.87           |

#### Conclusion:

Sum of SAR:ΣSAR ≤1.6 W/kg therefore simultaneous transmission SAR with Volume Scans is **not required**.

| Mode(SAR1+SAR2+SAR3)  | Position  | Reported SAR(W/kg) |      |      | Sum of SAR-to-limit ratios |
|-----------------------|-----------|--------------------|------|------|----------------------------|
|                       |           | SAR1               | SAR2 | SAR3 |                            |
| WWAN + Bluetooth +PTT | Face Up   | 0.57               | 0.08 | 2.41 | 0.71                       |
|                       | Body Back | 0.47               | 0.08 | 3.60 | 0.79                       |
| WWAN + WLAN 2.4G +PTT | Face Up   | 0.57               | 0.04 | 2.41 | 0.68                       |
|                       | Body Back | 0.47               | 0.04 | 3.60 | 0.77                       |
| WWAN + WLAN 5G +PTT   | Face Up   | 0.57               | 0.30 | 2.41 | 0.85                       |
|                       | Body Back | 0.47               | 0.10 | 3.60 | 0.81                       |

**Note:**

1. KDB 447498 D01, Occupational exposure limits do not apply to consumer devices and radio services intended for supporting public networks or Part 15 unlicensed operations, thus the limits is 1.6W/kg for WWAN/WLAN/Bluetooth/NFC and 8.0W/kg for PTT(PLMRS).
2. The initial simultaneous transmission SAR test exclusion is to be based on ratios of SAR to the applicable limit for each transmit mode.
3. The test distance of Body Front mode (5mm) is closer than Face Up mode(25mm), the test results are more conservative, so the test data of Body Front mode is used to evaluate the simultaneous transmission of Face Up mode,

**Conclusion:**

The sum of SAR-to-limit ratios is less than 1.0, thus additional analysis or simultaneous-transmit extended-volume-scan SAR is not needed.

## APPENDIX A - MEASUREMENT UNCERTAINTY

The uncertainty budget has been determined for the measurement system and is given in the following Table.

**Measurement uncertainty evaluation for IEEE1528-2013 SAR test**

| Uncertainty component                                                             | Tolerance/<br>uncertainty<br>± % | Probability<br>distribution | Divisor    | ci<br>(1 g)  | ci<br>(10 g) | Standard<br>uncertainty<br>± %, (1 g) | Standard<br>uncertainty<br>± %, (10 g) |
|-----------------------------------------------------------------------------------|----------------------------------|-----------------------------|------------|--------------|--------------|---------------------------------------|----------------------------------------|
| <b>Measurement system</b>                                                         |                                  |                             |            |              |              |                                       |                                        |
| Probe calibration(k=1)                                                            | 6.55                             | N                           | 1          | 1            | 1            | 6.6                                   | 6.6                                    |
| Axial isotropy                                                                    | 4.7                              | R                           | $\sqrt{3}$ | $\sqrt{0.5}$ | $\sqrt{0.5}$ | 1.9                                   | 1.9                                    |
| Hemispherical isotropy                                                            | 9.6                              | R                           | $\sqrt{3}$ | $\sqrt{0.5}$ | $\sqrt{0.5}$ | 3.9                                   | 3.9                                    |
| Boundary effect                                                                   | 1.0                              | R                           | $\sqrt{3}$ | 1            | 1            | 0.6                                   | 0.6                                    |
| Linearity                                                                         | 4.7                              | R                           | $\sqrt{3}$ | 1            | 1            | 2.7                                   | 2.7                                    |
| System detection limits                                                           | 1.0                              | R                           | $\sqrt{3}$ | 1            | 1            | 0.6                                   | 0.6                                    |
| Modulation response                                                               | 0.0                              | R                           | $\sqrt{3}$ | 1            | 1            | 0.0                                   | 0.0                                    |
| Readout electronics                                                               | 0.3                              | N                           | 1          | 1            | 1            | 0.3                                   | 0.3                                    |
| Response time                                                                     | 0.0                              | R                           | $\sqrt{3}$ | 1            | 1            | 0.0                                   | 0.0                                    |
| Integration time                                                                  | 0.0                              | R                           | $\sqrt{3}$ | 1            | 1            | 0.0                                   | 0.0                                    |
| RF ambient conditions-noise                                                       | 1.0                              | R                           | $\sqrt{3}$ | 1            | 1            | 0.6                                   | 0.6                                    |
| RF ambient conditions-reflections                                                 | 1.0                              | R                           | $\sqrt{3}$ | 1            | 1            | 0.6                                   | 0.6                                    |
| Probe positioner mech. tolerance                                                  | 0.8                              | R                           | $\sqrt{3}$ | 1            | 1            | 0.5                                   | 0.5                                    |
| Probe positioning with respect to phantom shell                                   | 6.7                              | R                           | $\sqrt{3}$ | 1            | 1            | 3.9                                   | 3.9                                    |
| Extrapolation, interpolation, and integrations algorithms for max. SAR evaluation | 2.0                              | R                           | $\sqrt{3}$ | 1            | 1            | 1.2                                   | 1.2                                    |
| <b>Test sample related</b>                                                        |                                  |                             |            |              |              |                                       |                                        |
| Test sample positioning                                                           | 3.3                              | N                           | 1          | 1            | 1            | 3.3                                   | 3.3                                    |
| Device holder uncertainty                                                         | 1.0                              | N                           | 1          | 1            | 1            | 1.0                                   | 1.0                                    |
| Output power variation –SAR draft measurement                                     | 5.0                              | R                           | $\sqrt{3}$ | 1            | 1            | 2.9                                   | 2.9                                    |
| SAR scaling                                                                       | 2.8                              | R                           | $\sqrt{3}$ | 1            | 1            | 1.6                                   | 1.6                                    |
| <b>Phantom and tissue parameters</b>                                              |                                  |                             |            |              |              |                                       |                                        |
| Phantom shell uncertainty–shape, thickness and permittivity                       | 4.0                              | R                           | $\sqrt{3}$ | 1            | 1            | 2.3                                   | 2.3                                    |
| Uncertainty in SAR correction for deviations in permittivity and conductivity     | 1.9                              | N                           | 1          | 1            | 0.84         | 1.9                                   | 1.6                                    |
| Liquid conductivity meas.                                                         | 2.5                              | N                           | 1          | 0.78         | 0.71         | 2.0                                   | 1.8                                    |
| Liquid permittivity meas.                                                         | 2.5                              | N                           | 1          | 0.23         | 0.26         | 0.6                                   | 0.7                                    |
| Liquid conductivity – temperature uncertainty                                     | 1.7                              | R                           | $\sqrt{3}$ | 0.78         | 0.71         | 0.8                                   | 0.7                                    |
| Liquid permittivity – temperature uncertainty                                     | 0.3                              | R                           | $\sqrt{3}$ | 0.23         | 0.26         | 0.0                                   | 0.0                                    |
| Combined standard uncertainty                                                     |                                  | RSS                         |            |              |              | 12.1                                  | 12.0                                   |
| Expanded uncertainty (95 % confidence interval)                                   |                                  | k=2                         |            |              |              | 24.2                                  | 24.0                                   |

## **APPENDIX B - SAR PLOTS**

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Please refer to the attachment.

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## **APPENDIX C - EUT TEST POSITION PHOTOS**

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Please refer to the attachment.

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## **APPENDIX D - PROBE CALIBRATION CERTIFICATES**

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Please refer to the attachment.

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## **APPENDIX E - DIPOLE CALIBRATION CERTIFICATES**

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Please refer to the attachment.

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## **APPENDIX F - RETURN LOSS AND IMPEDANCE MEASUREMENT**

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Please refer to the attachment.

**\*\*\*\*\* END OF REPORT \*\*\*\*\***