

## FCC SAR TEST REPORT

**Applicant:** Sun Cupid Technology (HK) Ltd.

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**Product Name:** LTE Smartphone

**FCC ID:** 2ADINS6601L

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

**Report Number:** SZGMA240304-10520E-20

**Report Date:** 2024/6/30

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

*Mark Dong*

*Brave Lu*

**Reviewed By:** Mark Dong

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### SAR TEST RESULTS SUMMARY

Mode		Max. Reported SAR Level(s) (W/kg)	Limit (W/kg)
GSM 850	1g Head SAR	1.01	1.6
	1g Body SAR	0.57	
PCS 1900	1g Head SAR	0.14	
	1g Body SAR	0.77	
WCDMA Band 2	1g Head SAR	0.33	
	1g Body SAR	1.08	
WCDMA Band 4	1g Head SAR	0.15	
	1g Body SAR	<b>1.18</b>	
WCDMA Band 5	1g Head SAR	<b>1.19</b>	
	1g Body SAR	0.32	
LTE Band 12	1g Head SAR	0.47	
	1g Body SAR	0.15	
LTE Band 13	1g Head SAR	0.79	
	1g Body SAR	0.27	
LTE Band 25&2	1g Head SAR	0.23	
	1g Body SAR	0.76	
LTE Band 26&5	1g Head SAR	0.94	
	1g Body SAR	0.34	
LTE Band 41	1g Head SAR	0.04	
	1g Body SAR	0.7	
LTE Band 66&4	1g Head SAR	0.12	
	1g Body SAR	0.76	
LTE Band 71	1g Head SAR	0.8	
	1g Body SAR	0.29	
Wi-Fi 2.4G	1g Head SAR	0.64	
	1g Body SAR	0.37	
Wi-Fi 5.2G	1g Head SAR	0.31	
	1g Body SAR	0.07	
Wi-Fi 5.3G	1g Head SAR	0.22	
	1g Body SAR	0.04	
Wi-Fi 5.6G	1g Head SAR	0.29	
	1g Body SAR	0.07	
Wi-Fi 5.8G	1g Head SAR	0.26	
	1g Body SAR	0.09	
Simultaneous	1g Head SAR	<b>1.57</b>	
	1g Body SAR	<b>1.43</b>	
	1g Body SAR	<b>1.43 (Hotspot)</b>	

<b>Applicable Standards</b>	<p><b>FCC 47 CFR part 2.1093</b> Radiofrequency radiation exposure evaluation: portable devices</p>
	<p><b>IEEE1528:2013</b> IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques</p>
	<p><b>IEC 62209-2:2010</b> Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices-Human models, instrumentation, and procedures-Part 2: Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)</p>
	<p><b>IEC 62209-2:2010/AMD1:2019 ED1</b> Amendment 1 - Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Human models, instrumentation, and procedures - Part 2: Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)</p>
	<p><b>KDB procedures</b> KDB 447498 D01 General RF Exposure Guidance v06 KDB 648474 D04 Handset SAR v01r03 KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04 KDB 865664 D02 RF Exposure Reporting v01r02 KDB 941225 D01 3G SAR Procedures v03r01 KDB 941225 D05 SAR for LTE Devices v02r05 KDB 941225 D06 Hotspot Mode v02r01 KDB 248227 D01 802.11 Wi-Fi SAR v02r02</p>
<p><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 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.</p>	
<p><b>The results and statements contained in this report pertain only to the device(s) evaluated.</b></p>	

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## DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	SZGMA240304-10520E-20	Original Report	2024/6/30

## 1. GENERAL INFORMATION

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

<b>EUT Name:</b>	LTE Smartphone
<b>EUT Model:</b>	X7 Plus
<b>Multiple Models:</b>	S6601L; NUU X7 Plus
<b>Device Type:</b>	Portable
<b>Exposure Category:</b>	Population / Uncontrolled
<b>Antenna Type(s):</b>	Internal Antenna
<b>Body-Worn Accessories:</b>	None
<b>Proximity Sensor:</b>	WWAN and WLAN Sensor
<b>Carrier Aggregation:</b>	None
<b>Operation Modes:</b>	GSM Voice, GPRS/EDGE Data, WCDMA( R99 (Voice+Data), HSUPA/HSDPA/DC-HSDPA/HSPA+), FDD-LTE, TDD-LTE,WLAN, Bluetooth, NFC
<b>Operation Frequency:</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: 1710-1755MHz(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: 1710-1755MHz(TX) ; 2110-2155 MHz(RX) LTE Band 5: 824-849 MHz(TX); 869-894 MHz(RX) LTE Band 12: 699-716 MHz(TX); 729-746 MHz(RX) LTE Band 13:777-787 MHz(TX); 746-756 MHz(RX) LTE Band 25: 1850-1915 MHz(TX); 1930-1995MHz(RX) LTE Band 26: 814-849 MHz(TX); 859-894MHz(RX) LTE Band 41: 2496-2690 MHz(TX/RX) LTE Band 66: 1710-1780 MHz(TX) ; 2110-2180 MHz(RX) LTE Band 71: 663-698 MHz(TX); 617-652 MHz(RX) WLAN 2.4G: 2412-2462 MHz (TX/RX) WLAN 5.2G: 5180 -5240 MHz(TX/RX) WLAN 5.3G: 5260 -5320 MHz(TX/RX) WLAN 5.6G: 5500 -5720 MHz(TX/RX) WLAN 5.8G: 5745-5825 MHz(TX/RX) Bluetooth: 2402-2480MHz(TX/RX) BLE_1M: 2402-2480MHz(TX/RX) BLE_2M: 2404-2478MHz(TX/RX) NFC:13.56MHz
<b>Maximum Output Power (Conducted):</b>	GSM 850: 33.12dBm; PCS 1900: 29.73dBm WCDMA Band 2: 21.62dBm;WCDMA Band 4: 21.06dBm WCDMA Band 5: 21.05dBm LTE Band 2: 23.53dBm; LTE Band 4: 22.31dBm LTE Band 5:23.3dBm;LTE Band 12: 23.28dBm LTE Band 13:23.27dBm; LTE Band 25: 23.37dBm LTE Band 26:23.38dBm; LTE Band 41: 22.25dBm LTE Band 66:22.74dBm; LTE Band 71: 24.03dBm WLAN 2.4G: 18.43dBm; WLAN 5.2G: 16.79dBm;WLAN 5.3G: 15.81dBm WLAN 5.6G: 13.82dBm;WLAN 5.8G: 15.89dBm Bluetooth(BDR/EDR): 3.51dBm BLE: 1.21dBm
<b>Dimensions (L*W*H):</b>	166.05mm (L) *75.8mm (W) *9.2mm (H)
<b>Rated Input Voltage:</b>	DC3.85V from Rechargeable Battery
<b>Serial Number:</b>	2IGM-1
<b>Normal Operation:</b>	Head and Body

<b>EUT Received Date:</b>	2024/03/04
<b>Test Date:</b>	2024/06/21~2024/06/28
<b>EUT Received Status:</b>	Good
Note: The Multiple models are electrically identical with the test model. Please refer to the declaration letter for more detail, which was provided by manufacturer.	



## 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 / Uncontrolled Exposure Environment)	(Occupational / Controlled Exposure Environment)
Spatial Average (averaged over the whole body)	0.08	0.4
Spatial Peak (averaged over any 1 g of tissue)	<b>1.60</b>	8.0
Spatial Peak (hands/wrists/feet/ankles averaged over 10 g)	4.0	20.0

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 may be 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 the EUT.

## **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.

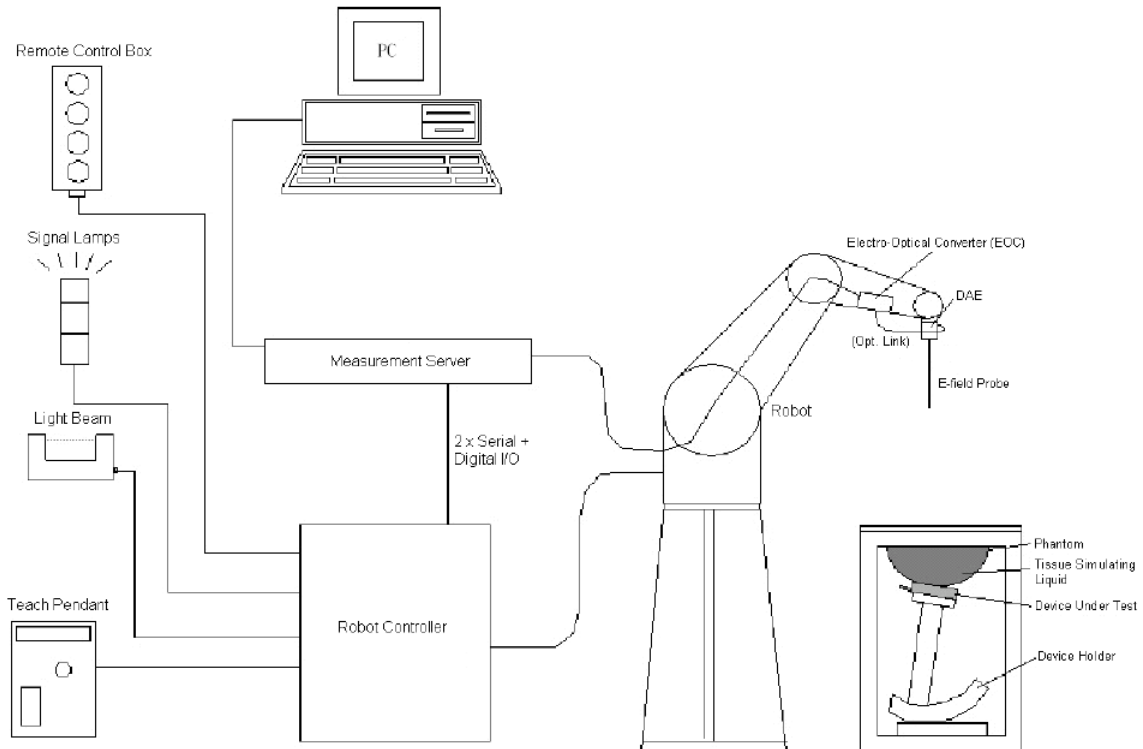
### 3. DESCRIPTION OF TEST SYSTEM

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–10 GHz Linearity: $\pm 0.2$ dB (30 MHz–10 GHz)
<b>Directivity(typical)</b>	$\pm 0.1$ dB in TSL (rotation around probe axis) $\pm 0.3$ dB in TSL (rotation normal to probe axis)
<b>Dynamic Range</b>	10 $\mu$ W/g $\rightarrow$ 100 mW/g Linearity: $\pm 0.2$ dB (noise: typically $< 1$ $\mu$ W/g)
<b>Dimensions</b>	Overall length: 337 mm (tip: 20 mm) Tip diameter: 2.5 mm (body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm
<b>Applications</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

### **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.

### **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 2 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 IEC 62209-1:2016

#### Recommended Tissue Dielectric Parameters for Head liquid

**Table A.3 – Dielectric properties of the head tissue-equivalent liquid**

Frequency MHz	Relative permittivity $\epsilon_r$	Conductivity ( $\sigma$ ) S/m
300	45,3	0,87
450	43,5	0,87
<i>750</i>	<i>41,9</i>	<i>0,89</i>
835	41,5	0,90
900	41,5	0,97
1 450	40,5	1,20
<i>1 500</i>	<i>40,4</i>	<i>1,23</i>
<i>1 640</i>	<i>40,2</i>	<i>1,31</i>
<i>1 750</i>	<i>40,1</i>	<i>1,37</i>
1 800	40,0	1,40
1 900	40,0	1,40
2 000	40,0	1,40
<i>2 100</i>	<i>39,8</i>	<i>1,49</i>
<i>2 300</i>	<i>39,5</i>	<i>1,67</i>
2 450	39,2	1,80
<i>2 600</i>	<i>39,0</i>	<i>1,96</i>
3 000	38,5	2,40
<i>3 500</i>	<i>37,9</i>	<i>2,91</i>
<i>4 000</i>	<i>37,4</i>	<i>3,43</i>
<i>4 500</i>	<i>36,8</i>	<i>3,94</i>
<i>5 000</i>	<i>36,2</i>	<i>4,45</i>
<i>5 200</i>	<i>36,0</i>	<i>4,66</i>
<i>5 400</i>	<i>35,8</i>	<i>4,86</i>
<i>5 600</i>	<i>35,5</i>	<i>5,07</i>
<i>5 800</i>	<i>35,3</i>	<i>5,27</i>
6 000	35,1	5,48

NOTE For convenience, permittivity and conductivity values at those frequencies which are not part of the original data provided by Drossos et al. [33] or the extension to 5 800 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 6 000 MHz that were linearly extrapolated from the values at 3 000 MHz and 5 800 MHz.

## 4. EQUIPMENT LIST AND CALIBRATION

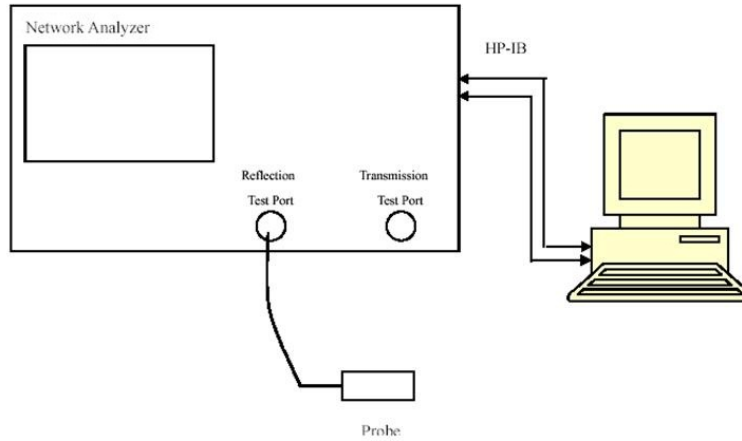
### 4.1 Equipments List & Calibration Information

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	2024/1/23	2025/1/22
E-Field Probe	EX3DV4	7839	2023/9/21	2024/9/20
Mounting Device	MD4HHTV5	SD 000 H01 KA	NCR	NCR
Twin SAM	Twin SAM V5.0	1874	NCR	NCR
Dipole, 750 MHz	D750V3	1167	2022/10/31	2025/10/30
Dipole, 835 MHz	D835V2	453	2021/8/31	2024/8/30
Dipole, 1750 MHz	D1750V2	1141	2021/6/29	2024/6/28
Dipole, 1900 MHz	D1900V2	543	2022/11/2	2025/11/1
Dipole, 2450 MHz	D2450V2	971	2021/6/28	2024/6/27
Dipole, 2600 MHz	D2600V2	1132	2022/11/1	2025/10/31
Dipole, 5 GHz	D5GHzV2	1246	2022/11/1	2025/10/31
Simulated Tissue Liquid Head	HBBL600-10000V6	SL AAH U16 BC (Batch:220809-1)	Each Time	/
Network Analyzer	8753C	3033A02857	2023/11/18	2024/11/17
Dielectric assessment kit	1253	SM DAK 040 CA	NCR	NCR
synthesized signal generator	8665B	3438a00584	2023/10/18	2024/10/17
EPM Series Power Meter	E4419B	MY45103907	2023/10/18	2024/10/17
Power Amplifier	ZHL-5W-202-S+	416402204	NCR	NCR
Power Amplifier	ZVE-6W-83+	637202210	NCR	NCR
Directional Coupler	441493	520Z	NCR	NCR
Attenuator	20dB, 100W	LN749	NCR	NCR
Attenuator	6dB, 150W	2754	NCR	NCR
Thermometer	DTM3000	3635	2023/8/11	2024/8/10
Hygrothermograph	HTC-2	EM072	2023/11/6	2024/11/5
Wireless communication tester	8960	MY50266471	2023/10/18	2024/10/17
Wideband Radio Communication Tester	CMW500	147473	2023/10/18	2024/10/17



## 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)	
670	Simulated Tissue Liquid Head	43.887	0.852	42.33	0.88	3.68	-3.18	±5
680	Simulated Tissue Liquid Head	43.702	0.856	42.27	0.89	3.39	-3.82	±5
690	Simulated Tissue Liquid Head	43.517	0.86	42.22	0.89	3.07	-3.37	±5
700	Simulated Tissue Liquid Head	43.332	0.864	42.17	0.89	2.76	-2.92	±5
710	Simulated Tissue Liquid Head	43.147	0.868	42.11	0.89	2.46	-2.47	±5
720	Simulated Tissue Liquid Head	42.962	0.872	42.06	0.89	2.14	-2.02	±5
730	Simulated Tissue Liquid Head	42.776	0.876	42.01	0.89	1.82	-1.57	±5
740	Simulated Tissue Liquid Head	42.591	0.88	41.95	0.89	1.53	-1.12	±5
750	Simulated Tissue Liquid Head	42.406	0.884	41.9	0.89	1.21	-0.67	±5

\*Liquid Verification above was performed on 2024/06/21.

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)	
810	Simulated Tissue Liquid Head	42.981	0.879	41.62	0.9	3.27	-2.33	±5
820	Simulated Tissue Liquid Head	42.876	0.886	41.57	0.9	3.14	-1.56	±5
830	Simulated Tissue Liquid Head	42.743	0.895	41.52	0.9	2.95	-0.56	±5
835	Simulated Tissue Liquid Head	42.589	0.904	41.5	0.9	2.62	0.44	±5
840	Simulated Tissue Liquid Head	42.515	0.908	41.5	0.91	2.45	-0.22	±5
850	Simulated Tissue Liquid Head	42.367	0.916	41.5	0.92	2.09	-0.43	±5
860	Simulated Tissue Liquid Head	42.206	0.921	41.5	0.93	1.7	-0.97	±5

\*Liquid Verification above was performed on 2024/06/22.

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)	
810	Simulated Tissue Liquid Head	42.703	0.896	41.62	0.9	2.6	-0.44	±5
820	Simulated Tissue Liquid Head	42.689	0.901	41.57	0.9	2.69	0.11	±5
830	Simulated Tissue Liquid Head	42.614	0.904	41.52	0.9	2.63	0.44	±5
835	Simulated Tissue Liquid Head	42.552	0.906	41.5	0.9	2.53	0.67	±5
840	Simulated Tissue Liquid Head	42.511	0.908	41.5	0.91	2.44	-0.22	±5
850	Simulated Tissue Liquid Head	42.445	0.915	41.5	0.92	2.28	-0.54	±5
860	Simulated Tissue Liquid Head	42.372	0.924	41.5	0.93	2.1	-0.65	±5

\*Liquid Verification above was performed on 2024/06/23.

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)	
750	Simulated Tissue Liquid Head	43.067	0.863	41.9	0.89	2.79	-3.03	±5
760	Simulated Tissue Liquid Head	42.971	0.871	41.85	0.89	2.68	-2.13	±5
770	Simulated Tissue Liquid Head	42.836	0.876	41.81	0.89	2.45	-1.57	±5
780	Simulated Tissue Liquid Head	42.784	0.882	41.76	0.89	2.45	-0.9	±5
790	Simulated Tissue Liquid Head	42.757	0.887	41.71	0.89	2.51	-0.34	±5
800	Simulated Tissue Liquid Head	42.726	0.891	41.66	0.9	2.56	-1	±5

\*Liquid Verification above was performed on 2024/06/24.

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)	
1700	Simulated Tissue Liquid Head	41.377	1.345	40.15	1.34	3.06	0.37	±5
1710	Simulated Tissue Liquid Head	41.29	1.349	40.14	1.35	2.86	-0.07	±5
1720	Simulated Tissue Liquid Head	41.203	1.353	40.13	1.35	2.67	0.22	±5
1730	Simulated Tissue Liquid Head	41.116	1.357	40.12	1.36	2.48	-0.22	±5
1740	Simulated Tissue Liquid Head	41.029	1.361	40.11	1.36	2.29	0.07	±5
1750	Simulated Tissue Liquid Head	40.941	1.365	40.1	1.37	2.1	-0.36	±5
1760	Simulated Tissue Liquid Head	40.854	1.369	40.08	1.38	1.93	-0.8	±5
1770	Simulated Tissue Liquid Head	40.767	1.373	40.06	1.38	1.76	-0.51	±5
1780	Simulated Tissue Liquid Head	40.68	1.377	40.04	1.39	1.6	-0.94	±5

\*Liquid Verification above was performed on 2024/06/25.

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)	
1850	Simulated Tissue Liquid Head	40.369	1.406	40	1.4	0.92	0.43	±5
1860	Simulated Tissue Liquid Head	40.308	1.413	40	1.4	0.77	0.93	±5
1870	Simulated Tissue Liquid Head	40.248	1.42	40	1.4	0.62	1.43	±5
1880	Simulated Tissue Liquid Head	40.187	1.427	40	1.4	0.47	1.93	±5
1890	Simulated Tissue Liquid Head	40.121	1.435	40	1.4	0.3	2.5	±5
1900	Simulated Tissue Liquid Head	40.056	1.442	40	1.4	0.14	3	±5
1910	Simulated Tissue Liquid Head	39.991	1.449	40	1.4	-0.02	3.5	±5
1920	Simulated Tissue Liquid Head	39.925	1.454	40	1.4	-0.19	3.86	±5

\*Liquid Verification above was performed on 2024/06/27.

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)	
1850	Simulated Tissue Liquid Head	40.279	1.381	40	1.4	0.7	-1.36	±5
1860	Simulated Tissue Liquid Head	40.243	1.397	40	1.4	0.61	-0.21	±5
1870	Simulated Tissue Liquid Head	40.201	1.413	40	1.4	0.5	0.93	±5
1880	Simulated Tissue Liquid Head	40.172	1.429	40	1.4	0.43	2.07	±5
1890	Simulated Tissue Liquid Head	40.143	1.445	40	1.4	0.36	3.21	±5
1900	Simulated Tissue Liquid Head	40.104	1.451	40	1.4	0.26	3.64	±5
1910	Simulated Tissue Liquid Head	40.035	1.457	40	1.4	0.09	4.07	±5
1920	Simulated Tissue Liquid Head	39.956	1.463	40	1.4	-0.11	4.5	±5

\*Liquid Verification above was performed on 2024/06/24.

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)	
2400	Simulated Tissue Liquid Head	39.561	1.764	39.3	1.76	0.66	0.23	±5
2410	Simulated Tissue Liquid Head	39.452	1.771	39.28	1.77	0.44	0.06	±5
2420	Simulated Tissue Liquid Head	39.294	1.778	39.26	1.77	0.09	0.45	±5
2430	Simulated Tissue Liquid Head	39.136	1.785	39.24	1.78	-0.27	0.28	±5
2440	Simulated Tissue Liquid Head	38.978	1.802	39.22	1.79	-0.62	0.67	±5
2450	Simulated Tissue Liquid Head	38.892	1.809	39.2	1.8	-0.79	0.5	±5
2460	Simulated Tissue Liquid Head	38.762	1.816	39.19	1.81	-1.09	0.33	±5
2470	Simulated Tissue Liquid Head	38.704	1.823	39.17	1.82	-1.19	0.16	±5
2480	Simulated Tissue Liquid Head	38.646	1.837	39.16	1.83	-1.31	0.38	±5
2490	Simulated Tissue Liquid Head	38.588	1.848	39.15	1.84	-1.44	0.43	±5
2500	Simulated Tissue Liquid Head	38.503	1.854	39.13	1.85	-1.6	0.22	±5

\*Liquid Verification above was performed on 2024/06/26.

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)	
2500	Simulated Tissue Liquid Head	38.376	1.854	39.13	1.85	-1.93	0.22	±5
2510	Simulated Tissue Liquid Head	38.359	1.866	39.12	1.86	-1.95	0.32	±5
2520	Simulated Tissue Liquid Head	38.342	1.878	39.11	1.87	-1.96	0.43	±5
2530	Simulated Tissue Liquid Head	38.325	1.89	39.09	1.89	-1.96	0	±5
2540	Simulated Tissue Liquid Head	38.308	1.902	39.08	1.9	-1.98	0.11	±5
2550	Simulated Tissue Liquid Head	38.291	1.914	39.07	1.91	-1.99	0.21	±5
2560	Simulated Tissue Liquid Head	38.274	1.926	39.05	1.92	-1.99	0.31	±5
2570	Simulated Tissue Liquid Head	38.257	1.938	39.04	1.93	-2.01	0.41	±5
2580	Simulated Tissue Liquid Head	38.24	1.95	39.03	1.94	-2.02	0.52	±5
2590	Simulated Tissue Liquid Head	38.223	1.962	39.01	1.95	-2.02	0.62	±5
2600	Simulated Tissue Liquid Head	38.206	1.974	39	1.96	-2.04	0.71	±5
2610	Simulated Tissue Liquid Head	38.189	1.986	38.99	1.97	-2.05	0.81	±5
2620	Simulated Tissue Liquid Head	38.172	1.998	38.98	1.98	-2.07	0.91	±5
2630	Simulated Tissue Liquid Head	38.155	2.01	38.96	1.99	-2.07	1.01	±5
2640	Simulated Tissue Liquid Head	38.138	2.022	38.95	2	-2.08	1.1	±5
2650	Simulated Tissue Liquid Head	38.121	2.034	38.94	2.02	-2.1	0.69	±5
2660	Simulated Tissue Liquid Head	38.104	2.046	38.93	2.03	-2.12	0.79	±5
2670	Simulated Tissue Liquid Head	38.087	2.058	38.91	2.04	-2.12	0.88	±5
2680	Simulated Tissue Liquid Head	38.07	2.07	38.9	2.05	-2.13	0.98	±5
2690	Simulated Tissue Liquid Head	38.053	2.082	38.89	2.06	-2.15	1.07	±5

\*Liquid Verification above was performed on 2024/06/26.

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	35.113	4.715	36.02	4.64	-2.52	1.62	±5
5190	Simulated Tissue Liquid Head	35.111	4.718	36.01	4.65	-2.5	1.46	±5
5200	Simulated Tissue Liquid Head	35.109	4.721	36	4.66	-2.48	1.31	±5
5210	Simulated Tissue Liquid Head	35.108	4.724	35.99	4.67	-2.45	1.16	±5
5220	Simulated Tissue Liquid Head	35.106	4.727	35.98	4.68	-2.43	1	±5
5230	Simulated Tissue Liquid Head	35.105	4.73	35.97	4.69	-2.4	0.85	±5
5240	Simulated Tissue Liquid Head	35.103	4.734	35.96	4.7	-2.38	0.72	±5
5250	Simulated Tissue Liquid Head	35.101	4.736	35.95	4.71	-2.36	0.55	±5
5260	Simulated Tissue Liquid Head	35.099	4.738	35.94	4.72	-2.34	0.38	±5
5270	Simulated Tissue Liquid Head	35.098	4.74	35.93	4.73	-2.32	0.21	±5
5280	Simulated Tissue Liquid Head	35.096	4.744	35.92	4.74	-2.29	0.08	±5
5290	Simulated Tissue Liquid Head	35.094	4.748	35.91	4.75	-2.27	-0.04	±5
5300	Simulated Tissue Liquid Head	35.093	4.751	35.9	4.76	-2.25	-0.19	±5
5310	Simulated Tissue Liquid Head	35.091	4.754	35.89	4.77	-2.23	-0.34	±5
5320	Simulated Tissue Liquid Head	35.089	4.756	35.88	4.78	-2.2	-0.5	±5

\*Liquid Verification above was performed on 2024/06/28.

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	35.113	4.875	35.65	4.97	-1.51	-1.91	±5
5510	Simulated Tissue Liquid Head	35.112	4.878	35.64	4.98	-1.48	-2.05	±5
5520	Simulated Tissue Liquid Head	35.112	4.882	35.62	4.99	-1.43	-2.16	±5
5530	Simulated Tissue Liquid Head	35.112	4.886	35.61	5	-1.4	-2.28	±5
5540	Simulated Tissue Liquid Head	35.111	4.888	35.59	5.01	-1.35	-2.44	±5
5550	Simulated Tissue Liquid Head	35.111	4.891	35.58	5.02	-1.32	-2.57	±5
5560	Simulated Tissue Liquid Head	35.11	4.894	35.56	5.03	-1.27	-2.7	±5
5570	Simulated Tissue Liquid Head	35.109	4.898	35.55	5.04	-1.24	-2.82	±5
5580	Simulated Tissue Liquid Head	35.108	4.902	35.53	5.05	-1.19	-2.93	±5
5590	Simulated Tissue Liquid Head	35.108	4.906	35.52	5.06	-1.16	-3.04	±5
5600	Simulated Tissue Liquid Head	35.107	4.909	35.5	5.07	-1.11	-3.18	±5
5610	Simulated Tissue Liquid Head	35.107	4.911	35.49	5.08	-1.08	-3.33	±5

\*Liquid Verification above was performed on 2024/06/28.

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)	
5680	Simulated Tissue Liquid Head	36.065	5.087	35.42	5.15	1.82	-1.22	±5
5690	Simulated Tissue Liquid Head	36.064	5.104	35.41	5.16	1.85	-1.09	±5
5700	Simulated Tissue Liquid Head	36.062	5.12	35.4	5.17	1.87	-0.97	±5
5710	Simulated Tissue Liquid Head	36.061	5.137	35.39	5.18	1.9	-0.83	±5
5720	Simulated Tissue Liquid Head	36.06	5.153	35.38	5.19	1.92	-0.71	±5
5730	Simulated Tissue Liquid Head	36.058	5.169	35.37	5.2	1.95	-0.6	±5
5740	Simulated Tissue Liquid Head	36.057	5.186	35.36	5.21	1.97	-0.46	±5
5750	Simulated Tissue Liquid Head	36.055	5.202	35.35	5.22	1.99	-0.34	±5
5760	Simulated Tissue Liquid Head	36.054	5.219	35.34	5.23	2.02	-0.21	±5
5770	Simulated Tissue Liquid Head	36.052	5.235	35.33	5.24	2.04	-0.1	±5
5780	Simulated Tissue Liquid Head	36.051	5.252	35.32	5.25	2.07	0.04	±5
5790	Simulated Tissue Liquid Head	36.049	5.268	35.31	5.26	2.09	0.15	±5
5800	Simulated Tissue Liquid Head	36.048	5.285	35.3	5.27	2.12	0.28	±5
5810	Simulated Tissue Liquid Head	36.047	5.299	35.29	5.28	2.15	0.36	±5
5820	Simulated Tissue Liquid Head	36.045	5.318	35.28	5.29	2.17	0.53	±5
5830	Simulated Tissue Liquid Head	36.044	5.334	35.27	5.3	2.19	0.64	±5
5840	Simulated Tissue Liquid Head	36.042	5.351	35.26	5.31	2.22	0.77	±5
5850	Simulated Tissue Liquid Head	36.041	5.368	35.25	5.32	2.24	0.9	±5

\*Liquid Verification above was performed on 2024/06/28.

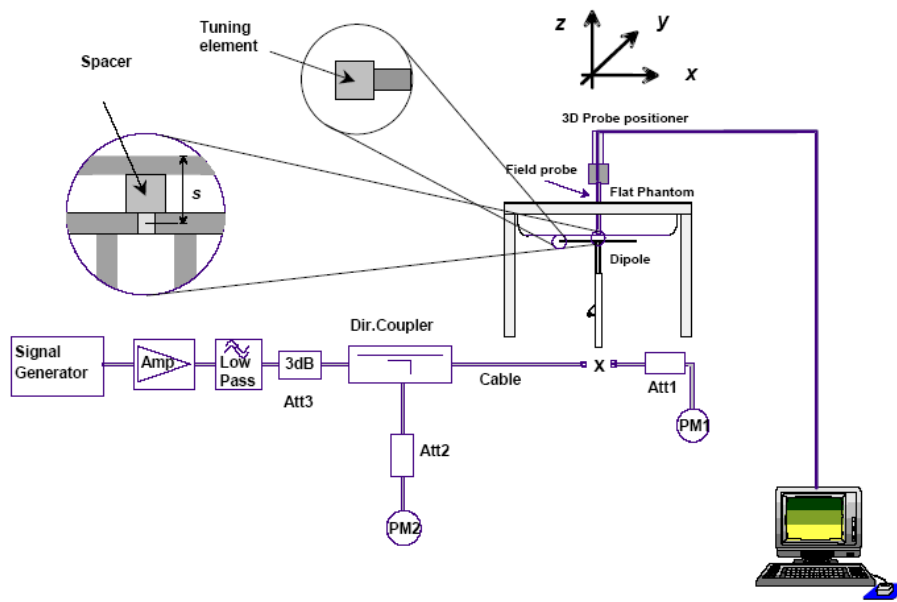
### 5.3 System Accuracy Verification

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:

- a)  $s = 15 \text{ mm} \pm 0,2 \text{ mm}$  for  $300 \text{ MHz} \leq f \leq 1\ 000 \text{ MHz}$ ;
- b)  $s = 10 \text{ mm} \pm 0,2 \text{ mm}$  for  $1\ 000 \text{ MHz} < f \leq 3\ 000 \text{ MHz}$ ;
- c)  $s = 10 \text{ mm} \pm 0,2 \text{ mm}$  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	Liquid Type	Input Power (mW)	Measured SAR (W/kg)	Normalized to 1W (W/kg)	Target Value (W/kg)	Delta (%)	Tolerance (%)
2024/06/21	750 MHz	Simulated Tissue Liquid Head	100	1g 0.858	8.58	8.48	1.18	$\pm 10$
2024/06/24	750 MHz	Simulated Tissue Liquid Head	100	1g 0.875	8.75	8.48	3.18	$\pm 10$
2024/06/22	835 MHz	Simulated Tissue Liquid Head	100	1g 0.963	9.63	9.33	3.22	$\pm 10$
2024/06/23	835 MHz	Simulated Tissue Liquid Head	100	1g 0.969	9.69	9.33	3.86	$\pm 10$
2024/06/25	1750 MHz	Simulated Tissue Liquid Head	100	1g 3.57	35.7	36.1	-1.11	$\pm 10$
2024/06/27	1900 MHz	Simulated Tissue Liquid Head	100	1g 4.23	42.3	40.2	5.22	$\pm 10$
2024/06/24	1900 MHz	Simulated Tissue Liquid Head	100	1g 4.18	41.8	40.2	3.98	$\pm 10$
2024/06/26	2450 MHz	Simulated Tissue Liquid Head	100	1g 5.43	54.3	53.5	1.5	$\pm 10$
2024/06/26	2600 MHz	Simulated Tissue Liquid Head	100	1g 5.67	56.7	55.8	1.61	$\pm 10$
2024/06/28	5250 MHz	Simulated Tissue Liquid Head	100	1g 7.86	78.6	77.5	1.42	$\pm 10$
2024/06/28	5600 MHz	Simulated Tissue Liquid Head	100	1g 8.14	81.4	80.7	0.87	$\pm 10$
2024/06/28	5750 MHz	Simulated Tissue Liquid Head	100	1g 7.97	79.7	78.4	1.66	$\pm 10$

\*The SAR values above are normalized to 1 Watt forward power.

## 5.5 SAR SYSTEM VALIDATION DATA

System Performance 750 MHz Head was performed on 2024/06/21

DUT: D750V3; Type: 750 MHz; Serial: 1167

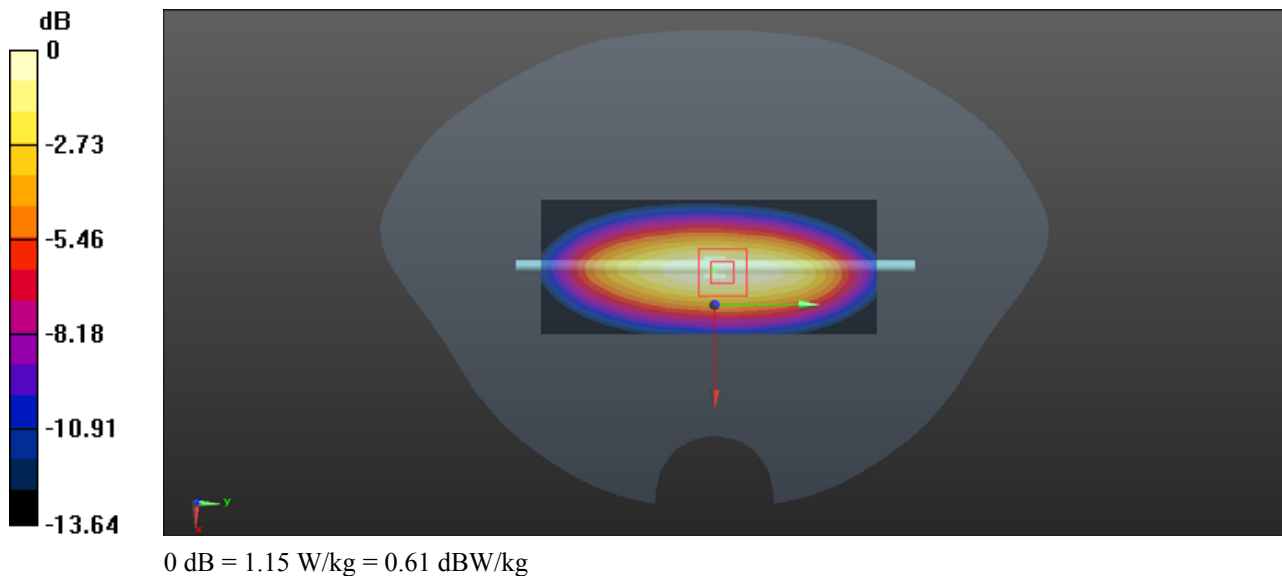
Communication System: CW; Frequency: 750 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 750$  MHz;  $\sigma = 0.884$  S/m;  $\epsilon_r = 42.406$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7839; ConvF(9.95, 8.96, 8.82) @ 750 MHz; Calibrated: 2023/9/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2024/1/23
- Phantom: SAM (30deg probe tilt) with CRP v5.0\_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Area Scan (5x12x1): Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (measured) = 1.19 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 32.74 V/m; Power Drift = 0.12 dB  
Peak SAR (extrapolated) = 1.47 W/kg  
**SAR(1 g) = 0.858 W/kg; SAR(10 g) = 0.562 W/kg**  
Maximum value of SAR (measured) = 1.15 W/kg



**System Performance 750 MHz Head was performed on 2024/06/24****DUT: D750V3; Type: 750 MHz; Serial: 1167**

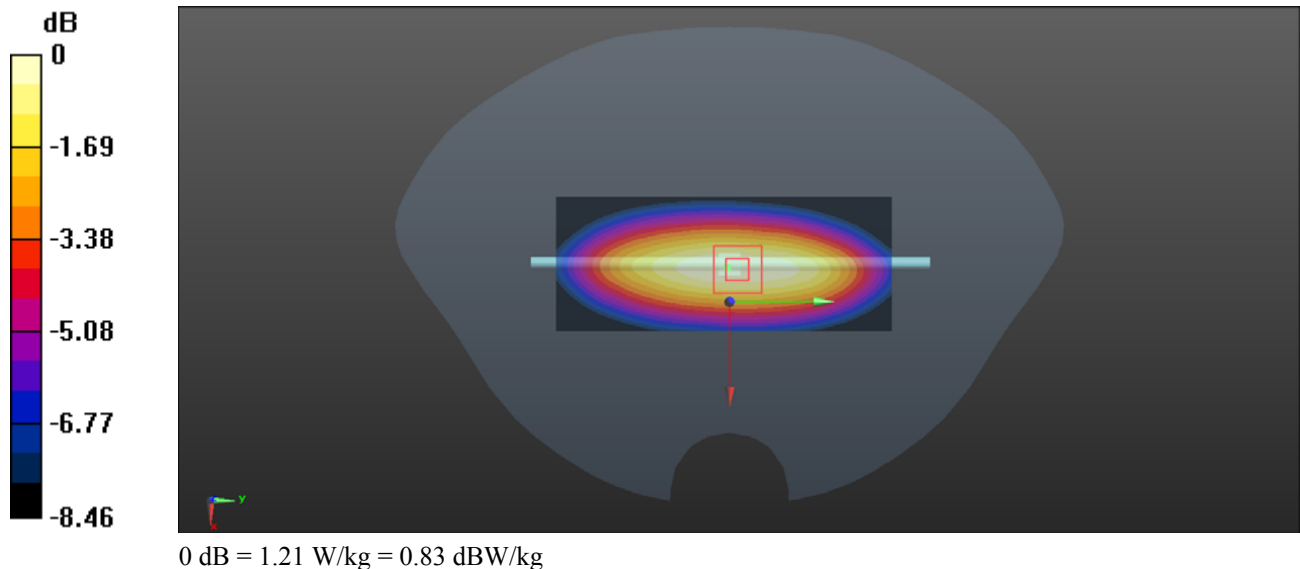
Communication System: CW; Frequency: 750 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 750$  MHz;  $\sigma = 0.863$  S/m;  $\epsilon_r = 43.067$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7839; ConvF(9.95, 8.96, 8.82) @ 750 MHz; Calibrated: 2023/9/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2024/1/23
- Phantom: SAM (30deg probe tilt) with CRP v5.0\_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

**Area Scan (5x12x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (measured) = 1.29 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 31.93 V/m; Power Drift = 0.06 dB  
Peak SAR (extrapolated) = 1.56 W/kg  
**SAR(1 g) = 0.875 W/kg; SAR(10 g) = 0.574 W/kg**  
Maximum value of SAR (measured) = 1.21 W/kg





**System Performance 835 MHz Head was performed on 2024/06/22****DUT: D835V2; Type: 835 MHz; Serial: 453**

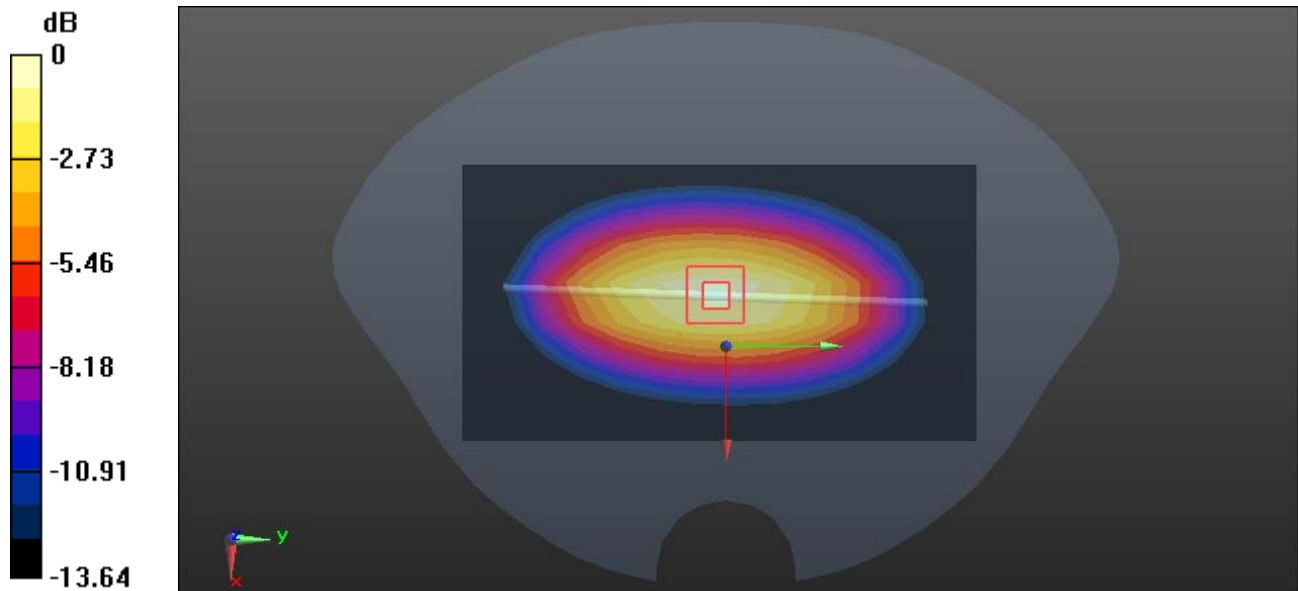
Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.904$  S/m;  $\epsilon_r = 42.589$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7839; ConvF(9.55, 8.6, 8.54) @ 835 MHz; Calibrated: 2023/9/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2024/1/23
- Phantom: SAM (30deg probe tilt) with CRP v5.0\_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

**Area Scan (7x14x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (measured) = 1.52 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 40.61 V/m; Power Drift = 0.13 dB  
Peak SAR (extrapolated) = 1.53 W/kg  
**SAR(1 g) = 0.963 W/kg; SAR(10 g) = 0.619 W/kg**  
Maximum value of SAR (measured) = 1.42 W/kg



0 dB = 1.42 W/kg = 1.52 dBW/kg

**System Performance 835 MHz Head was performed on 2024/06/23****DUT: D835V2; Type: 835 MHz; Serial: 453**

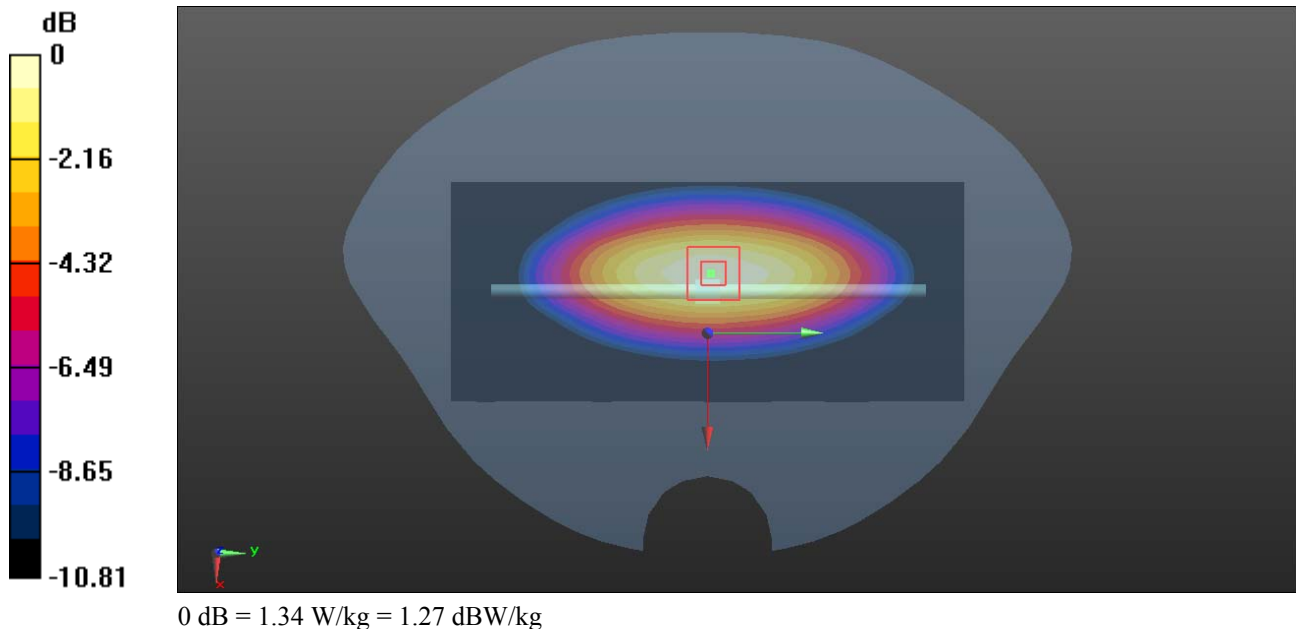
Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.906$  S/m;  $\epsilon_r = 42.552$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7839; ConvF(9.55, 8.6, 8.54) @ 835 MHz; Calibrated: 2023/9/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2024/1/23
- Phantom: SAM (30deg probe tilt) with CRP v5.0\_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

**Area Scan (7x15x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (measured) = 1.52 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 39.73 V/m; Power Drift = 0.13 dB  
Peak SAR (extrapolated) = 1.47 W/kg  
**SAR(1 g) = 0.969 W/kg; SAR(10 g) = 0.622 W/kg**  
Maximum value of SAR (measured) = 1.34 W/kg



**System Performance 1750MHz Head was performed on 2024/06/25**

**DUT: D1750V2; Type: 1750 MHz; Serial: 1141**

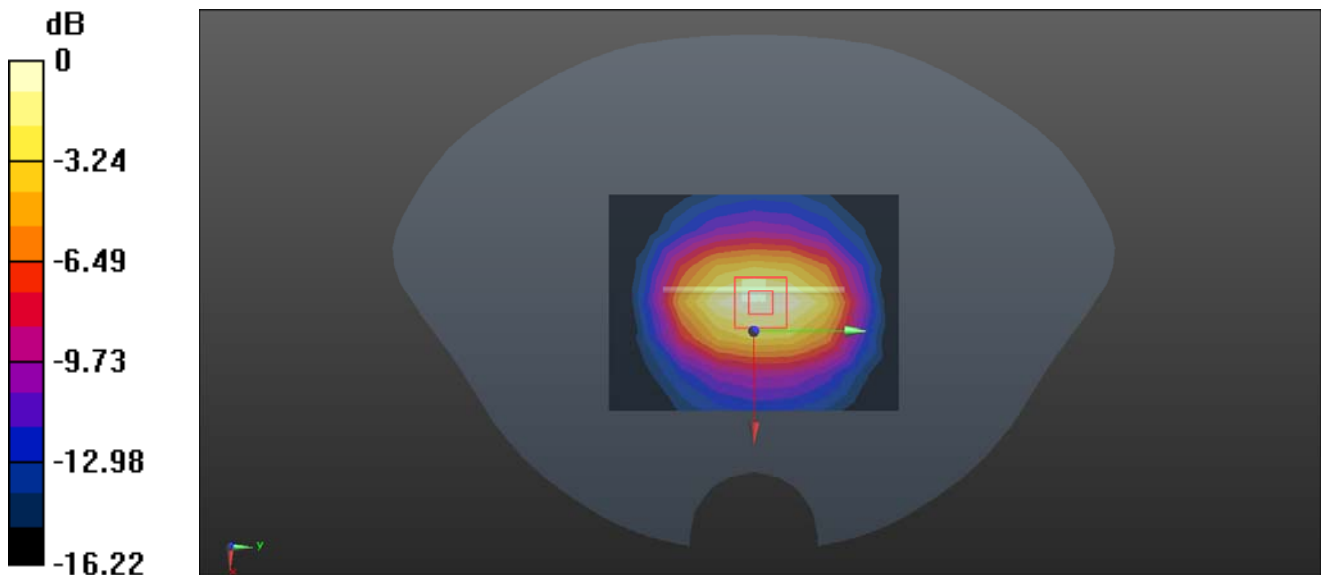
Communication System: CW ; Frequency: 1750 MHz;Duty Cycle: 1:1  
 Medium parameters used:  $f = 1750 \text{ MHz}$ ;  $\sigma = 1.365 \text{ S/m}$ ;  $\epsilon_r = 40.941$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7839; ConvF(8.54, 7.65, 7.43) @ 1750 MHz; Calibrated: 2023/9/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2024/1/23
- Phantom: SAM (30deg probe tilt) with CRP v5.0\_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

**Area Scan (7x9x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
 Maximum value of SAR (measured) = 4.41 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$   
 Reference Value = 50.82 V/m; Power Drift = -0.13 dB  
 Peak SAR (extrapolated) = 6.13 W/kg  
**SAR(1 g) = 3.57 W/kg; SAR(10 g) = 1.93 W/kg**  
 Maximum value of SAR (measured) = 3.96 W/kg



0 dB = 3.96 W/kg = 5.98 dBW/kg

**System Performance 1900MHz Head was performed on 2024/06/27**

**DUT: D1900V2; Type: 1900 MHz; Serial: 543**

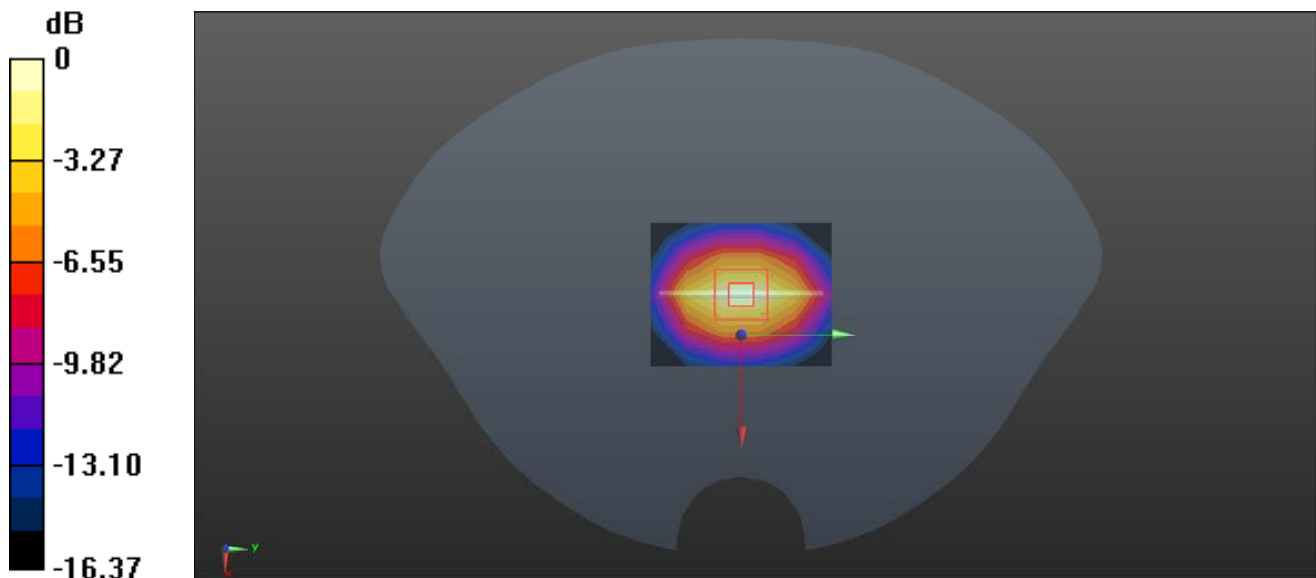
Communication System: CW ; Frequency: 1900 MHz;Duty Cycle: 1:1  
 Medium parameters used:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.442 \text{ S/m}$ ;  $\epsilon_r = 40.056$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7839; ConvF(8, 7.27, 7.03) @ 1900 MHz; Calibrated: 2023/9/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2024/1/23
- Phantom: SAM (30deg probe tilt) with CRP v5.0\_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

**Area Scan (5x6x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
 Maximum value of SAR (measured) = 6.16 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$   
 Reference Value = 57.11 V/m; Power Drift = 0.03 dB  
 Peak SAR (extrapolated) = 6.78 W/kg  
**SAR(1 g) = 4.23 W/kg; SAR(10 g) = 2.16 W/kg**  
 Maximum value of SAR (measured) = 5.53 W/kg



0 dB = 5.53 W/kg = 7.43 dBW/kg

**System Performance 1900MHz Head was performed on 2024/06/24****DUT: D1900V2; Type: 1900 MHz; Serial: 543**

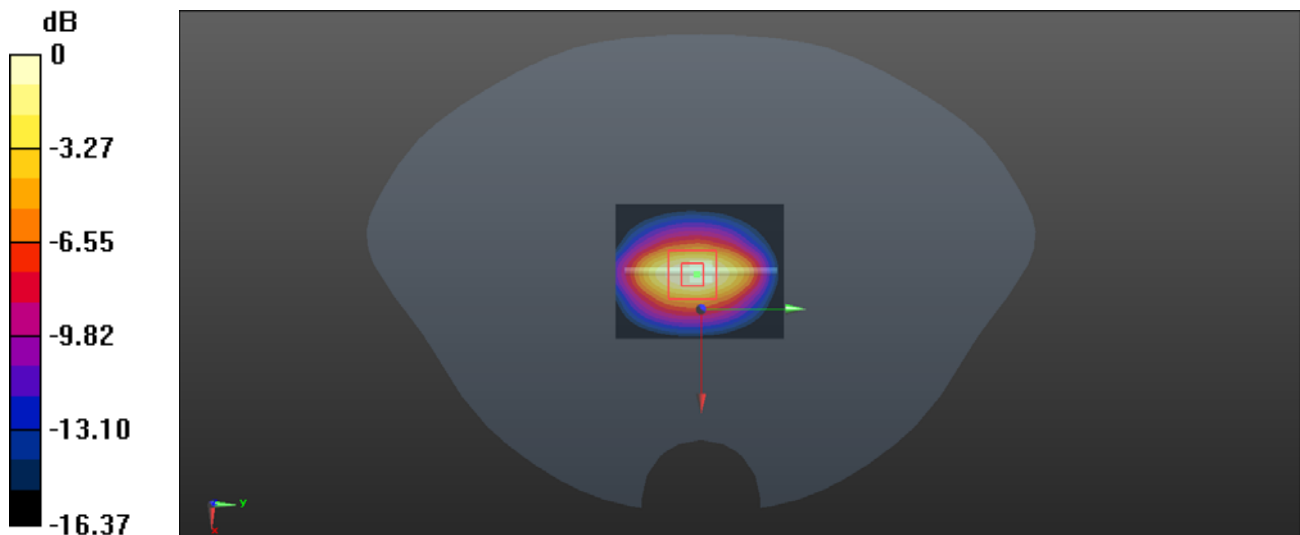
Communication System: CW ; Frequency: 1900 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.451$  S/m;  $\epsilon_r = 40.104$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7839; ConvF(8, 7.27, 7.03) @ 1900 MHz; Calibrated: 2023/9/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2024/1/23
- Phantom: SAM (30deg probe tilt) with CRP v5.0\_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

**Area Scan (5x6x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (measured) = 6.21 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 56.93 V/m; Power Drift = -0.08 dB  
Peak SAR (extrapolated) = 7.56 W/kg  
**SAR(1 g) = 4.18 W/kg; SAR(10 g) = 2.12 W/kg**  
Maximum value of SAR (measured) = 6.13 W/kg



0 dB = 6.13 W/kg = 7.87 dBW/kg

**System Performance 2450MHz Head was performed on 2024/06/26****DUT: D2450V2; Type: 2450 MHz; Serial: 971**

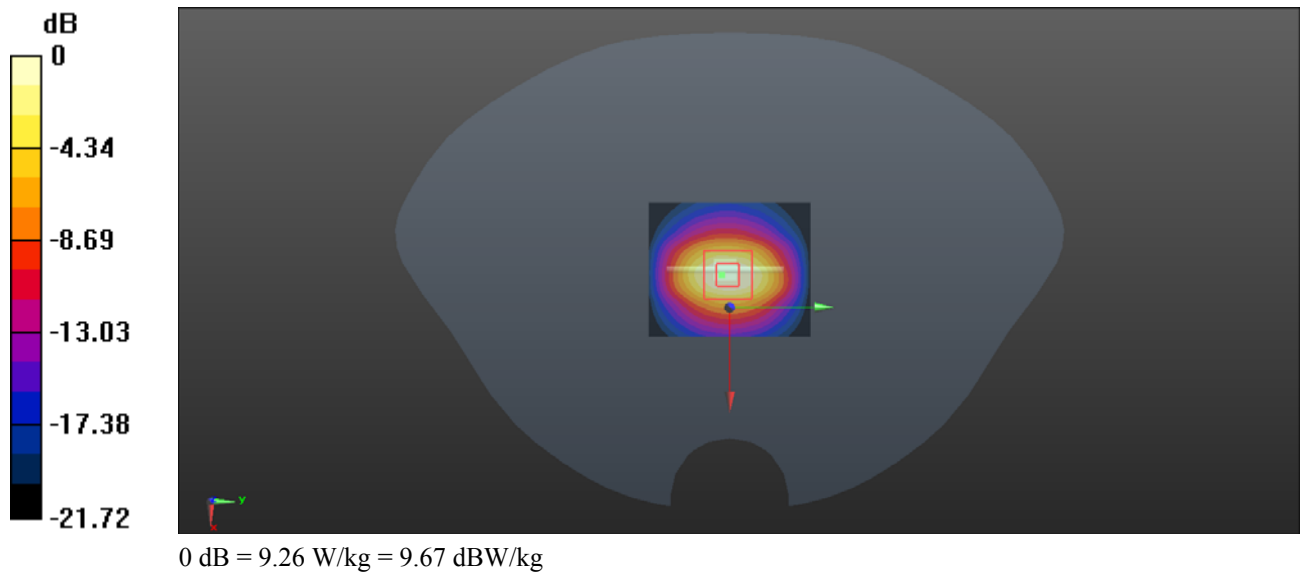
Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1  
Medium parameters used :  $f = 2450$  MHz;  $\sigma = 1.809$  S/m;  $\epsilon_r = 38.892$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7839; ConvF(7.49, 6.81, 6.61) @ 2450 MHz; Calibrated: 2023/9/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2024/1/23
- Phantom: SAM (30deg probe tilt) with CRP v5.0\_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

**Area Scan (6x7x1):** Measurement grid: dx=12mm, dy=12mm  
Maximum value of SAR (measured) = 9.41 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 56.32 V/m; Power Drift = -0.14 dB  
Peak SAR (extrapolated) = 11.3 W/kg  
**SAR(1 g) = 5.43 W/kg; SAR(10 g) = 2.49 W/kg**  
Maximum value of SAR (measured) = 9.26 W/kg



**System Performance 2600MHz Head was performed on 2024/06/26**

**DUT: D2600V2; Type: 2600 MHz; Serial: 1132**

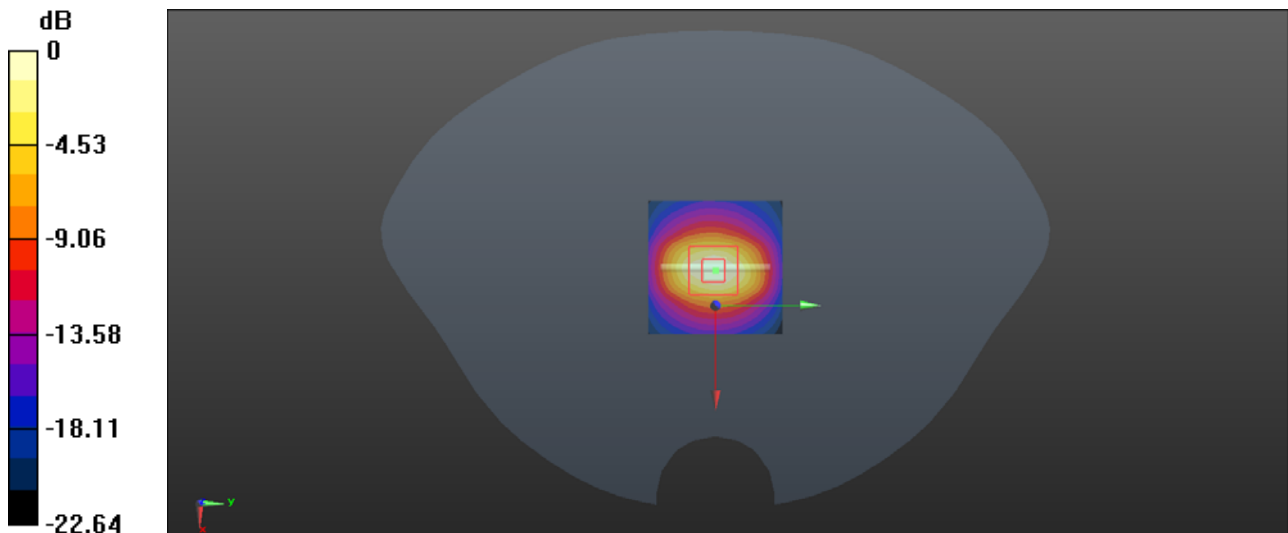
Communication System: CW ; Frequency: 2600 MHz;Duty Cycle: 1:1  
 Medium parameters used:  $f = 2600 \text{ MHz}$ ;  $\sigma = 1.974 \text{ S/m}$ ;  $\epsilon_r = 38.206$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7839; ConvF(7.61, 6.94, 6.73) @ 2600 MHz; Calibrated: 2023/9/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2024/1/23
- Phantom: SAM (30deg probe tilt) with CRP v5.0\_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

**Area Scan (8x10x1):** Measurement grid:  $dx=12\text{mm}$ ,  $dy=12\text{mm}$   
 Maximum value of SAR (measured) = 10.5 W/kg

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$   
 Reference Value = 57.19 V/m; Power Drift = -0.03 dB  
 Peak SAR (extrapolated) = 12.7 W/kg  
**SAR(1 g) = 5.67 W/kg; SAR(10 g) = 2.48 W/kg**  
 Maximum value of SAR (measured) = 9.84 W/kg



0 dB = 9.84 W/kg = 9.93 dBW/kg

**System Performance 5250 MHz Head was performed on 2024/06/28**

**DUT: D5GHzV2; Type: 5250 MHz; Serial: 1246**

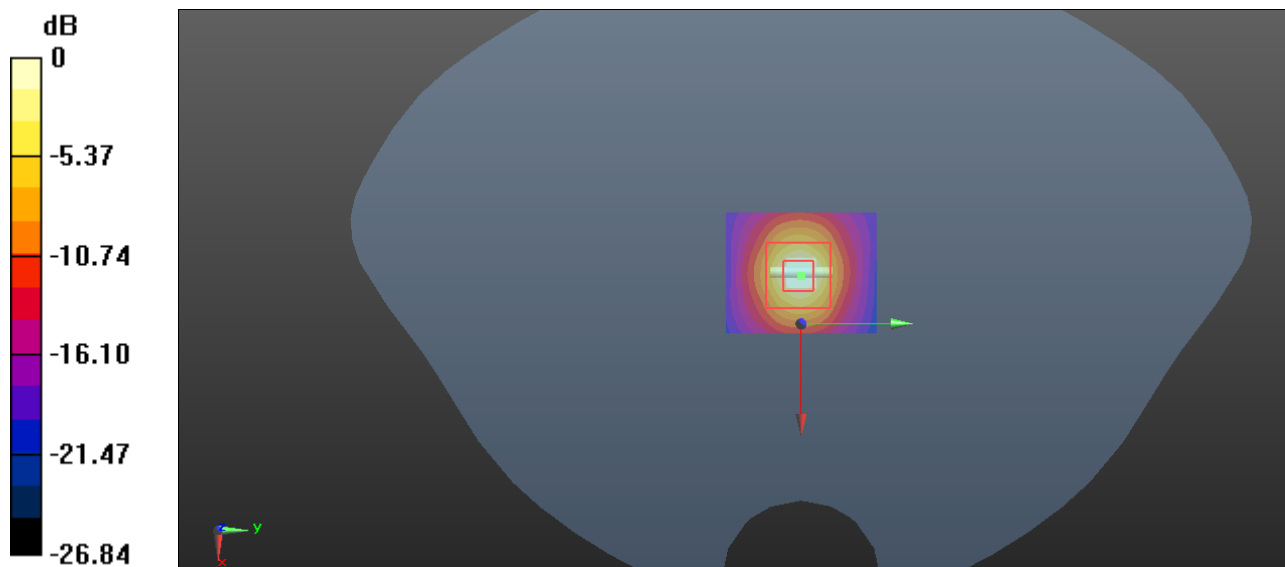
Communication System: CW; Frequency: 5250 MHz; Duty Cycle: 1:1  
 Medium parameters used:  $f = 5250$  MHz;  $\sigma = 4.736$  S/m;  $\epsilon_r = 35.101$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7839; ConvF(5.62, 5.1, 4.97) @ 5250 MHz; Calibrated: 2023/9/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2024/1/23
- Phantom: SAM (30deg probe tilt) with CRP v5.0\_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

**Area Scan (5x6x1):** Measurement grid: dx=10mm, dy=10mm  
 Maximum value of SAR (measured) = 22.6 W/kg

**Zoom Scan (8x8x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm  
 Reference Value = 44.07 V/m; Power Drift = -0.04 dB  
 Peak SAR (extrapolated) = 36.5 W/kg  
**SAR(1 g) = 7.86 W/kg; SAR(10 g) = 2.19 W/kg**  
 Maximum value of SAR (measured) = 21.6 W/kg



0 dB = 21.6 W/kg = 13.34 dBW/kg



**System Performance 5600 MHz Head was performed on 2024/06/28****DUT: D5GHzV2; Type: 5600 MHz; Serial: 1246**

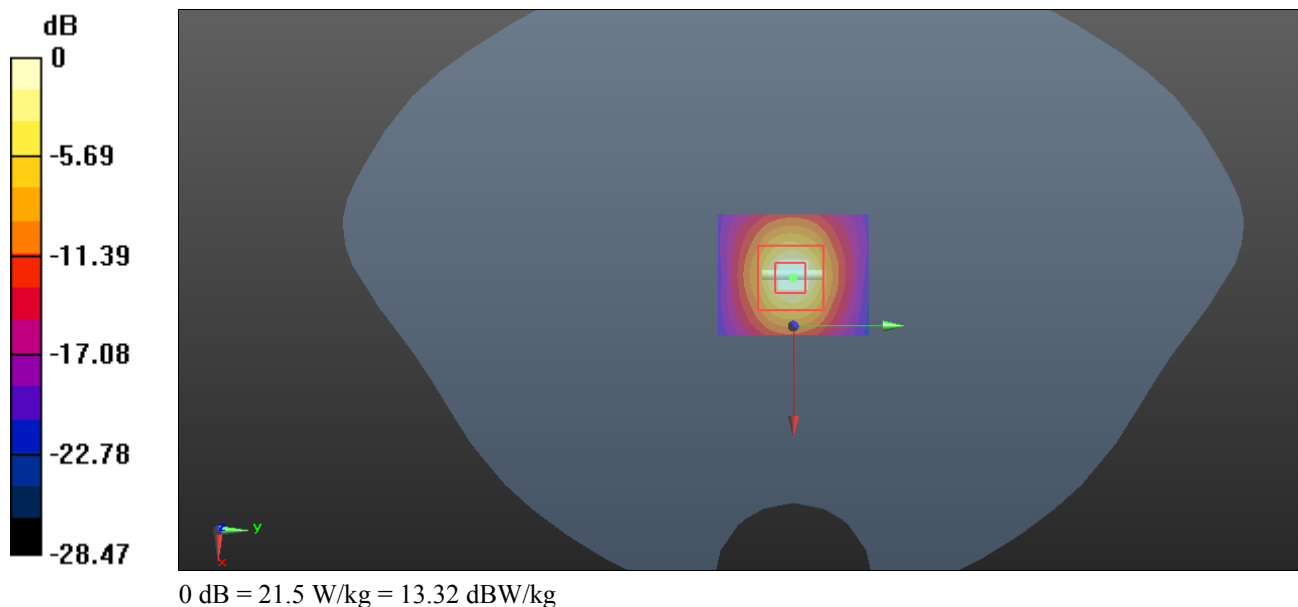
Communication System: CW; Frequency: 5600 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 5600$  MHz;  $\sigma = 4.909$  S/m;  $\epsilon_r = 35.107$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7839; ConvF(4.94, 4.48, 4.39) @ 5600 MHz; Calibrated: 2023/9/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2024/1/23
- Phantom: SAM (30deg probe tilt) with CRP v5.0\_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

**Area Scan (5x6x1):** Measurement grid: dx=10mm, dy=10mm  
Maximum value of SAR (measured) = 23.6 W/kg

**Zoom Scan (8x8x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm  
Reference Value = 41.06 V/m; Power Drift = -0.04 dB  
Peak SAR (extrapolated) = 38.4 W/kg  
**SAR(1 g) = 8.14 W/kg; SAR(10 g) = 2.29 W/kg**  
Maximum value of SAR (measured) = 21.5 W/kg



**System Performance 5750 MHz Head was performed on 2024/06/28****DUT: D5GHzV2; Type: 5750 MHz; Serial: 1246**

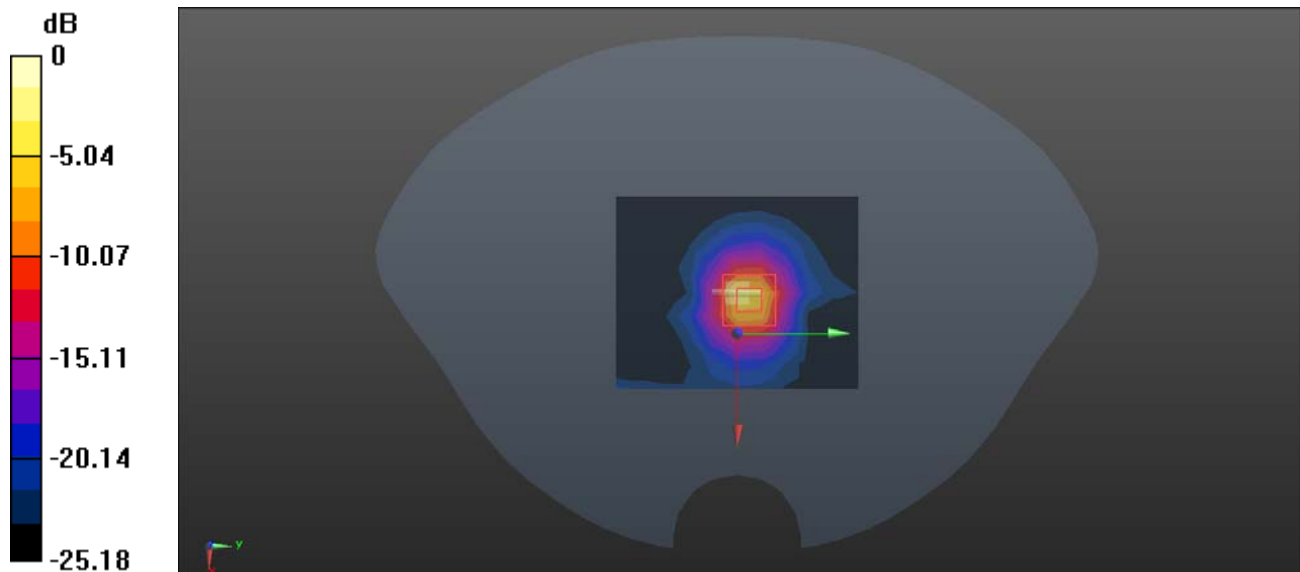
Communication System: CW; Frequency: 5750 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 5750$  MHz;  $\sigma = 5.202$  S/m;  $\epsilon_r = 36.055$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7839; ConvF(5.04, 4.65, 4.62) @ 5750 MHz; Calibrated: 2023/9/21
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2024/1/23
- Phantom: SAM (30deg probe tilt) with CRP v5.0\_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

**Area Scan (9x11x1):** Measurement grid: dx=10mm, dy=10mm  
Maximum value of SAR (measured) = 20.9 W/kg

**Zoom Scan (8x8x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm  
Reference Value = 36.53 V/m; Power Drift = -0.03 dB  
Peak SAR (extrapolated) = 35.6 W/kg  
**SAR(1 g) = 7.97 W/kg; SAR(10 g) = 2.32 W/kg**  
Maximum value of SAR (measured) = 21.2 W/kg



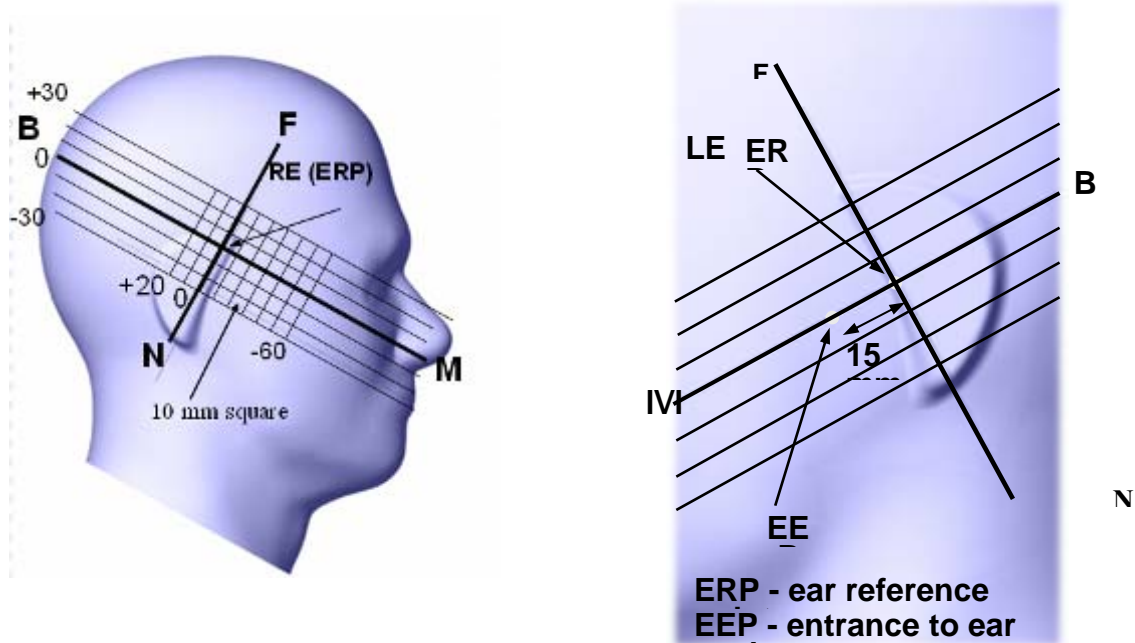
0 dB = 21.2 W/kg = 13.26 dBW/kg

## 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

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.

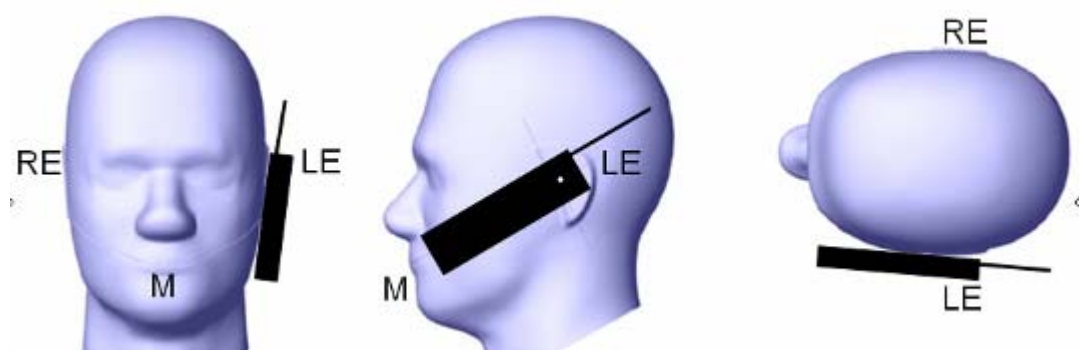
This test position is established:

When any point on the display, keypad or mouthpiece portions of the handset is in contact with the phantom.

(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.

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”:

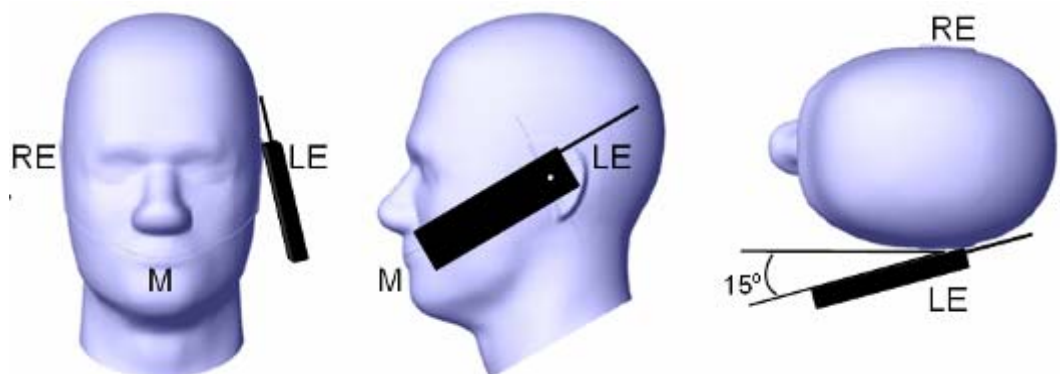
1) If the earpiece of the handset is not in full contact with the phantom’s ear spacer (in the “Cheek/Touch position”) and the peak SAR location for the “Cheek/Touch” position is located at the ear spacer region or corresponds to the earpiece region of the handset, the device should be returned to the “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  $15\text{ }^{\circ}$  to  $80\text{ }^{\circ}$ . 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  $15\text{ }^{\circ}$  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 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.

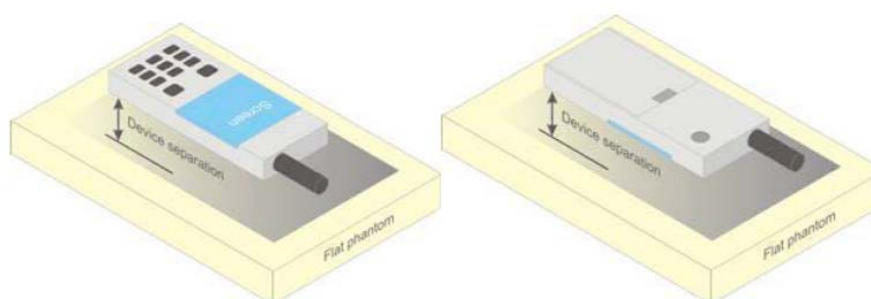


Figure 5 – Test positions for body-worn devices

#### 6.5 Test Distance for SAR Evaluation

In this case the EUT(Equipment Under Test) is set 10mm away from the phantom, the test distance is 10mm.

## 6.6 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.

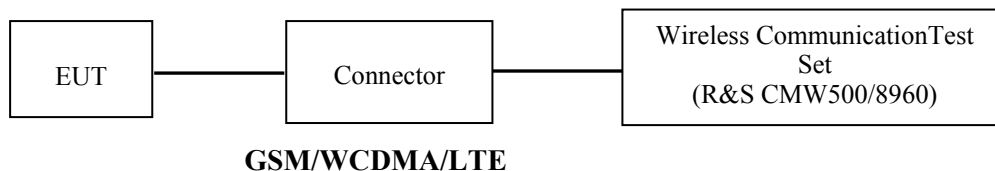
All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

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.

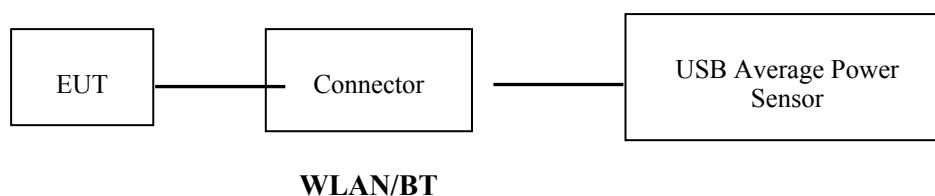
## 7. CONDUCTED OUTPUT POWER MEASUREMENT

### 7.1 Test Procedure

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



The RF output of the transmitter was connected to the input port of the USB Average Power Sensor through Connector.



### 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 General 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 General 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
	$\beta_d$ (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 Specific Settings</b>	DACK	8			
	DNAK	8			
	DCQI	8			
	Ack-Nack repetition factor	3			
	CQI Feedback	4ms			
	CQI Repetition Factor	2			
	A <sub>hs</sub> = $\beta_{hs}/\beta_c$	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 General 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 Specific 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 Specific 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	E-TFCI 11 E E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO23 E-TFCI 75 E-TFCI PO26 E-TFCI 81 E-TFCI PO 27	E-TFCI 11 E-TFCI PO4 E-TFCI 92 E-TFCI PO 18	E-TFCI 11 E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO23 E-TFCI 75 E-TFCI PO26 E-TFCI 81 E-TFCI PO 27	E-TFCI 11 E E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO23 E-TFCI 75 E-TFCI PO26 E-TFCI 81 E-TFCI PO 27	

**DC-HSDPA**

The following tests were conducted according to the test requirements in Table C.8.1.12 of 3GPP TS 34.121-1

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

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

**HSPA+**

Sub-test	$\beta_c$ (Note3)	$\beta_d$	$\beta_{HS}$ (Note1)	$\beta_{ec}$	$\beta_{ed}$ (2xSF2) (Note 4)	$\beta_{ed}$ (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	$\beta_{ed1}$ : 30/15 $\beta_{ed2}$ : 30/15	$\beta_{ed3}$ : 24/15 $\beta_{ed4}$ : 24/15	3.5	2.5	14	105	105
Note 1: $\Delta_{ACK}$ , $\Delta_{NACK}$ and $\Delta_{CQI}$ = 30/15 with $\beta_{hs} = 30/15 * \beta_c$ .											
Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).											
Note 3: DPDCH is not configured, therefore the $\beta_c$ is set to 1 and $\beta_d = 0$ by default.											
Note 4: $\beta_{ed}$ can not be set directly; it is set by Absolute Grant Value.											
Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signalled to use the extrapolation algorithm.											

The following tests were conducted according to the test requirements in Table C.11.1.4 of 3GPP TS 34.121-1

**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	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 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	≤ 1
			5	>6	≤ 1
			10	>6	≤ 1
			15	>8	≤ 1
			20	>10	≤ 1
NS_04	6.6.2.2.2	41	5	>6	≤ 1
NS_05	6.6.3.3.1	1	10, 15, 20	Table 6.2.4-4	
NS_06	6.6.2.2.3	12, 13, 14, 17	10, 15, 20	≥ 50	≤ 1
NS_07	6.6.2.2.3	13	10	Table 6.2.4-2	
6.6.3.3.2					
NS_08	6.6.3.3.3	19	10, 15	> 44	≤ 3
NS_09	6.6.3.3.4	21	10, 15	> 40	≤ 1
				> 55	≤ 2
				Table 6.2.4-3	
NS_10		20	15, 20	Table 6.2.4-3	
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	≥ 2	≤ 1
			10, 15, 20	≥ 1	≤ 4
NS_19	6.6.3.3.12	44	10, 15, 20	Table 6.2.4-14	
NS_20	6.2.2 6.6.2.2.1 6.6.3.2	23	5, 10, 15, 20	Table 6.2.4-15	
...					
NS_32	-	-	-	-	-

**TDD-LTE**

P 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**

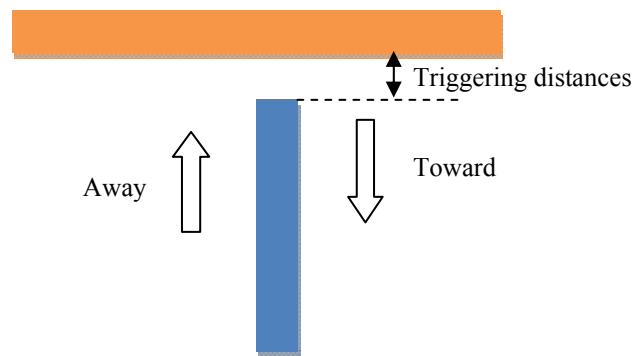
Uplink-Downlink Configuration	Downlink-to-Uplink Switch-point Periodicity	Subframe Number										Calculated Duty Cycle (%)
		0	1	2	3	4	5	6	7	8	9	
0	5 ms	D	S	U	U	U	D	S	U	U	U	63.33
1	5 ms	D	S	U	U	D	D	S	U	U	D	43.33
2	5 ms	D	S	U	D	D	D	S	U	D	D	23.33
3	10 ms	D	S	U	U	U	D	D	D	D	D	31.67
4	10 ms	D	S	U	U	D	D	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 41 SAR test, that is 63.33%(1:1.58) for duty cycle.

## Proximity Sensor Operation

Triggering distances (Per KDB 616217)

1. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed and the tissue-equivalent medium for highest frequency (6000MHz) and lowest (600MHz) frequency was used for proximity sensor triggering testing. It should be applied to determine proximity sensor triggering distances for the back surface and individual edges of a tablet.
2. Capacitive proximity sensor placed coincident with antenna elements at the left end of the pad are utilized to determine when the device comes in proximity of the user's body at the front or back or Top or Bottom sidesurface of the device. There is no need to do sensor coverage testing for the proximity sensor is designed to support sufficient detection range and sensitivity to cover regions of the sensors in all applicable directions since the proximity sensor entirely covers the antenna
3. The device employs proximity sensors that detect the presence of the user's body or handhold at the front or back or Top or bottom side of the device. When front or back surface or bottom edge of body worn condition is detected, PCS 1900/ WCDMA Band 2/4/ LTE Band 2/4/25/66 reduced power will be active; When front or back surface or Top edge of body worn condition is detected, LTE Band 5/26/ WLAN 2.4G reduced power will be active. Other mode or frequency band can't be active. (P-sensor can't work at detecting presence of the user's body at the top, left edges, right edges of the device.)



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

**PCS 1900(GSM):**

Distance		0	3	6	9	12	15	16	17	18	19	20	21	22	23	24	25	30
Front edge	Toward	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8
	Away	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8
Back edge	Toward	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	29.8	29.8	29.8	29.8	29.8	29.8
	Away	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	29.8	29.8	29.8	29.8
Bottom edge	Toward	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	29.8	29.8	29.8	29.8	29.8	29.8
	Away	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	29.8	29.8	29.8	29.8

**PCS 1900(GPRS 1 Slot):**

Distance		0	3	6	9	12	15	16	17	18	19	20	21	22	23	24	25	30
Front edge	Toward	26.8	26.8	26.8	26.8	26.8	26.8	26.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8
	Away	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8
Back edge	Toward	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	29.8	29.8	29.8	29.8	29.8	29.8
	Away	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	29.8	29.8	29.8	29.8
Bottom edge	Toward	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	29.8	29.8	29.8	29.8	29.8	29.8
	Away	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	29.8	29.8	29.8	29.8

**PCS 1900(GPRS 2 Slot):**

Distance		0	3	6	9	12	15	16	17	18	19	20	21	22	23	24	25	30
Front edge	Toward	26	26	26	26	26	26	26	29	29	29	29	29	29	29	29	29	29
	Away	26	26	26	26	26	26	26	26	26	29	29	29	29	29	29	29	29
Back edge	Toward	26	26	26	26	26	26	26	26	26	26	26	29	29	29	29	29	29
	Away	26	26	26	26	26	26	26	26	26	26	26	26	26	29	29	29	29
Bottom edge	Toward	26	26	26	26	26	26	26	26	26	26	26	29	29	29	29	29	29
	Away	26	26	26	26	26	26	26	26	26	26	26	26	26	29	29	29	29

**PCS 1900(GPRS 3 Slot):**

Distance		0	3	6	9	12	15	16	17	18	19	20	21	22	23	24	25	30
Front edge	Toward	24.3	24.3	24.3	24.3	24.3	24.3	24.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3
	Away	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3	27.3
Back edge	Toward	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	27.3	27.3	27.3	27.3	27.3	27.3
	Away	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	27.3	27.3	27.3	27.3
Bottom edge	Toward	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	27.3	27.3	27.3	27.3	27.3	27.3
	Away	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	27.3	27.3	27.3	27.3

**PCS 1900(GPRS 4 Slot):**

Distance		0	3	6	9	12	15	16	17	18	19	20	21	22	23	24	25	30
Front edge	Toward	22.5	22.5	22.5	22.5	22.5	22.5	22.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
	Away	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
Back edge	Toward	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	25.5	25.5	25.5	25.5	25.5	25.5
	Away	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	25.5	25.5	25.5	25.5
Bottom edge	Toward	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	25.5	25.5	25.5	25.5	25.5	25.5
	Away	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	25.5	25.5	25.5	25.5

**WCDMA Band 2:**

Distance		0	3	6	9	12	15	16	17	18	19	20	21	22	23	24	25	30	
Front edge	Toward	19	19	19	19	19	19	19	19	22	22	22	22	22	22	22	22	22	22
	Away	19	19	19	19	19	19	19	19	19	22	22	22	22	22	22	22	22	22
Back edge	Toward	19	19	19	19	19	19	19	19	19	19	19	22	22	22	22	22	22	22
	Away	19	19	19	19	19	19	19	19	19	19	19	19	19	22	22	22	22	22
Bottom edge	Toward	19	19	19	19	19	19	19	19	19	19	19	22	22	22	22	22	22	22
	Away	19	19	19	19	19	19	19	19	19	19	19	19	19	22	22	22	22	22

**WCDMA Band 4:**

Distance		0	3	6	9	12	15	16	17	18	19	20	21	22	23	24	25	30	
Front edge	Toward	19	19	19	19	19	19	19	19	22	22	22	22	22	22	22	22	22	22
	Away	19	19	19	19	19	19	19	19	19	19	22	22	22	22	22	22	22	22
Back edge	Toward	19	19	19	19	19	19	19	19	19	19	19	22	22	22	22	22	22	22
	Away	19	19	19	19	19	19	19	19	19	19	19	19	19	22	22	22	22	22
Bottom edge	Toward	19	19	19	19	19	19	19	19	19	19	19	22	22	22	22	22	22	22
	Away	19	19	19	19	19	19	19	19	19	19	19	19	19	22	22	22	22	22

**LTE Band 25&2:**

Distance		0	3	6	9	12	15	16	17	18	19	20	21	22	23	24	25	30	
Front edge	Toward	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	23.6	23.6	23.6	23.6	23.6	23.6	23.6	23.6	23.6	23.6
	Away	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	23.6	23.6	23.6	23.6	23.6	23.6	23.6	23.6	23.6
Back edge	Toward	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	23.6	23.6	23.6	23.6	23.6	23.6	23.6
	Away	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	23.6	23.6	23.6	23.6	23.6
Bottom edge	Toward	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	23.6	23.6	23.6	23.6	23.6	23.6	23.6
	Away	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	23.6	23.6	23.6	23.6	23.6

**LTE Band 66&4:**

Distance		0	3	6	9	12	15	16	17	18	19	20	21	22	23	24	25	30	
Front edge	Toward	20.3	20.3	20.3	20.3	20.3	20.3	20.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3
	Away	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3
Back edge	Toward	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3
	Away	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	23.3	23.3	23.3	23.3	23.3
Bottom edge	Toward	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3
	Away	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	20.3	23.3	23.3	23.3	23.3	23.3

**LTE Band 26&5:**

Distance		0	3	6	9	13	14	15	16	17	18	19	20	21	22	23	25	30	
Front edge	Toward	23.3	23.3	23.3	23.3	23.3	23.3	23.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3
	Away	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3
Back edge	Toward	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	24.3	24.3	24.3	24.3	24.3	24.3	24.3
	Away	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	24.3	24.3	24.3	24.3	24.3	24.3
Top edge	Toward	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	24.3	24.3	24.3	24.3	24.3	24.3
	Away	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	24.3	24.3	24.3	24.3	24.3

**WLAN 2.4G:**

Distance		0	3	6	9	13	14	15	16	17	18	19	20	21	22	23	25	30
Front edge	Toward	16	16	16	16	16	16	19	19	19	19	19	19	19	19	19	19	19
	Away	16	16	16	16	16	16	16	16	19	19	19	19	19	19	19	19	19
Back edge	Toward	16	16	16	16	16	16	16	16	16	16	19	19	19	19	19	19	19
	Away	16	16	16	16	16	16	16	16	16	16	16	16	19	19	19	19	19
Top edge	Toward	16	16	16	16	16	16	16	16	16	16	16	16	19	19	19	19	19
	Away	16	16	16	16	16	16	16	16	16	16	16	16	16	16	19	19	19

**Note:**

each side minimum detection distance was performed with below:

Toward: moving toward the phantom

Away: Moving away from the phantom

**Summary of trigger distances:**

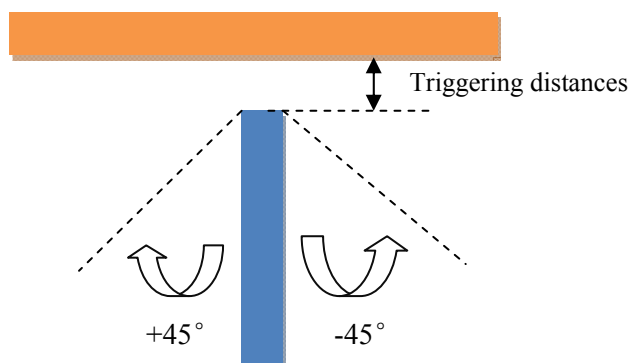
Band	Front edge		Back edge		Bottom edge		Top edge	
	Toward	Away	Toward	Away	Toward	Away	Toward	Away
PCS 1900	16	18	20	22	20	22	/	/
WCDMA Band 2	16	18	20	22	20	22	/	/
WCDMA Band 4	16	18	20	22	20	22	/	/
LTE Band 25&2	16	18	20	22	20	22	/	/
LTE Band 66&4	16	18	20	22	20	22	/	/
LTE Band 26&5	14	16	18	20	/	/	20	22
WLAN 2.4G	14	16	18	20	/	/	20	22



**Tilt angle**

The influence of device tilt angles to proximity sensor triggering was determined by positioning each device edge that contains a transmitting antenna, perpendicular to the flat phantom, at 20 mm separation for back and bottom, at 16 mm separation for front(PCS 1900/WCDMA Band 2/4/LTE Band 2/4/25/66); at 18 mm separation for back , at 14 mm separation for front, at 20 mm separation for Top(LTE Band 5/26 and WLAN 2.4G).

Rotating the device around the edge next to the phantom in  $\leq 10^\circ$  increments until the device is  $\pm 45^\circ$  from the vertical position at  $0^\circ$ . And the maximum output power remains in the reduced mode.



**PCS 1900/WCDMA Band 2/4/LTE Band 2/4/25/66:**

**Proximity Sensor Status Table**

Minimum Distance(mm)	-45	-40	-30	-20	-10	0	10	20	30	40	45
15(Front)	on	on	on	on	on	on	on	on	on	on	on
19(Back)	on	on	on	on	on	on	on	on	on	on	on
19(Bottom)	on	on	on	on	on	on	on	on	on	on	on

**Resulting test positions for SAR measurements**

Wireless Technologies	Position	Triggering Distance(mm)	Worst case distance For SAR(mm)
WWAN	Front	16	15
	Back	20	19
	Bottom	20	19

**LTE Band 26&5 and WLAN 2.4G:**

**Proximity Sensor Status Table**

Minimum Distance(mm)	-45	-40	-30	-20	-10	0	10	20	30	40	45
13(Front)	on	on	on	on	on	on	on	on	on	on	on
17(Back)	on	on	on	on	on	on	on	on	on	on	on
19(Top)	on	on	on	on	on	on	on	on	on	on	on

**Resulting test positions for SAR measurements**

Wireless Technologies	Position	Triggering Distance(mm)	Worst case distance For SAR(mm)
WWAN/WLAN	Front	14	13
	Back	18	17
	Top	20	19

**PCS1900(Sensor on):**

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
Body-Bottom Side Tilt 30°	1850.2	GPRS	/	/	/	/	/	/
	1880	GPRS	25.71	26.8	1.285	0.342	0.44	/
	1909.8	GPRS	/	/	/	/	/	/
Body-Bottom Side Tilt 60°	1850.2	GPRS	/	/	/			/
	1880	GPRS	25.71	26.8	1.285	0.346	0.44	42#
	1909.8	GPRS	/	/	/			/

*The data above was performed on 2024/06/27.*

**WCDMA Band 2(Sensor on):**

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
Body-Bottom Side Tilt 30°	1852.4	RMC	18.37	19	1.156	0.486	0.56	
	1880	RMC	18.29	19	1.178	0.748	0.88	43#
	1907.6	RMC	18.22	19	1.197	0.519	0.62	
Body-Bottom Side Tilt 60°	1852.4	RMC	18.37	19	1.156	0.424	0.49	
	1880	RMC	18.29	19	1.178	0.699	0.82	/
	1907.6	RMC	18.22	19	1.197	0.442	0.53	

*The data above was performed on 2024/06/24.*

**WCDMA Band 4(Sensor on):**

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
Body-Bottom Side Tilt 30°	1712.4	RMC	/	/	/	/	/	/
	1732.6	RMC	18.34	19	1.164	0.681	0.79	/
	1752.6	RMC	/	/	/	/	/	/
Body-Bottom Side Tilt 60°	1712.4	RMC	17.76	19	1.33	0.829	1.1	44#
	1732.6	RMC	18.34	19	1.164	0.828	0.96	/
	1752.6	RMC	18.08	19	1.236	0.829	1.02	/

The data above was performed on 2024/06/25.

**LTE Band 25&2(Sensor on):**

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
Body-Bottom Side Tilt 30°	1860	20	1RB	/	/	/	/	/	/
	1882.5	20	1RB	19.78	20.6	1.208	0.627	0.76	/
	1905	20	1RB	/	/	/	/	/	/
	1882.5	20	50%RB	18.86	20.6	1.493	0.506	0.76	/
Body-Bottom Side Tilt 60°	1860	20	1RB	/	/	/	/	/	/
	1882.5	20	1RB	19.78	20.6	1.208	0.63	0.76	45#
	1905	20	1RB	/	/	/	/	/	/
	1882.5	20	50%RB	18.86	20.6	1.493	0.504	0.75	/

The data above was performed on 2024/06/27.

**LTE Band 26&5(Sensor on):**

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
Body-Top Side Tilt 30°	831.5	15	1RB	/	/	/	/	/	/
	836.5	15	1RB	22.26	23.3	1.271	0.167	0.21	46#
	841.5	15	1RB	/	/	/	/	/	/
	836.5	15	50%RB	21.86	22.8	1.242	0.136	0.17	/
Body-Top Side Tilt 60°	831.5	15	1RB	/	/	/	/	/	/
	836.5	15	1RB	22.26	23.3	1.271	0.156	0.20	/
	841.5	15	1RB	/	/	/	/	/	/
	836.5	15	50%RB	21.86	22.8	1.242	0.128	0.16	/

The data above was performed on 2024/06/23.

**LTE Band 66&4(Sensor on):**

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
Body-Bottom Side Tilt 30°	1720	20	1RB	/	/	/	/	/	/
	1745	20	1RB	19.25	20.3	1.274	0.539	0.69	/
	1770	20	1RB	/	/	/	/	/	/
	1745	20	50%RB	18.43	19.8	1.371	0.489	0.67	/
Body-Bottom Side Tilt 60°	1720	20	1RB	/	/	/	/	/	/
	1745	20	1RB	19.25	20.3	1.274	0.553	0.70	/
	1770	20	1RB	/	/	/	/	/	/
	1745	20	50%RB	18.43	19.8	1.371	0.515	0.71	47#

*The data above was performed on 2024/06/25.*

**WLAN 2.4G (Sensor on):**

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
Body-Top Side Tilt 30°	2412	802.11b	/	/	/	/	/	/	/
	2437	802.11b	15.12	16	1.225	1.006	0.076	0.09	/
	2462	802.11b	/	/	/	/	/	/	/
Body-Top Side Tilt 60°	2412	802.11b	/	/	/	/			/
	2437	802.11b	15.12	16	1.225	1.006	0.087	0.11	48#
	2462	802.11b	/	/	/	/			/

*The data above was performed on 2024/06/26.*

*Note: The tilt angle has been verified to trigger the sensors on the top and bottom antennas.*

### 7.3 Maximum Target Output Power

Max Target Power(dBm)			
Mode/Band	Channel		
	Low	Middle	High
GSM 850	34.1	34.1	34.1
GPRS 1 TX Slot	33.2	33.2	33.2
GPRS 2 TX Slot	32.4	32.4	32.4
GPRS 3 TX Slot	30.6	30.6	30.6
GPRS 4 TX Slot	30.5	30.5	30.5
EDGE 1 TX Slot	27.4	27.4	27.4
EDGE 2 TX Slot	25.8	25.8	25.8
EDGE 3 TX Slot	23.3	23.3	23.3
EDGE 4 TX Slot	21.8	21.8	21.8
PCS 1900	29.8	29.8	29.8
GPRS 1 TX Slot	29.8	29.8	29.8
GPRS 2 TX Slot	29	29	29
GPRS 3 TX Slot	27.3	27.3	27.3
GPRS 4 TX Slot	25.5	25.5	25.5
EDGE 1 TX Slot	25.2	25.2	25.2
EDGE 2 TX Slot	24.3	24.3	24.3
EDGE 3 TX Slot	22.3	22.3	22.3
EDGE 4 TX Slot	21	21	21
WCDMA Band 2	22	22	22
HSDPA	21.7	21.7	21.7
HSUPA	21.3	21.3	21.3
DC-HSDPA	21.5	21.5	21.5
HSPA+	20.6	20.6	20.6
WCDMA Band 4	22	22	22
HSDPA	21.2	21.2	21.2
HSUPA	21.1	21.1	21.1
DC-HSDPA	20.9	20.9	20.9
HSPA+	21	21	21
WCDMA Band 5	21.8	21.8	21.8
HSDPA	21.2	21.2	21.2
HSUPA	21.1	21.1	21.1
DC-HSDPA	21	21	21
HSPA+	20.6	20.6	20.6
LTE Band 2 1RB	23.6	23.6	23.6
LTE Band 2 50%RB	23.6	23.6	23.6
LTE Band 2 100%RB	22.6	22.6	22.6
LTE Band 4 1RB	23.3	23.3	23.3
LTE Band 4 50%RB	22.8	22.8	22.8
LTE Band 4 100%RB	22	22	22

<b>Max Target Power(dBm)</b>			
<b>Mode/Band</b>	<b>Channel</b>		
	<b>Low</b>	<b>Middle</b>	<b>High</b>
LTE Band 5 1RB	24.3	24.3	24.3
LTE Band 5 50%RB	23.8	23.8	23.8
LTE Band 5 100%RB	23.2	23.2	23.2
LTE Band 12 1RB	24	24	24
LTE Band 12 50%RB	23.5	23.5	23.5
LTE Band 12 100%RB	22.5	22.5	22.5
LTE Band 13 1RB	24	24	24
LTE Band 13 50%RB	23.5	23.5	23.5
LTE Band 13 100%RB	22.5	22.5	22.5
LTE Band 25 1RB	23.6	23.6	23.6
LTE Band 25 50%RB	23.6	23.6	23.6
LTE Band 25 100%RB	22.6	22.6	22.6
LTE Band 26 1RB	24.3	24.3	24.3
LTE Band 26 50%RB	23.8	23.8	23.8
LTE Band 26 100%RB	23.2	23.2	23.2
LTE Band 41 1RB	23.2	23.2	23.2
LTE Band 41 50%RB	22.4	22.4	22.4
LTE Band 41 100%RB	21.5	21.5	21.5
LTE Band 66 1RB	23.3	23.3	23.3
LTE Band 66 50%RB	22.8	22.8	22.8
LTE Band 66 100%RB	22	22	22
LTE Band 71 1RB	24.5	24.5	24.5
LTE Band 71 50%RB	24	24	24
LTE Band 71 100%RB	23.5	23.5	23.5
WLAN 2.4G(802.11b)	19	19	19
WLAN 2.4G(802.11g)	18	18	18
WLAN 2.4G(802.11n ht20)	18	18	15.5
WLAN 5.2G(802.11a)	8.5	16.9	16.9
WLAN 5.2G(802.11n20)	8	16.6	16.6
WLAN 5.2G(802.11n40)	12	/	14.3
WLAN 5.2G(802.11ac20)	8	16.6	16.6
WLAN 5.2G(802.11ac40)	12	/	14.3
WLAN 5.2G(802.11ac80)	/	11.9	/
WLAN 5.3G(802.11a)	16	16	16
WLAN 5.3G(802.11n20)	15.8	15.8	15.8
WLAN 5.3G(802.11n40)	14.4	/	12.5
WLAN 5.3G(802.11ac20)	15.8	15.8	15.8
WLAN 5.3G(802.11ac40)	14.4	/	12.5
WLAN 5.3G(802.11ac80)	/	11	/

<b>Max Target Power(dBm)</b>			
<b>Mode/Band</b>	<b>Channel</b>		
	<b>Low</b>	<b>Middle</b>	<b>High</b>
WLAN 5.6G(802.11a)	13.9	13.9	13.9
WLAN 5.6G(802.11n20)	13.7	13.7	13.7
WLAN 5.6G(802.11n40)	13.7	13.7	13.7
WLAN 5.6G(802.11ac20)	13.7	13.7	13.7
WLAN 5.6G(802.11ac40)	13.7	13.7	13.7
WLAN 5.6G(802.11ac80)	12.8	12.8	12.8
WLAN 5.8G(802.11a)	16	16	16
WLAN 5.8G(802.11n20)	15.9	15.9	15.9
WLAN 5.8G(802.11n40)	15.5	/	15.5
WLAN 5.8G(802.11ac20)	15.9	15.9	15.9
WLAN 5.8G(802.11ac40)	15.5	/	15.5
WLAN 5.8G(802.11ac80)	/	15.3	/
Bluetooth BDR/EDR	2.0	4.0	2.0
Bluetooth LE 1M	0.5	2.0	0.5
Bluetooth LE 2M	0.5	2.0	0.5

**Reduction Target power**

<b>Max Target Power(dBm)</b>			
<b>Mode/Band</b>	<b>Channel</b>		
	<b>Low</b>	<b>Middle</b>	<b>High</b>
PCS 1900	26.8	26.8	26.8
GPRS 1 TX Slot	26.8	26.8	26.8
GPRS 2 TX Slot	26	26	26
GPRS 3 TX Slot	24.3	24.3	24.3
GPRS 4 TX Slot	22.5	22.5	22.5
EDGE 1 TX Slot	22.2	22.2	22.2
EDGE 2 TX Slot	21.4	21.4	21.4
EDGE 3 TX Slot	19.2	19.2	19.2
EDGE 4 TX Slot	18	18	18
WCDMA Band 2	19	19	19
HSDPA	18.7	18.7	18.7
HSUPA	18.3	18.3	18.3
DC-HSDPA	18.5	18.5	18.5
HSPA+	17.6	17.6	17.6
WCDMA Band 4	19	19	19
HSDPA	18.2	18.2	18.2
HSUPA	18.1	18.1	18.1
DC-HSDPA	18	18	18
HSPA+	18	18	18
LTE Band 2 1RB	20.6	20.6	20.6
LTE Band 2 50%RB	20.6	20.6	20.6
LTE Band 2 100%RB	19.6	19.6	19.6
LTE Band 4 1RB	20.3	20.3	20.3
LTE Band 4 50%RB	19.8	19.8	19.8
LTE Band 4 100%RB	19	19	19
LTE Band 5 1RB	23.3	23.3	23.3
LTE Band 5 50%RB	22.8	22.8	22.8
LTE Band 5 100%RB	22.2	22.2	22.2
LTE Band 25 1RB	20.6	20.6	20.6
LTE Band 25 50%RB	20.6	20.6	20.6
LTE Band 25 100%RB	19.6	19.6	19.6
LTE Band 26 1RB	23.3	23.3	23.3
LTE Band 26 50%RB	22.8	22.8	22.8
LTE Band 26 100%RB	22.2	22.2	22.2
LTE Band 66 1RB	20.3	20.3	20.3
LTE Band 66 50%RB	19.8	19.8	19.8
LTE Band 66 100%RB	19	19	19
WLAN 2.4G(802.11b)	16	16	16
WLAN 2.4G(802.11g)	15	15	15
WLAN 2.4G(802.11n ht20)	15	15	12.5

Note: The Maximum Target Power for LTE bands corresponds to their maximum power in QPSK modes with maximum bandwidth.



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

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)
GSM 850	128	824.2	<b>33.12</b>
	190	836.6	33.11
	251	848.8	32.94
PCS 1900	512	1850.2	<b>29.68</b>
	661	1880	28.87
	810	1909.8	28.57

**GPRS:**

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)			
			1 slot	2 slots	3 slots	4 slots
GSM 850	128	824.2	33.10	32.29	30.47	29.41
	190	836.6	32.86	32.18	30.43	29.34
	251	848.8	32.71	32.03	30.29	29.23
PCS 1900	512	1850.2	<b>29.73</b>	28.88	27.15	25.41
	661	1880	28.90	28.12	26.22	25.29
	810	1909.8	28.54	27.90	26.13	25.11

**EDGE:**

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)			
			1 slot	2 slots	3 slots	4 slots
GSM 850	128	824.2	27.31	24.30	23.17	21.41
	190	836.6	27.02	25.55	22.86	21.66
	251	848.8	26.71	25.67	22.53	21.38
PCS 1900	512	1850.2	25.07	24.19	22.20	20.66
	661	1880	24.63	23.65	21.81	20.93
	810	1909.8	25.08	24.03	22.11	20.82

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 GPRS

Band	Channel No.	Frequency (MHz)	Time based average Power (dBm)			
			1 slot	2 slot	3 slots	4 slots
GSM 850	128	824.2	24.1	26.29	26.22	<b>26.41</b>
	190	836.6	23.86	26.18	26.18	26.34
	251	848.8	23.71	26.03	26.04	26.23
PCS 1900	512	1850.2	20.73	22.88	<b>22.9</b>	22.41
	661	1880	19.9	22.12	21.97	22.29
	810	1909.8	19.54	21.9	21.88	22.11

#### The time based average power for EDGE

Band	Channel No.	Frequency (MHz)	Time based average Power (dBm)			
			1 slot	2 slot	3 slots	4 slots
GSM 850	128	824.2	18.31	18.3	18.92	18.41
	190	836.6	18.02	19.55	18.61	18.66
	251	848.8	17.71	19.67	18.28	18.38
PCS 1900	512	1850.2	16.07	18.19	17.95	17.66
	661	1880	15.63	17.65	17.56	17.93
	810	1909.8	16.08	18.03	17.86	17.82

#### Note:

1. Agilent Technologies 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).
4. 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:  
Results (12.2kbps RMC)**

Band	Frequency (MHz)	RF Output Power (dBm)
WCDMA Band 2	1852.4	21.38
	1880	20.92
	1907.6	21.09
WCDMA Band 4	1712.4	20.67
	1732.6	21.06
	1752.6	20.91
WCDMA Band 5	826.4	20.89
	836.6	20.93
	846.6	20.79

**Results (HSDPA)**

Band	Frequency (MHz)	RF Output Power (dBm)			
		Subset 1	Subset 2	Subset 3	Subset 4
WCDMA Band 2	1852.4	21.29	21.17	21.03	20.90
	1880	<b>21.62</b>	21.47	20.90	21.38
	1907.6	21.52	21.49	20.91	21.02
WCDMA Band 4	1712.4	20.54	20.38	20.26	20.13
	1732.6	21.05	20.31	20.42	20.19
	1752.6	20.56	20.79	20.19	20.42
WCDMA Band 5	826.4	20.60	20.56	20.63	20.45
	836.6	<b>21.05</b>	20.86	20.81	20.85
	846.6	21.00	20.89	21.00	21.01

**Results (HSUPA)**

Band	Frequency (MHz)	RF Output Power (dBm)				
		Subset 1	Subset 2	Subset 3	Subset 4	Subset 5
WCDMA Band 2	1852.4	20.66	20.60	20.47	20.41	20.22
	1880	21.22	20.77	20.65	20.64	20.31
	1907.6	20.78	20.91	20.83	20.80	20.68
WCDMA Band 4	1712.4	19.97	19.88	19.90	19.65	21.01
	1732.6	20.38	20.07	20.30	20.02	20.49
	1752.6	20.04	20.03	19.93	19.78	20.81
WCDMA Band 5	826.4	20.56	20.19	20.04	19.93	19.88
	836.6	20.58	20.31	20.33	20.29	20.37
	846.6	20.96	20.51	20.52	20.35	19.94

**Results (DC-HSDPA)**

Band	Frequency (MHz)	RF Output Power (dBm)			
		Subset 1	Subset 2	Subset 3	Subset 4
WCDMA Band 2	1852.4	21.03	20.64	20.89	20.39
	1880	20.43	20.78	20.90	20.48
	1907.6	21.29	21.37	20.89	20.85
WCDMA Band 4	1712.4	20.78	20.60	19.97	20.22
	1732.6	20.52	20.23	20.27	20.22
	1752.6	20.53	20.41	20.19	19.96
WCDMA Band 5	826.4	19.98	20.91	20.49	20.69
	836.6	20.12	20.56	20.87	20.76
	846.6	20.08	20.50	0.67	20.04

**Results (HSPA+)**

Band	Frequency (MHz)	RF Output Power (dBm)
WCDMA Band 2	1852.4	20.33
	1880	20.49
	1907.6	20.49
WCDMA Band 4	1712.4	20.43
	1732.6	20.53
	1752.6	20.93
WCDMA Band 5	826.4	20.36
	836.6	20.48
	846.6	20.43

**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 Test Loop Model 1.
2. KDB 941225 D01-Body SAR is not required for HSDPA/HSUPA/DC-HSDPA/HSPA+ 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	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	RB1#0	0	0	23.39	22.05	21.84
		RB1#3	0	0	<b>23.53</b>	22.14	22.2
		RB1#5	0	0	23.36	22	21.86
		RB3#0	1	1	22.14	22.09	22.13
		RB3#3	1	1	22.26	22.17	21.98
		RB6#0	1	1	21.76	21.68	21.66
	16-QAM	RB1#0	1	1	21.22	21.08	21.1
		RB1#3	1	1	21.41	21.29	21.32
		RB1#5	2	2	21.13	21	21.1
		RB3#0	2	2	21.41	21.39	21.06
		RB3#3	2	2	21.17	21.38	21.05
		RB6#0	2	2	20.12	20.11	20.16
3M	QPSK	RB1#0	0	0	22.27	21.98	21.97
		RB1#8	0	0	22.18	22.1	21.97
		RB1#14	0	0	22.09	22.01	22
		RB6#0	1	1	21.79	21.68	21.66
		RB6#9	1	1	21.62	21.7	21.65
		RB15#0	1	1	21.64	21.62	21.63
	16-QAM	RB1#0	1	1	21.32	21.8	21.12
		RB1#8	1	1	21.12	21.71	21.15
		RB1#14	1	1	21.14	21.59	21.14
		RB6#0	2	2	20.14	20.07	19.98
		RB6#9	2	2	19.97	20.2	19.99
		RB15#0	2	2	20.26	20.31	20.04
5M	QPSK	RB1#0	0	0	22.07	22.08	21.87
		RB1#13	0	0	22.28	21.99	22.12
		RB1#24	0	0	21.92	21.97	21.96
		RB15#0	1	1	21.8	21.85	21.61
		RB15#10	1	1	21.77	21.78	21.76
		RB25#0	1	1	21.15	21.16	20.96
	16-QAM	RB1#0	1	1	21.45	21.12	20.94
		RB1#13	1	1	21.47	21.18	20.93
		RB1#24	1	1	21.43	21.16	20.77
		RB15#0	2	2	20.09	20.22	20.14
		RB15#10	2	2	20.26	20.17	20.03
		RB25#0	2	2	20.24	20.18	20.21

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
10M	QPSK	RB1#0	0	0	22.19	22.02	22.08
		RB1#25	0	0	22.15	22.29	22.26
		RB1#49	1	1	21.95	22.05	21.9
		RB25#0	1	1	21.87	21.7	21.8
		RB25#25	1	1	21.88	21.83	21.73
		RB50#0	1	1	21.72	21.69	21.73
	16-QAM	RB1#0	1	1	21.7	21.24	21
		RB1#25	1	1	21.82	21.52	21.31
		RB1#49	1	1	21.69	21.3	21.07
		RB25#0	2	2	20.28	20.27	20.37
		RB25#25	2	2	20.29	20.26	20.28
		RB50#0	2	2	20.17	20.16	20.19
15M	QPSK	RB1#0	0	0	22.09	22.08	22.02
		RB1#38	0	0	22	22.06	21.96
		RB1#74	1	1	21.92	21.87	21.84
		RB36#0	1	1	21.81	21.75	21.71
		RB36#39	1	1	21.84	21.76	21.68
		RB75#0	1	1	21.79	21.77	21.77
	16-QAM	RB1#0	1	1	21.7	21.15	21.46
		RB1#38	1	1	21.71	21.23	21.43
		RB1#74	2	2	21.47	21.17	21.4
		RB36#0	2	2	20.15	20.26	20.17
		RB36#39	2	2	20.16	20.23	19.99
		RB75#0	2	2	20.23	20.21	20.18
20M	QPSK	RB1#0	0	0	21.94	21.98	21.84
		RB1#50	0	0	22.25	22.32	22.22
		RB1#99	0	0	21.75	21.85	21.62
		RB50#0	1	1	21.78	21.76	21.64
		RB50#50	1	1	21.66	21.69	21.66
		RB100#0	1	1	21.76	21.74	21.64
	16-QAM	RB1#0	1	1	21.35	21.24	21.33
		RB1#50	1	1	21.42	21.51	21.75
		RB1#99	2	2	21.27	21.16	21.25
		RB50#0	2	2	20.14	20.32	20.15
		RB50#50	2	2	20.19	20.14	19.94
		RB100#0	2	2	20.16	20.14	20.15

**LTE Band 4:**

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	RB1#0	0	0	22.02	21.92	22.02
		RB1#3	0	0	22.15	22.19	22.08
		RB1#5	0	0	21.91	21.92	21.89
		RB3#0	1	1	22.17	22.07	22.00
		RB3#3	1	1	22.16	22.18	22.06
		RB6#0	1	1	20.98	20.92	20.95
	16-QAM	RB1#0	1	1	21.17	20.93	20.90
		RB1#3	1	1	21.42	21.17	21.16
		RB1#5	2	2	21.10	20.95	20.98
		RB3#0	2	2	21.05	21.20	21.20
		RB3#3	2	2	21.04	21.06	21.25
		RB6#0	2	2	20.08	19.93	20.13
3M	QPSK	RB1#0	0	0	21.98	22.07	22.10
		RB1#8	0	0	22.14	22.02	22.11
		RB1#14	0	0	22.05	22.05	21.94
		RB6#0	1	1	20.92	21.07	21.03
		RB6#9	1	1	21.07	20.91	20.99
		RB15#0	1	1	20.99	20.96	20.98
	16-QAM	RB1#0	1	1	21.19	21.63	21.16
		RB1#8	1	1	21.13	21.61	21.16
		RB1#14	1	1	21.09	21.56	21.07
		RB6#0	2	2	19.99	20.11	20.07
		RB6#9	2	2	20.02	20.01	20.04
		RB15#0	2	2	20.12	20.10	19.87
5M	QPSK	RB1#0	0	0	21.90	21.86	21.91
		RB1#13	0	0	22.18	22.07	22.14
		RB1#24	0	0	21.98	21.80	21.92
		RB15#0	1	1	21.04	21.06	21.09
		RB15#10	1	1	20.97	21.12	21.04
		RB25#0	1	1	21.08	21.10	21.05
	16-QAM	RB1#0	1	1	21.26	20.97	20.79
		RB1#13	1	1	21.44	21.02	21.00
		RB1#24	1	1	21.21	20.94	20.80
		RB15#0	2	2	20.12	19.96	20.08
		RB15#10	2	2	20.10	20.00	20.17
		RB25#0	2	2	20.06	20.12	20.20

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
10M	QPSK	RB1#0	0	0	22.00	21.90	22.01
		RB1#25	0	0	22.10	22.07	22.14
		RB1#49	1	1	22.17	21.97	22.04
		RB25#0	1	1	21.13	21.00	21.08
		RB25#25	1	1	21.10	21.07	20.97
		RB50#0	1	1	21.08	21.11	21.03
	16-QAM	RB1#0	1	1	21.06	21.62	21.11
		RB1#25	1	1	21.23	21.64	21.41
		RB1#49	1	1	21.15	21.49	21.10
		RB25#0	2	2	20.13	20.06	20.09
		RB25#25	2	2	20.30	20.22	20.13
		RB50#0	2	2	20.10	20.13	20.08
15M	QPSK	RB1#0	0	0	21.95	22.00	21.94
		RB1#38	0	0	22.09	21.93	21.99
		RB1#74	1	1	21.89	21.88	21.81
		RB36#0	1	1	21.03	21.09	21.09
		RB36#39	1	1	21.07	21.01	21.00
		RB75#0	1	1	21.08	21.06	21.03
	16-QAM	RB1#0	1	1	21.50	21.49	21.05
		RB1#38	1	1	21.39	21.51	21.11
		RB1#74	2	2	21.39	21.55	21.23
		RB36#0	2	2	20.09	20.03	20.01
		RB36#39	2	2	20.03	20.01	20.01
		RB75#0	2	2	20.09	19.99	20.03
20M	QPSK	RB1#0	0	0	21.81	21.88	21.74
		RB1#50	0	0	22.24	22.30	<b>22.31</b>
		RB1#99	0	0	21.63	21.68	21.94
		RB50#0	1	1	21.04	20.97	21.13
		RB50#50	1	1	21.00	21.14	20.96
		RB100#0	1	1	21.09	21.09	21.04
	16-QAM	RB1#0	1	1	21.39	21.15	21.09
		RB1#50	1	1	21.83	21.57	21.40
		RB1#99	2	2	21.26	21.01	21.05
		RB50#0	2	2	20.16	20.08	20.13
		RB50#50	2	2	20.09	20.15	20.11
		RB100#0	2	2	20.04	19.98	20.03



**LTE Band 5:**

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	RB1#0	0	0	22.56	22.53	22.51
		RB1#3	0	0	22.77	22.75	22.57
		RB1#5	0	0	22.52	22.44	22.48
		RB3#0	1	1	22.66	22.57	22.52
		RB3#3	1	1	22.51	22.6	22.54
		RB6#0	1	1	21.7	21.63	21.54
	16-QAM	RB1#0	1	1	21.51	21.64	21.41
		RB1#3	1	1	21.58	21.87	21.62
		RB1#5	2	2	21.54	21.66	21.51
		RB3#0	2	2	21.78	21.61	21.6
		RB3#3	2	2	21.82	21.68	21.58
		RB6#0	2	2	20.55	20.68	20.4
3M	QPSK	RB1#0	0	0	22.56	22.43	22.62
		RB1#8	0	0	22.57	22.5	22.52
		RB1#14	1	1	22.64	22.61	22.62
		RB6#0	1	1	21.96	21.89	21.83
		RB6#9	1	1	21.91	21.99	21.91
		RB15#0	1	1	21.61	21.5	21.65
	16-QAM	RB1#0	1	1	21.65	22.13	21.71
		RB1#8	1	1	21.65	22.2	21.63
		RB1#14	2	2	21.63	22.15	21.73
		RB6#0	2	2	20.52	20.64	20.59
		RB6#9	2	2	20.52	20.7	20.53
		RB15#0	2	2	20.81	20.77	20.68
5M	QPSK	RB1#0	0	0	23.07	23.01	23.01
		RB1#13	0	0	23.14	23.19	23.06
		RB1#24	0	0	22.91	23.01	22.97
		RB15#0	1	1	22.19	22.18	22.12
		RB15#10	1	1	22.16	22.05	21.95
		RB25#0	1	1	22.14	22.18	21.99
	16-QAM	RB1#0	1	1	22.16	21.94	22.37
		RB1#13	1	1	22.24	21.97	22.38
		RB1#24	1	1	22.02	21.98	22.29
		RB15#0	2	2	21.21	21.19	21.01
		RB15#10	2	2	21.11	21.09	21.08
		RB25#0	2	2	21.1	21.24	20.99

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
10M	QPSK	RB1#0	0	0	23.06	23.02	23.19
		RB1#25	0	0	<b>23.3</b>	23.13	23.17
		RB1#49	1	1	23.13	23.19	23.03
		RB25#0	1	1	22.19	22.31	22.06
		RB25#25	1	1	22.12	22.13	22.1
		RB50#0	1	1	22.09	22.18	22.22
	16-QAM	RB1#0	1	1	22.78	22.3	22.09
		RB1#25	1	1	22.79	22.5	22.29
		RB1#49	2	2	22.59	22.42	22.03
		RB25#0	2	2	21.29	21.26	21.19
		RB25#25	2	2	21.13	21.18	21.23
		RB50#0	2	2	21.09	21.26	21.33

**LTE Band 12:**

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	RB1#0	0	0	23.11	23.05	23.05
		RB1#3	0	0	<b>23.28</b>	23.10	23.18
		RB1#5	0	0	22.94	22.99	22.92
		RB3#0	1	1	23.19	23.10	23.14
		RB3#3	1	1	23.14	23.16	23.12
		RB6#0	1	1	22.09	22.06	22.07
	16-QAM	RB1#0	1	1	22.12	22.05	21.99
		RB1#3	1	1	22.28	22.28	22.01
		RB1#5	2	2	22.10	22.02	22.01
		RB3#0	2	2	22.02	22.25	22.24
		RB3#3	2	2	22.09	22.17	22.21
		RB6#0	2	2	21.23	21.04	21.12
3M	QPSK	RB1#0	0	0	23.17	23.11	23.11
		RB1#8	0	0	22.98	23.05	23.13
		RB1#14	1	1	23.03	22.99	23.20
		RB6#0	1	1	22.00	21.52	22.03
		RB6#9	1	1	22.03	21.99	22.00
		RB15#0	1	1	22.09	22.06	22.03
	16-QAM	RB1#0	1	1	22.59	22.23	22.08
		RB1#8	1	1	22.59	22.25	22.02
		RB1#14	2	2	22.65	22.10	22.02
		RB6#0	2	2	21.19	21.05	20.89
		RB6#9	2	2	21.22	21.01	20.93
		RB15#0	2	2	0.29	21.08	21.13
5M	QPSK	RB1#0	0	0	23.09	22.96	22.94
		RB1#13	0	0	23.17	23.00	23.15
		RB1#24	0	0	22.99	22.96	22.96
		RB15#0	1	1	22.21	22.11	22.17
		RB15#10	1	1	22.07	22.03	21.99
		RB25#0	1	1	22.17	22.00	22.08
	16-QAM	RB1#0	1	1	22.21	22.16	21.86
		RB1#13	1	1	22.35	22.06	21.93
		RB1#24	1	1	22.32	21.95	21.96
		RB15#0	2	2	21.20	21.10	21.14
		RB15#10	2	2	21.06	21.06	21.03
		RB25#0	2	2	21.26	21.09	21.07

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
10M	QPSK	RB1#0	0	0	23.00	23.11	23.05
		RB1#25	0	0	23.24	23.16	23.19
		RB1#49	1	1	22.97	22.95	23.14
		RB25#0	1	1	22.20	22.36	22.20
		RB25#25	1	1	22.26	21.96	22.03
		RB50#0	1	1	22.29	22.04	22.15
	16-QAM	RB1#0	1	1	22.55	22.23	22.01
		RB1#25	1	1	22.89	22.30	22.31
		RB1#49	2	2	22.65	22.27	21.99
		RB25#0	2	2	21.30	21.08	21.31
		RB25#25	2	2	21.24	20.96	21.13
		RB50#0	2	2	21.39	21.09	21.26

**LTE Band 13:**

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	RB1#0	0	0	23.11	/	22.97
		RB1#13	0	0	23.22	/	23.09
		RB1#24	0	0	23.03	/	23.01
		RB15#0	1	1	22.01	/	22.23
		RB15#10	1	1	22.13	/	22.11
		RB25#0	1	1	22.15	/	22.02
	16-QAM	RB1#0	1	1	22.34	/	21.77
		RB1#13	1	1	22.39	/	21.93
		RB1#24	1	1	22.19	/	21.83
		RB15#0	2	2	20.95	/	21.21
		RB15#10	2	2	21.14	/	21.06
		RB25#0	2	2	21.03	/	21.09
10M	QPSK	RB1#0	0	0	/	23.19	/
		RB1#25	0	0	/	<b>23.27</b>	/
		RB1#49	1	1	/	23.14	/
		RB25#0	1	1	/	22.35	/
		RB25#25	1	1	/	22.64	/
		RB50#0	1	1	/	22.15	/
	16-QAM	RB1#0	1	1	/	22.17	/
		RB1#25	1	1	/	22.23	/
		RB1#49	2	2	/	22.12	/
		RB25#0	2	2	/	21.17	/
		RB25#25	2	2	/	21.19	/
		RB50#0	2	2	/	21.11	/

**LTE Band 25:**

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	RB1#0	0	0	22.35	22.42	22.25
		RB1#3	0	0	22.55	22.56	22.49
		RB1#5	0	0	22.33	22.29	22.29
		RB3#0	1	1	22.6	22.45	22.4
		RB3#3	1	1	22.47	22.55	22.28
		RB6#0	1	1	21.88	21.68	21.62
	16-QAM	RB1#0	1	1	21.63	21.51	21.27
		RB1#3	1	1	21.69	21.58	21.4
		RB1#5	2	2	21.66	21.41	21.32
		RB3#0	2	2	21.51	21.57	21.62
		RB3#3	2	2	21.46	21.58	21.69
		RB6#0	2	2	20.61	20.47	20.41
3M	QPSK	RB1#0	0	0	<b>23.37</b>	22.96	22.89
		RB1#8	0	0	22.57	22.53	22.53
		RB1#14	0	0	22.57	22.35	22.34
		RB6#0	1	1	21.79	21.65	21.81
		RB6#9	1	1	21.76	21.66	21.69
		RB15#0	1	1	21.86	21.84	21.76
	16-QAM	RB1#0	1	1	21.65	22.2	21.52
		RB1#8	1	1	21.54	22.12	21.48
		RB1#14	1	1	21.58	21.96	21.41
		RB6#0	2	2	20.57	20.66	20.46
		RB6#9	2	2	20.39	20.49	20.4
		RB15#0	2	2	20.73	20.69	20.4
5M	QPSK	RB1#0	0	0	22.54	22.54	22.4
		RB1#13	0	0	22.47	22.54	22.57
		RB1#24	0	0	22.35	22.43	22.33
		RB15#0	1	1	21.76	21.79	21.78
		RB15#10	1	1	21.74	21.65	21.63
		RB25#0	1	1	21.87	21.65	21.68
	16-QAM	RB1#0	1	1	21.61	21.45	21.81
		RB1#13	1	1	21.57	21.5	21.79
		RB1#24	1	1	21.65	21.31	21.62
		RB15#0	2	2	20.59	20.68	20.55
		RB15#10	2	2	20.74	20.55	20.44
		RB25#0	2	2	20.68	20.73	20.41

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
10M	QPSK	RB1#0	0	0	22.49	22.51	22.47
		RB1#25	0	0	22.67	22.66	22.51
		RB1#49	1	1	22.43	22.34	22.46
		RB25#0	1	1	21.66	21.68	21.73
		RB25#25	1	1	21.77	21.65	21.69
		RB50#0	1	1	21.73	21.79	21.66
	16-QAM	RB1#0	1	1	21.56	22.17	21.72
		RB1#25	1	1	21.69	22.27	21.79
		RB1#49	1	1	21.48	22.03	21.48
		RB25#0	2	2	20.7	20.76	20.5
		RB25#25	2	2	20.71	20.73	20.57
		RB50#0	2	2	20.79	20.66	20.58
15M	QPSK	RB1#0	0	0	22.59	22.54	22.35
		RB1#38	0	0	22.56	22.55	22.53
		RB1#74	1	1	22.51	22.23	22.41
		RB36#0	1	1	21.6	21.74	21.7
		RB36#39	1	1	21.68	21.62	21.63
		RB75#0	1	1	21.69	21.6	21.69
	16-QAM	RB1#0	1	1	21.97	22.1	21.59
		RB1#38	1	1	21.98	22.09	21.65
		RB1#74	2	2	21.82	22.01	21.49
		RB36#0	2	2	20.63	20.57	20.64
		RB36#39	2	2	20.55	20.52	20.5
		RB75#0	2	2	20.68	20.54	20.62
20M	QPSK	RB1#0	0	0	22.36	22.34	22.13
		RB1#50	0	0	22.72	22.71	22.56
		RB1#99	0	0	22.58	22.52	22.48
		RB50#0	1	1	22.14	22.26	21.93
		RB50#50	1	1	21.75	21.93	21.87
		RB100#0	1	1	21.69	21.66	21.65
	16-QAM	RB1#0	1	1	21.71	21.63	21.92
		RB1#50	1	1	21.94	21.97	22.08
		RB1#99	2	2	21.55	21.53	21.68
		RB50#0	2	2	20.63	20.63	20.72
		RB50#50	2	2	20.61	20.67	20.56
		RB100#0	2	2	20.72	20.67	20.64

**LTE Band 26:**

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	RB1#0	0	0	23.27	22.79	22.54
		RB1#3	0	0	<b>23.38</b>	22.85	22.82
		RB1#5	0	0	23.12	22.56	22.58
		RB3#0	1	1	23.38	22.84	22.76
		RB3#3	1	1	23.20	22.86	22.72
		RB6#0	1	1	22.30	21.69	21.66
	16-QAM	RB1#0	1	1	22.27	21.61	21.72
		RB1#3	1	1	22.57	21.92	21.79
		RB1#5	2	2	22.34	0.65	21.66
		RB3#0	2	2	22.32	21.80	21.84
		RB3#3	2	2	22.29	21.71	21.89
		RB6#0	2	2	21.28	20.63	20.68
3M	QPSK	RB1#0	0	0	23.20	23.10	23.08
		RB1#8	0	0	23.12	23.27	22.84
		RB1#14	0	0	23.21	23.05	22.59
		RB6#0	1	1	22.11	22.19	21.65
		RB6#9	1	1	22.28	22.29	21.87
		RB15#0	1	1	22.15	22.19	21.90
	16-QAM	RB1#0	1	1	22.87	22.29	21.85
		RB1#8	1	1	22.91	22.45	21.62
		RB1#14	1	1	22.74	22.22	21.61
		RB6#0	2	2	21.37	21.15	20.70
		RB6#9	2	2	21.16	21.19	20.48
		RB15#0	2	2	21.31	21.13	20.77
5M	QPSK	RB1#0	0	0	23.10	23.09	23.01
		RB1#13	0	0	23.25	23.12	23.21
		RB1#24	0	0	23.04	23.04	22.74
		RB15#0	1	1	22.34	22.35	21.93
		RB15#10	1	1	22.32	22.10	21.81
		RB25#0	1	1	22.23	22.22	21.96
	16-QAM	RB1#0	1	1	22.33	21.91	21.96
		RB1#13	1	1	22.41	22.16	22.05
		RB1#24	1	1	22.16	22.00	21.86
		RB15#0	2	2	21.30	21.41	20.63
		RB15#10	2	2	21.35	21.19	20.66
		RB25#0	2	2	21.29	21.29	20.86



Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
10M	QPSK	RB1#0	0	0	23.11	23.17	23.13
		RB1#25	0	0	23.28	23.20	23.28
		RB1#49	1	1	23.11	23.07	23.14
		RB25#0	1	1	22.31	22.44	22.21
		RB25#25	1	1	22.20	22.32	22.22
		RB50#0	1	1	22.19	22.36	22.34
	16-QAM	RB1#0	1	1	22.15	22.74	22.30
		RB1#25	1	1	22.43	22.85	22.34
		RB1#49	1	1	22.23	22.90	21.97
		RB25#0	2	2	21.33	21.45	21.29
		RB25#25	2	2	21.21	21.28	21.24
		RB50#0	2	2	21.31	21.38	21.32
15M	QPSK	RB1#0	0	0	23.19	22.97	23.10
		RB1#38	0	0	23.27	23.26	23.29
		RB1#74	1	1	23.16	22.84	23.23
		RB36#0	1	1	22.59	22.54	22.63
		RB36#39	1	1	22.78	22.89	22.85
		RB75#0	1	1	22.45	22.57	22.51
	16-QAM	RB1#0	1	1	22.46	22.01	22.56
		RB1#38	1	1	22.45	21.94	22.82
		RB1#74	2	2	22.46	21.84	22.54
		RB36#0	2	2	21.28	20.92	21.41
		RB36#39	2	2	21.26	20.84	21.39
		RB75#0	2	2	21.41	20.90	21.44

**LTE Band 41:**

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	2549.5 MHz (dBm)	Middle Channel (dBm)	2636.5 MHz (dBm)	High Channel (dBm)
5M	QPSK	RB1#0	0	0	21.92	21.95	21.94	21.55	21.62
		RB1#13	0	0	21.89	21.89	21.93	21.69	21.74
		RB1#24	0	0	22	21.83	21.86	21.58	21.49
		RB15#0	1	1	20.82	20.8	20.92	20.77	20.63
		RB15#10	1	1	20.92	20.84	20.95	20.75	20.88
		RB25#0	1	1	20.94	20.99	20.95	20.62	20.69
	16-QAM	RB1#0	1	1	21.09	21.07	20.92	20.75	20.61
		RB1#13	1	1	21.18	21.21	20.88	20.85	20.73
		RB1#24	1	1	21.08	21.18	20.84	20.75	20.63
		RB15#0	2	2	19.97	19.81	19.91	19.77	19.66
		RB15#10	2	2	19.97	19.88	19.91	19.84	20.02
10M	QPSK	RB1#0	0	0	21.99	22.07	21.99	21.77	21.79
		RB1#25	0	0	22.18	22.17	22.24	21.94	22.03
		RB1#49	0	0	21.92	22.07	21.92	21.76	21.84
		RB25#0	1	1	20.91	20.95	20.93	20.82	20.84
		RB25#25	1	1	21	20.99	20.94	20.73	20.72
		RB50#0	1	1	20.94	20.86	20.95	20.69	20.74
	16-QAM	RB1#0	1	1	20.96	21.03	21.07	20.83	20.67
		RB1#25	1	1	21.4	21.43	21.38	20.86	20.98
		RB1#49	1	1	21.1	21	21.05	20.73	20.65
		RB25#0	2	2	19.93	19.89	20	19.86	19.9
		RB25#25	2	2	20.07	20	19.95	19.91	19.85
15M	QPSK	RB1#0	0	0	21.9	21.9	21.82	21.75	21.68
		RB1#38	0	0	22.01	22.07	21.88	21.76	21.79
		RB1#74	0	0	21.97	21.94	21.75	21.57	21.51
		RB36#0	1	1	20.95	20.88	21.07	20.71	20.81
		RB36#39	1	1	20.96	21.02	21.06	20.61	20.7
		RB75#0	1	1	21.09	21.04	20.95	20.67	20.72
	16-QAM	RB1#0	1	1	21.19	21.18	21.15	20.69	20.62
		RB1#38	1	1	21.2	21.25	21.05	20.67	20.69
		RB1#74	1	1	21.08	21.13	20.88	20.65	20.53
		RB36#0	2	2	19.9	19.86	19.95	19.7	19.65
		RB36#39	2	2	20.01	20.1	19.92	19.58	19.59
RB75#0	2	2	19.99	19.88	19.95	19.67	19.64		

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	2549.5 MHz (dBm)	Middle Channel (dBm)	2636.5 MHz (dBm)	High Channel (dBm)
20M	QPSK	RB1#0	0	0	21.83	21.79	21.7	21.61	21.47
		RB1#50	0	0	22.25	22.24	<b>22.25</b>	22	21.9
		RB1#99	0	0	21.89	21.91	21.77	21.34	21.31
		RB50#0	1	1	21.38	20.79	21.42	20.79	21.25
		RB50#50	1	1	21.24	21.07	21.39	20.82	21.13
		RB100#0	1	1	20.97	21.06	20.93	20.7	20.68
	16-QAM	RB1#0	1	1	21.08	21	20.91	20.47	20.54
		RB1#50	1	1	21.53	21.42	21.25	21	20.97
		RB1#99	1	1	21.05	21.1	20.75	20.39	20.47
		RB50#0	2	2	19.84	19.97	19.92	19.86	19.73
		RB50#50	2	2	20.01	20.07	19.97	19.8	19.91
		RB100#0	2	2	19.96	20.05	19.9	19.85	19.76

**LTE Band 66:**

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	RB1#0	0	0	22.43	22.48	22.29
		RB1#3	0	0	<b>22.74</b>	22.56	22.65
		RB1#5	0	0	22.54	22.44	22.40
		RB3#0	1	1	22.60	22.55	22.28
		RB3#3	1	1	22.62	22.53	22.05
		RB6#0	1	1	21.43	21.48	21.07
	16-QAM	RB1#0	1	1	21.69	21.50	21.05
		RB1#3	1	1	21.90	21.81	21.19
		RB1#5	2	2	21.71	21.53	21.11
		RB3#0	2	2	21.55	21.72	21.33
		RB3#3	2	2	21.66	21.70	21.34
3M	QPSK	RB1#0	0	0	22.48	22.07	22.07
		RB1#8	0	0	22.48	21.89	22.02
		RB1#14	0	0	22.53	21.92	21.84
		RB6#0	1	1	21.49	20.97	20.92
		RB6#9	1	1	21.38	21.05	20.90
		RB15#0	1	1	21.58	21.12	20.97
	16-QAM	RB1#0	1	1	21.10	21.69	21.23
		RB1#8	1	1	21.06	21.70	21.17
		RB1#14	1	1	20.94	21.51	21.27
		RB6#0	2	2	19.83	20.15	19.91
		RB6#9	2	2	19.93	20.07	20.04
5M	QPSK	RB1#0	0	0	22.38	22.03	21.87
		RB1#13	0	0	22.44	21.99	21.92
		RB1#24	0	0	22.29	22.03	21.94
		RB15#0	1	1	21.25	21.03	21.13
		RB15#10	1	1	21.25	21.08	21.00
		RB25#0	1	1	20.89	21.11	21.07
	16-QAM	RB1#0	1	1	20.97	20.91	21.24
		RB1#13	1	1	21.15	20.81	21.25
		RB1#24	1	1	21.04	20.91	21.32
		RB15#0	2	2	20.08	20.05	20.01
		RB15#10	2	2	20.12	20.21	19.99
RB25#0	2	2	20.08	20.22	20.16		

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
10M	QPSK	RB1#0	0	0	22.48	22.00	21.99
		RB1#25	0	0	22.65	22.11	22.17
		RB1#49	1	1	22.42	22.11	21.93
		RB25#0	1	1	21.62	21.05	21.21
		RB25#25	1	1	21.06	21.21	21.09
		RB50#0	1	1	21.25	21.10	21.09
	16-QAM	RB1#0	1	1	21.16	21.11	21.78
		RB1#25	1	1	21.34	21.21	21.71
		RB1#49	1	1	21.22	21.01	21.74
		RB25#0	2	2	20.21	20.24	20.21
		RB25#25	2	2	20.22	20.23	20.18
		RB50#0	2	2	20.16	20.18	20.17
15M	QPSK	RB1#0	0	0	22.45	22.05	22.06
		RB1#38	0	0	22.36	22.09	22.14
		RB1#74	1	1	21.91	21.99	21.96
		RB36#0	1	1	21.06	21.05	21.18
		RB36#39	1	1	21.18	21.18	21.15
		RB75#0	1	1	21.07	21.05	21.04
	16-QAM	RB1#0	1	1	21.42	21.54	21.18
		RB1#38	1	1	21.41	21.63	21.31
		RB1#74	2	2	21.48	21.57	21.17
		RB36#0	2	2	20.08	20.22	20.16
		RB36#39	2	2	20.11	20.06	20.06
		RB75#0	2	2	20.09	20.16	20.23
20M	QPSK	RB1#0	0	0	22.33	21.82	21.68
		RB1#50	0	0	<b>22.74</b>	22.23	22.21
		RB1#99	0	0	22.35	21.95	21.66
		RB50#0	1	1	21.61	21.51	21.37
		RB50#50	1	1	21.11	20.97	20.97
		RB100#0	1	1	21.14	21.09	20.98
	16-QAM	RB1#0	1	1	21.13	21.09	21.28
		RB1#50	1	1	21.55	21.45	21.78
		RB1#99	2	2	21.2	21.05	21.36
		RB50#0	2	2	20.19	20.21	20.2
		RB50#50	2	2	20.14	20.04	20.09
		RB100#0	2	2	20.25	20.09	20.09

**LTE Band 71:**

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	RB1#0	0	0	23.96	23.57	23.45
		RB1#13	0	0	23.94	23.52	23.6
		RB1#24	0	0	23.85	23.27	23.39
		RB15#0	1	1	22.92	22.43	22.44
		RB15#10	1	1	22.92	22.36	22.37
		RB25#0	1	1	22.86	22.52	22.42
	16-QAM	RB1#0	1	1	22.35	22.24	22.49
		RB1#13	1	1	22.54	22.6	22.73
		RB1#24	1	1	22.32	22.05	22.55
		RB15#0	2	2	21.5	21.56	21.46
		RB15#10	2	2	21.74	21.51	21.66
10M	QPSK	RB1#0	0	0	23.91	23.73	23.48
		RB1#25	0	0	<b>24.03</b>	23.67	23.57
		RB1#49	0	0	23.85	23.38	23.31
		RB25#0	1	1	23.02	22.97	22.33
		RB25#25	1	1	23.05	22.59	22.35
		RB50#0	1	1	23.11	22.85	22.4
	16-QAM	RB1#0	1	1	22.94	23.44	22.5
		RB1#25	1	1	23.07	23.13	22.73
		RB1#49	1	1	22.86	22.84	22.63
		RB25#0	2	2	22.11	22.06	21.48
		RB25#25	2	2	22.13	21.62	21.48
15M	QPSK	RB1#0	0	0	23.81	23.73	23.26
		RB1#38	0	0	23.93	23.7	23.43
		RB1#74	0	0	23.7	23.25	23.3
		RB36#0	1	1	23.04	22.61	22.41
		RB36#39	1	1	23.05	22.58	22.45
		RB75#0	1	1	23.02	22.88	22.35
	16-QAM	RB1#0	1	1	23.07	22.86	22.28
		RB1#38	1	1	23.37	23.03	22.48
		RB1#74	1	1	23.18	22.8	22.45
		RB36#0	2	2	21.95	21.63	21.32
		RB36#39	2	2	22.06	21.6	21.55
RB75#0	2	2	22.06	21.92	21.46		

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
20M	QPSK	RB1#0	0	0	23.71	23.21	23.19
		RB1#50	0	0	23.78	23.49	23.57
		RB1#99	0	0	23.72	23.06	23.26
		RB50#0	1	1	22.87	22.78	22.67
		RB50#50	1	1	22.68	22.66	22.51
		RB100#0	1	1	22.81	22.6	22.54
	16-QAM	RB1#0	1	1	23.24	22.53	22.22
		RB1#50	1	1	23.65	22.67	22.71
		RB1#99	1	1	22.88	22.41	22.28
		RB50#0	2	2	21.86	21.33	21.55
		RB50#50	2	2	21.78	21.53	21.43
		RB100#0	2	2	21.81	21.37	21.53

**WLAN 2.4G:**

Mode	Channel frequency (MHz)	Data Rate	Duty Cycle (%)	Conducted Average Output Power(dBm)
802.11b	2412	1Mbps	99.45	<b>18.43</b>
	2437			18.19
	2462			18.06
802.11g	2412	6Mbps	96.80	17.51
	2437			17.09
	2462			16.34
802.11n ht20	2412	MCS0	96.51	17.39
	2437			16.92
	2462			14.73

**WLAN 5.2G:**

Mode	Channel frequency (MHz)	Data Rate	Duty Cycle (%)	Conducted Average Output Power(dBm)
802.11a	5180	6Mbps	100	8.34
	5200			16.65
	5240			<b>16.79</b>
802.11n20	5180	MCS0	100	7.87
	5200			16.54
	5240			16.23
802.11n40	5190	MCS0	100	11.95
	5230			14.21
802.11ac20	5180	MCS0	100	7.86
	5200			16.53
	5240			16.27
802.11ac40	5190	MCS0	100	11.96
	5230			14.23
802.11ac80	5210	MCS0	100	11.81



**WLAN 5.3G:**

Mode	Channel frequency (MHz)	Data Rate	Duty Cycle (%)	Conducted Average Output Power(dBm)
802.11a	5260	6Mbps	100	15.64
	5280			<b>15.81</b>
	5320			15.73
802.11n20	5260	MCS0	100	15.44
	5280			15.33
	5320			15.67
802.11n40	5270	MCS0	100	14.29
	5310			12.41
802.11ac20	5260	MCS0	100	15.43
	5280			15.36
	5320			15.65
802.11ac40	5270	MCS0	100	14.31
	5310			12.38
802.11ac80	5290	MCS0	100	10.91

**WLAN 5.6G:**

Mode	Channel frequency (MHz)	Data Rate	Duty Cycle (%)	Conducted Average Output Power(dBm)
802.11a	5500	6Mbps	100	<b>13.82</b>
	5580			13.71
	5700			12.54
802.11n20	5500	MCS0	100	13.65
	5580			13.51
	5700			12.32
802.11n40	5510	MCS0	100	13.41
	5550			13.62
	5670			13.27
802.11ac20	5500	MCS0	100	13.64
	5580			13.54
	5700			12.38
802.11ac40	5510	MCS0	100	13.44
	5550			13.61
	5670			13.29
802.11ac80	5530	MCS0	100	11.14
	5610			12.74
	5690			12.35

**WLAN 5.8G:**

Mode	Channel frequency (MHz)	Data Rate	Duty Cycle (%)	Conducted Average Output Power(dBm)
802.11a	5745	6Mbps	100	15.78
	5785			15.63
	5825			<b>15.89</b>
802.11n20	5745	MCS0	100	15.11
	5785			15.49
	5825			15.78
802.11n40	5755	MCS0	100	15.37
	5795			15.24
802.11ac20	5745	MCS0	100	15.16
	5785			15.47
	5825			15.76
802.11ac40	5755	MCS0	100	15.38
	5795			15.25
802.11ac80	5775	MCS0	100	15.21

**Bluetooth:**

Mode	Channel frequency (MHz)	RF Output Power (dBm)
BDR(GFSK)	2402	1.79
	2441	<b>3.51</b>
	2480	1.94
EDR( $\pi/4$ -DQPSK)	2402	0.99
	2441	2.81
	2480	1.22
EDR(8DPSK)	2402	0.94
	2441	2.79
	2480	1.19
BLE_1M	2402	-0.44
	2440	<b>1.21</b>
	2480	-0.09
BLE_2M	2404	-0.07
	2440	1.16
	2478	-0.29

**WWAN Antenna Reduction Power**

**GSM:**

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)
PCS 1900	512	1850.2	26.67
	661	1880	25.71
	810	1909.8	25.55

**GPRS:**

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)			
			1 slot	2 slots	3 slots	4 slots
PCS 1900	512	1850.2	26.67	25.88	24.08	22.31
	661	1880	25.71	25.13	23.22	22.41
	810	1909.8	25.53	24.89	23.23	22.22

**EGPRS:**

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)			
			1 slot	2 slots	3 slots	4 slots
PCS 1900	512	1850.2	22.09	21.30	19.06	17.74
	661	1880	21.55	20.75	18.81	17.86
	810	1909.8	22.09	21.04	19.13	17.78

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 GPRS**

Band	Channel No.	Frequency (MHz)	Time based average Power (dBm)			
			1 slot	2 slot	3 slots	4 slots
PCS 1900	512	1850.2	17.67	<b>19.88</b>	19.83	19.31
	661	1880	16.71	19.13	18.97	19.41
	810	1909.8	16.53	18.89	18.98	19.22

**The time based average power for EGPRS**

Band	Channel No.	Frequency (MHz)	Time based average Power (dBm)			
			1 slot	2 slot	3 slots	4 slots
PCS 1900	512	1850.2	13.09	15.3	14.81	14.74
	661	1880	12.55	14.75	14.56	14.86
	810	1909.8	13.09	15.04	14.88	14.78

**Note:**

1. Rohde & Schwarz Radio Communication Tester (CMU200) was used for the measurement of GSM peak and average output power for active timeslots.
2. For GPRS, 1, 2, 3 and 4 timeslots has been activated separately with power level 3(850 MHz band) and 3(1900 MHz band).

**WCDMA:  
Results (12.2kbps RMC)**

Band	Frequency (MHz)	RF Output Power (dBm)
WCDMA Band 2	1852.4	18.37
	1880	18.29
	1907.6	18.22
WCDMA Band 4	1712.4	17.76
	1732.6	<b>18.34</b>
	1752.6	18.08

**Results (HSDPA)**

Band	Frequency (MHz)	RF Output Power (dBm)			
		Subset 1	Subset 2	Subset 3	Subset 4
WCDMA Band 2	1852.4	18.18	18.16	17.85	17.77
	1880	<b>18.59</b>	18.48	17.84	18.34
	1907.6	18.45	18.56	18.03	18.22
WCDMA Band 4	1712.4	17.52	17.34	17.28	17.18
	1732.6	<b>18.06</b>	17.31	17.42	17.22
	1752.6	17.53	17.87	17.33	17.44

**Results (HSUPA)**

Band	Frequency (MHz)	RF Output Power (dBm)				
		Subset 1	Subset 2	Subset 3	Subset 4	Subset 5
WCDMA Band 2	1852.4	17.61	17.72	17.56	17.37	17.19
	1880	18.16	17.69	17.64	17.61	17.21
	1907.6	17.82	17.94	17.91	17.62	17.79
WCDMA Band 4	1712.4	17.05	16.80	16.80	16.80	17.98
	1732.6	17.46	17.08	17.43	17.01	17.58
	1752.6	17.61	17.72	17.56	17.37	17.19

**Results (DC-HSDPA)**

Band	Frequency (MHz)	RF Output Power (dBm)			
		Subset 1	Subset 2	Subset 3	Subset 4
WCDMA Band 2	1852.4	18.02	17.53	17.99	17.48
	1880	17.61	17.81	17.93	17.48
	1907.6	18.12	18.35	17.86	17.87
WCDMA Band 4	1712.4	17.85	17.45	16.94	17.06
	1732.6	17.51	17.17	17.32	17.25
	1752.6	17.49	17.33	17.16	17.10

**Results (HSPA+)**

Band	Frequency (MHz)	RF Output Power (dBm)
WCDMA Band 2	1852.4	17.22
	1880	17.50
	1907.6	17.48
WCDMA Band 4	1712.4	17.55
	1732.6	17.61
	1752.6	17.87

**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 Test Loop Model 1.
2. KDB 941225 D01-Body SAR is not required for HSDPA/HSUPA/DC-HSDPA/HSPA+ 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	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	RB1#0	0	0	20.1	18.6	18.65
		RB1#3	0	0	<b>20.16</b>	18.86	18.83
		RB1#5	0	0	20.08	18.6	18.51
		RB3#0	1	1	18.95	18.84	18.65
		RB3#3	1	1	18.81	18.8	18.7
		RB6#0	1	1	17.74	17.7	17.66
	16-QAM	RB1#0	1	1	17.85	17.8	17.83
		RB1#3	1	1	18.07	17.78	17.85
		RB1#5	2	2	17.88	17.79	17.84
		RB3#0	2	2	18.03	18.07	17.85
		RB3#3	2	2	17.89	17.98	17.67
3M	QPSK	RB1#0	0	0	18.76	18.79	18.67
		RB1#8	0	0	18.77	18.58	18.71
		RB1#14	0	0	18.67	18.6	18.58
		RB6#0	1	1	18.29	18.34	18.34
		RB6#9	1	1	18.26	18.26	18.29
	16-QAM	RB15#0	1	1	17.83	17.84	17.77
		RB1#0	1	1	17.92	18.42	17.91
		RB1#8	1	1	17.75	18.36	17.87
		RB1#14	1	1	17.71	18.39	17.8
		RB6#0	2	2	16.81	16.75	16.65
		RB6#9	2	2	16.73	16.81	16.71
5M	QPSK	RB15#0	2	2	17.01	16.97	16.6
		RB1#0	0	0	18.79	18.56	18.69
		RB1#13	0	0	18.84	18.68	18.71
		RB1#24	0	0	18.59	18.58	18.61
		RB15#0	1	1	18.37	18.39	18.4
		RB15#10	1	1	18.3	18.26	18.34
	16-QAM	RB25#0	1	1	17.75	17.8	17.66
		RB1#0	1	1	18.06	17.84	17.5
		RB1#13	1	1	18.12	17.83	17.67
		RB1#24	1	1	17.92	17.82	17.57
		RB15#0	2	2	16.84	16.92	16.79
RB15#10	2	2	16.87	16.85	16.72		
RB25#0	2	2	16.87	16.87	16.7		

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
10M	QPSK	RB1#0	0	0	18.71	18.62	18.75
		RB1#25	0	0	18.86	18.78	18.8
		RB1#49	1	1	18.59	18.57	18.53
		RB25#0	1	1	18.3	18.4	18.39
		RB25#25	1	1	18.44	18.25	18.34
		RB50#0	1	1	17.77	17.7	17.82
	16-QAM	RB1#0	1	1	18.37	17.94	17.77
		RB1#25	1	1	18.51	18.15	17.9
		RB1#49	1	1	18.28	17.95	17.69
		RB25#0	2	2	16.85	16.94	17.02
		RB25#25	2	2	16.94	16.83	16.78
		RB50#0	2	2	16.99	16.91	16.96
15M	QPSK	RB1#0	0	0	18.73	18.56	18.55
		RB1#38	0	0	18.71	18.72	18.69
		RB1#74	1	1	18.57	18.65	18.44
		RB36#0	1	1	18.4	18.39	18.3
		RB36#39	1	1	18.35	18.29	18.33
		RB75#0	1	1	17.87	17.85	17.74
	16-QAM	RB1#0	1	1	18.39	17.88	18.13
		RB1#38	1	1	18.48	17.9	18.09
		RB1#74	2	2	18.17	17.7	17.89
		RB36#0	2	2	16.88	16.86	16.79
		RB36#39	2	2	16.74	16.74	16.68
		RB75#0	2	2	16.81	16.8	16.81
20M	QPSK	RB1#0	0	0	18.89	18.98	18.97
		RB1#50	0	0	19.17	19.27	19.16
		RB1#99	0	0	19.08	19.06	18.92
		RB50#0	1	1	18.29	18.4	18.34
		RB50#50	1	1	18.44	18.49	18.37
		RB100#0	1	1	17.7	17.77	17.71
	16-QAM	RB1#0	1	1	17.98	17.75	18.09
		RB1#50	1	1	18.16	18.12	18.49
		RB1#99	2	2	17.76	17.83	18.05
		RB50#0	2	2	16.9	17	16.74
		RB50#50	2	2	16.81	16.81	16.73
		RB100#0	2	2	16.78	16.87	16.75



**LTE Band 4:**

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	RB1#0	0	0	19.06	19.01	18.93
		RB1#3	0	0	19.13	19.14	19.03
		RB1#5	0	0	19.01	18.86	19.01
		RB3#0	1	1	19.22	19.16	19.07
		RB3#3	1	1	19.07	19.24	19.09
		RB6#0	1	1	18.14	17.89	18.05
	16-QAM	RB1#0	1	1	18.19	18.02	18.00
		RB1#3	1	1	18.42	18.10	18.16
		RB1#5	1	1	18.14	18.13	18.07
		RB3#0	2	2	18.08	18.25	18.18
		RB3#3	2	2	18.08	18.18	18.19
3M	QPSK	RB1#0	0	0	19.13	18.92	18.98
		RB1#8	0	0	19.02	19.08	18.96
		RB1#14	1	1	19.09	18.92	19.04
		RB6#0	1	1	18.05	18.03	18.05
		RB6#9	1	1	17.91	17.92	17.97
		RB15#0	1	1	18.03	18.03	18.09
	16-QAM	RB1#0	1	1	18.18	18.65	18.12
		RB1#8	1	1	18.03	18.60	18.11
		RB1#14	2	2	17.97	18.59	18.13
		RB6#0	2	2	17.01	17.11	17.03
		RB6#9	2	2	16.90	16.93	17.01
5M	QPSK	RB1#0	0	0	18.96	18.96	19.05
		RB1#13	0	0	19.05	19.08	19.06
		RB1#24	1	1	18.93	18.86	18.87
		RB15#0	1	1	18.10	18.00	17.98
		RB15#10	1	1	18.11	18.05	18.08
		RB25#0	1	1	18.16	17.94	18.01
	16-QAM	RB1#0	1	1	18.34	18.06	17.77
		RB1#13	1	1	18.45	18.19	17.89
		RB1#24	1	1	18.23	18.04	17.86
		RB15#0	2	2	17.14	17.13	17.03
		RB15#10	2	2	17.10	17.01	17.12
RB25#0	2	2	16.98	17.14	17.14		

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
10M	QPSK	RB1#0	0	0	19.01	18.96	18.92
		RB1#25	0	0	19.13	19.09	19.17
		RB1#49	0	0	19.01	18.97	19.00
		RB25#0	1	1	18.08	17.96	18.00
		RB25#25	1	1	18.08	18.18	17.97
		RB50#0	1	1	18.07	18.07	18.05
	16-QAM	RB1#0	1	1	18.04	18.56	18.14
		RB1#25	1	1	18.33	18.73	18.34
		RB1#49	2	2	18.05	18.53	18.22
		RB25#0	2	2	17.25	17.12	17.05
		RB25#25	2	2	17.20	17.16	17.01
		RB50#0	2	2	17.22	17.04	17.14
15M	QPSK	RB1#0	0	0	19.07	18.94	18.99
		RB1#38	0	0	18.96	18.93	19.09
		RB1#74	1	1	19.03	18.81	18.86
		RB36#0	1	1	17.97	18.00	17.98
		RB36#39	1	1	18.08	18.05	18.13
		RB75#0	1	1	18.01	18.13	18.02
	16-QAM	RB1#0	1	1	18.33	18.53	18.06
		RB1#38	1	1	18.46	18.54	18.17
		RB1#74	2	2	18.29	18.38	18.00
		RB36#0	2	2	16.98	16.94	16.97
		RB36#39	2	2	17.04	17.17	16.99
		RB75#0	2	2	17.04	17.01	17.14
20M	QPSK	RB1#0	0	0	18.71	18.87	18.77
		RB1#50	0	0	<b>19.28</b>	19.13	19.22
		RB1#99	1	1	18.77	18.80	18.82
		RB50#0	1	1	18.18	18.09	18.14
		RB50#50	1	1	18.00	18.15	18.03
		RB100#0	1	1	18.00	18.03	17.94
	16-QAM	RB1#0	1	1	18.46	18.27	18.02
		RB1#50	1	1	18.68	18.46	18.34
		RB1#99	2	2	18.31	17.97	18.07
		RB50#0	2	2	17.12	16.94	17.05
		RB50#50	2	2	17.04	17.13	17.02
		RB100#0	2	2	17.04	16.98	17.15

**LTE Band 5:**

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	RB1#0	0	0	21.65	21.59	21.56
		RB1#3	0	0	21.81	21.77	21.54
		RB1#5	0	0	21.58	21.46	21.44
		RB3#0	1	1	21.71	21.70	21.53
		RB3#3	1	1	21.47	21.56	21.62
		RB6#0	1	1	20.85	20.58	20.65
	16-QAM	RB1#0	1	1	20.53	20.67	20.48
		RB1#3	1	1	20.73	21.01	20.72
		RB1#5	2	2	20.54	20.62	20.56
		RB3#0	2	2	20.78	20.63	20.60
		RB3#3	2	2	20.90	20.80	20.62
3M	QPSK	RB1#0	0	0	21.52	21.48	21.59
		RB1#8	0	0	21.70	21.53	21.66
		RB1#14	1	1	21.78	21.65	21.72
		RB6#0	1	1	21.10	20.91	20.86
		RB6#9	1	1	20.89	20.95	20.87
		RB15#0	1	1	20.63	20.51	20.64
	16-QAM	RB1#0	1	1	20.63	21.18	20.86
		RB1#8	1	1	20.73	21.27	20.64
		RB1#14	2	2	20.63	21.12	20.88
		RB6#0	2	2	19.57	19.68	19.67
		RB6#9	2	2	19.57	19.74	19.53
5M	QPSK	RB1#0	0	0	22.14	22.12	22.04
		RB1#13	0	0	22.25	22.19	22.13
		RB1#24	0	0	21.92	22.10	21.96
		RB15#0	1	1	21.32	21.19	21.12
		RB15#10	1	1	21.22	21.00	20.96
		RB25#0	1	1	21.11	21.32	21.13
	16-QAM	RB1#0	1	1	21.20	20.96	21.49
		RB1#13	1	1	21.31	20.99	21.48
		RB1#24	1	1	21.01	20.99	21.28
		RB15#0	2	2	20.23	20.26	19.97
		RB15#10	2	2	20.09	20.07	20.16
RB25#0	2	2	20.12	20.21	19.94		

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
10M	QPSK	RB1#0	0	0	22.09	22.14	22.16
		RB1#25	0	0	<b>22.37</b>	22.13	22.14
		RB1#49	1	1	22.19	22.27	22.08
		RB25#0	1	1	21.18	21.26	21.10
		RB25#25	1	1	21.20	21.22	21.10
		RB50#0	1	1	21.20	21.25	21.35
	16-QAM	RB1#0	1	1	21.90	21.39	21.20
		RB1#25	1	1	21.94	21.64	21.37
		RB1#49	2	2	21.70	21.51	21.02
		RB25#0	2	2	20.29	20.27	20.18
		RB25#25	2	2	20.17	20.14	20.27
		RB50#0	2	2	20.05	20.40	20.44

**LTE Band 25:**

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	RB1#0	0	0	19.31	19.42	19.29
		RB1#3	0	0	19.52	19.54	19.44
		RB1#5	0	0	19.39	19.31	19.31
		RB3#0	1	1	19.52	19.56	19.37
		RB3#3	1	1	19.47	19.48	19.24
		RB6#0	1	1	18.56	18.49	18.51
	16-QAM	RB1#0	1	1	18.63	18.49	18.24
		RB1#3	1	1	18.7	18.7	18.39
		RB1#5	2	2	18.65	18.43	18.33
		RB3#0	2	2	18.65	18.67	18.63
		RB3#3	2	2	18.47	18.61	18.57
3M	QPSK	RB1#0	0	0	<b>19.92</b>	19.87	19.75
		RB1#8	0	0	19.46	19.52	19.38
		RB1#14	0	0	19.49	19.34	19.47
		RB6#0	1	1	18.68	18.66	18.69
		RB6#9	1	1	18.72	18.61	18.62
		RB15#0	1	1	18.5	18.64	18.39
	16-QAM	RB1#0	1	1	18.68	19.11	18.68
		RB1#8	1	1	18.53	19.05	18.58
		RB1#14	1	1	18.47	18.94	18.61
		RB6#0	2	2	17.43	17.61	17.51
		RB6#9	2	2	17.5	17.45	17.41
5M	QPSK	RB1#0	0	0	19.39	19.44	19.41
		RB1#13	0	0	19.52	19.47	19.48
		RB1#24	0	0	19.5	19.45	19.4
		RB15#0	1	1	18.73	18.69	18.68
		RB15#10	1	1	18.65	18.61	18.6
		RB25#0	1	1	18.62	18.47	18.41
	16-QAM	RB1#0	1	1	18.69	18.33	18.71
		RB1#13	1	1	18.63	18.49	18.72
		RB1#24	1	1	18.45	18.43	18.69
		RB15#0	2	2	17.64	17.68	17.48
		RB15#10	2	2	17.59	17.64	17.38
RB25#0	2	2	17.62	17.69	17.43		

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
10M	QPSK	RB1#0	0	0	19.54	19.43	19.47
		RB1#25	0	0	19.72	19.55	19.48
		RB1#49	1	1	19.44	19.51	19.49
		RB25#0	1	1	18.66	18.75	18.8
		RB25#25	1	1	18.75	18.89	18.68
		RB50#0	1	1	18.72	18.6	18.52
	16-QAM	RB1#0	1	1	18.51	19.14	18.65
		RB1#25	1	1	18.65	19.3	18.68
		RB1#49	1	1	18.45	19.16	18.52
		RB25#0	2	2	17.75	17.71	17.51
		RB25#25	2	2	17.77	17.81	17.48
		RB50#0	2	2	17.8	17.66	17.51
15M	QPSK	RB1#0	0	0	19.54	19.50	19.45
		RB1#38	0	0	19.47	19.54	19.52
		RB1#74	1	1	19.47	19.35	19.35
		RB36#0	1	1	18.70	18.55	18.68
		RB36#39	1	1	18.76	18.78	18.62
		RB75#0	1	1	18.66	18.75	18.68
	16-QAM	RB1#0	1	1	18.95	19.12	18.56
		RB1#38	1	1	18.96	19.07	18.56
		RB1#74	2	2	18.92	18.90	18.51
		RB36#0	2	2	17.66	17.66	17.58
		RB36#39	2	2	17.73	17.56	17.52
		RB75#0	2	2	17.67	17.74	17.61
20M	QPSK	RB1#0	0	0	19.45	19.42	19.23
		RB1#50	0	0	19.74	19.78	19.51
		RB1#99	0	0	19.22	19.26	19.21
		RB50#0	1	1	18.67	18.86	18.65
		RB50#50	1	1	18.68	18.71	18.60
		RB100#0	1	1	18.65	18.72	18.64
	16-QAM	RB1#0	1	1	18.78	18.73	18.78
		RB1#50	1	1	18.99	18.84	19.10
		RB1#99	2	2	18.56	18.45	18.63
		RB50#0	2	2	17.55	17.71	17.63
		RB50#50	2	2	17.64	17.61	17.56
		RB100#0	2	2	17.59	17.74	17.66

**LTE Band 26:**

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	RB1#0	0	0	22.29	21.87	21.63
		RB1#3	0	0	<b>22.41</b>	21.99	21.89
		RB1#5	0	0	22.26	21.61	21.73
		RB3#0	1	1	22.33	21.95	21.91
		RB3#3	1	1	22.32	21.85	21.81
		RB6#0	1	1	21.43	20.66	20.62
	16-QAM	RB1#0	1	1	21.36	20.62	20.81
		RB1#3	1	1	21.64	20.99	20.92
		RB1#5	2	2	21.33	-0.22	20.76
		RB3#0	2	2	21.42	20.91	20.87
		RB3#3	2	2	21.4	20.81	20.86
		RB6#0	2	2	20.28	19.77	19.78
3M	QPSK	RB1#0	0	0	22.23	22.14	22.06
		RB1#8	0	0	22.12	22.22	21.86
		RB1#14	0	0	22.29	22.1	21.66
		RB6#0	1	1	21.2	21.34	20.71
		RB6#9	1	1	21.4	21.29	20.84
		RB15#0	1	1	21.13	21.21	20.85
	16-QAM	RB1#0	1	1	21.88	21.34	20.9
		RB1#8	1	1	22.02	21.49	20.62
		RB1#14	1	1	21.74	21.34	20.69
		RB6#0	2	2	20.44	20.13	19.83
		RB6#9	2	2	20.19	20.25	19.49
		RB15#0	2	2	20.34	20.09	19.78
5M	QPSK	RB1#0	0	0	22.2	22.13	22.15
		RB1#13	0	0	22.21	22.14	22.33
		RB1#24	0	0	21.99	22.06	21.71
		RB15#0	1	1	21.33	21.36	21.02
		RB15#10	1	1	21.38	21.13	20.8
		RB25#0	1	1	21.23	21.2	20.98
	16-QAM	RB1#0	1	1	21.47	20.95	21.1
		RB1#13	1	1	21.56	21.3	21.16
		RB1#24	1	1	21.31	21.04	20.84
		RB15#0	2	2	20.37	20.49	19.6
		RB15#10	2	2	20.46	20.2	19.7
		RB25#0	2	2	20.36	20.26	19.9

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
10M	QPSK	RB1#0	0	0	22.21	22.31	22.12
		RB1#25	0	0	22.29	22.35	22.25
		RB1#49	1	1	22.15	22.12	22.13
		RB25#0	1	1	21.31	21.41	21.33
		RB25#25	1	1	21.18	21.42	21.37
		RB50#0	1	1	21.27	21.48	21.43
	16-QAM	RB1#0	1	1	21.2	21.73	21.27
		RB1#25	1	1	21.5	21.87	21.47
		RB1#49	1	1	21.3	21.91	21.05
		RB25#0	2	2	20.36	20.42	20.4
		RB25#25	2	2	20.21	20.38	20.32
		RB50#0	2	2	20.3	20.42	20.38
15M	QPSK	RB1#0	0	0	22.17	21.92	22.24
		RB1#38	0	0	22.29	22.26	22.33
		RB1#74	1	1	22.29	21.85	22.25
		RB36#0	1	1	21.65	21.65	21.65
		RB36#39	1	1	21.84	21.86	21.95
		RB75#0	1	1	21.41	21.64	21.59
	16-QAM	RB1#0	1	1	21.46	20.96	21.61
		RB1#38	1	1	21.54	21.08	21.83
		RB1#74	2	2	21.42	20.8	21.62
		RB36#0	2	2	20.26	20.03	20.45
		RB36#39	2	2	20.38	19.95	20.45
		RB75#0	2	2	20.54	20.05	20.4



**LTE Band 66:**

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	RB1#0	0	0	19.51	19.53	19.45
		RB1#3	0	0	<b>19.75</b>	19.65	19.56
		RB1#5	0	0	19.51	19.47	19.42
		RB3#0	1	1	19.66	19.67	19.26
		RB3#3	1	1	19.54	19.52	19.08
		RB6#0	1	1	18.51	18.5	18.01
	16-QAM	RB1#0	1	1	18.72	18.43	17.96
		RB1#3	1	1	18.93	18.65	18.1
		RB1#5	2	2	18.74	18.53	18.12
		RB3#0	2	2	18.61	18.66	18.26
		RB3#3	2	2	18.58	18.65	18.37
		RB6#0	2	2	17.65	17.41	16.98
3M	QPSK	RB1#0	0	0	19.57	19.05	19.12
		RB1#8	0	0	19.36	18.9	19
		RB1#14	0	0	19.58	18.94	19
		RB6#0	1	1	18.48	17.87	17.85
		RB6#9	1	1	18.45	18.07	17.88
		RB15#0	1	1	18.48	18.03	18.07
	16-QAM	RB1#0	1	1	18.22	18.62	18.2
		RB1#8	1	1	18.12	18.71	18.17
		RB1#14	1	1	18.04	18.57	18.2
		RB6#0	2	2	16.86	17.11	17.04
		RB6#9	2	2	16.88	17.09	17.02
		RB15#0	2	2	17.16	17.23	16.95
5M	QPSK	RB1#0	0	0	19.35	18.99	18.96
		RB1#13	0	0	19.51	18.95	19.08
		RB1#24	0	0	19.36	19.02	18.87
		RB15#0	1	1	18.32	18	18.08
		RB15#10	1	1	18.34	18.07	17.97
		RB25#0	1	1	17.9	17.93	18.07
	16-QAM	RB1#0	1	1	18.1	17.87	18.18
		RB1#13	1	1	18.15	17.8	18.32
		RB1#24	1	1	18.04	17.86	18.27
		RB15#0	2	2	17.11	17.13	17.04
		RB15#10	2	2	17.19	17.05	17.09
		RB25#0	2	2	17.06	17.07	17

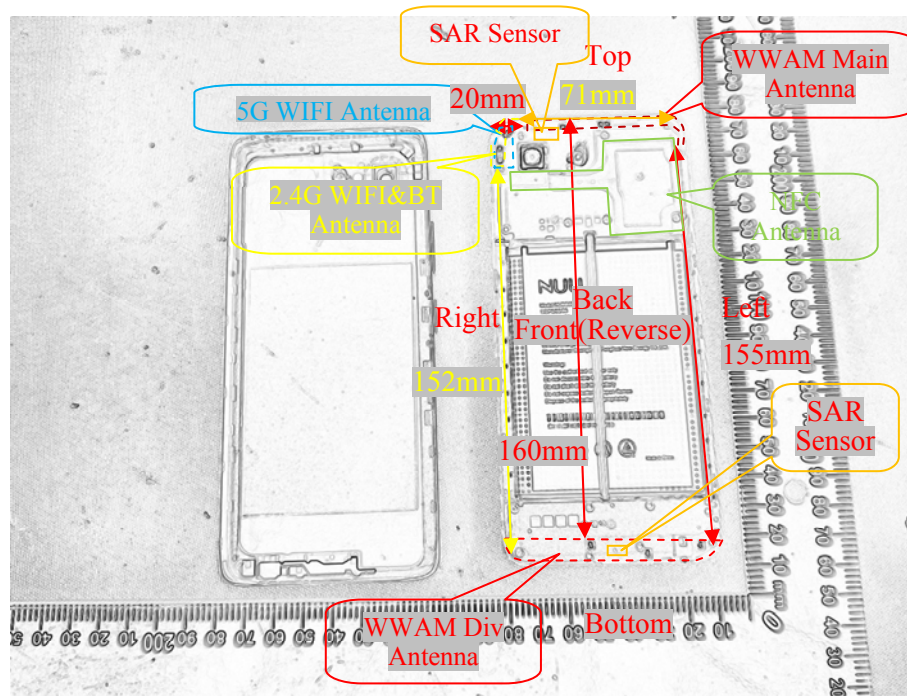
Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
10M	QPSK	RB1#0	0	0	19.62	19.1	19.06
		RB1#25	0	0	19.67	19.26	19.2
		RB1#49	1	1	19.45	18.98	18.9
		RB25#0	1	1	18.51	18.21	18.2
		RB25#25	1	1	18.18	18.1	18.01
		RB50#0	1	1	18.24	18.05	18.19
	16-QAM	RB1#0	1	1	18.26	18.05	18.61
		RB1#25	1	1	18.41	18.3	18.86
		RB1#49	1	1	18.31	18.18	18.67
		RB25#0	2	2	17.25	17.25	17.23
		RB25#25	2	2	17.13	17.31	17.16
		RB50#0	2	2	17.11	17.19	17.11
15M	QPSK	RB1#0	0	0	19.36	18.95	19.07
		RB1#38	0	0	19.39	18.98	18.97
		RB1#74	1	1	18.93	18.89	18.85
		RB36#0	1	1	18.08	18.17	18.16
		RB36#39	1	1	18.17	18.18	18.02
		RB75#0	1	1	18.07	18.08	18.06
	16-QAM	RB1#0	1	1	18.49	18.64	18.22
		RB1#38	1	1	18.54	18.68	18.31
		RB1#74	2	2	18.5	18.62	18.2
		RB36#0	2	2	17.16	17.19	17.22
		RB36#39	2	2	17.18	17.22	17.07
		RB75#0	2	2	17.06	17.17	17.05
20M	QPSK	RB1#0	0	0	19.32	18.95	18.72
		RB1#50	0	0	19.67	19.25	19.13
		RB1#99	0	0	19.19	18.78	18.70
		RB50#0	1	1	18.56	18.43	18.03
		RB50#50	1	1	18.10	18.13	17.97
		RB100#0	1	1	18.12	17.99	18.11
	16-QAM	RB1#0	1	1	18.24	18.09	18.40
		RB1#50	1	1	18.63	18.51	18.71
		RB1#99	2	2	18.18	17.93	18.44
		RB50#0	2	2	17.12	17.19	17.11
		RB50#50	2	2	17.19	17.19	16.98
		RB100#0	2	2	17.13	17.19	17.18

**WLAN 2.4G:**

<b>Mode</b>	<b>Channel frequency (MHz)</b>	<b>Data Rate</b>	<b>Duty Cycle (%)</b>	<b>Conducted Average Output Power(dBm)</b>
802.11b	2412	1Mbps	99.45	15.36
	2437			15.12
	2462			15.15
802.11g	2412	6Mbps	96.80	14.51
	2437			14.22
	2462			13.42
802.11n ht20	2412	MCS0	96.51	14.52
	2437			13.91
	2462			11.81

## 8. STANDALONE SAR TEST EXCLUSION CONSIDERATIONS

### 8.1 Antennas Location:



**Note:**

1.The **WWAN Main Antenna** is used in the following frequency bands: GSM 850/ WCDMA Band 5/ LTE Band 26&5/LTE Band 12/ LTE Band 13/ LTEBand 71.

2.The **WWAN Div Antenna** is used in the following frequency bands: PCS 1900/ WCDMA Band 2/ WCDMA Band 4/ LTE Band 25&2/ LTE Band 41/ LTE Band 66&4.

### 8.2 Antenna Distance To Edge

Antenna Distance To Edge(mm)						
Antenna	Back	Front	Left	Right	Top	Bottom
WWAN Main Antenna	< 5	< 5	< 5	20	< 5	155
WWAN Div Antenna	< 5	< 5	< 5	< 5	160	< 5
2.4G WLAN/BT Antenna	< 5	< 5	71	< 5	< 5	152
5G WLAN Antenna	< 5	< 5	71	< 5	< 5	152

### 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	19	79.43	0	24.9	3	NO
WLAN 5.2G	5240	16.9	48.98	0	22.4	3	NO
WLAN 5.3G	5320	16	39.81	0	17.9	3	NO
WLAN 5.6G	5720	13.9	24.55	0	11.7	3	NO
WLAN 5.8G	5825	16	39.81	0	19.2	3	NO
Bluetooth	2480	4	2.51	0	0.8	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 ≤ 50 mm are determined by:

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

1. f(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* ≤ 50 mm, the power threshold determined by the equation in c) 1) for 50 mm and 100 MHz is multiplied by 1/2
- 3) SAR measurement procedures are not established below 100 MHz

**Measurement Result:**

For NFC, the power of EUT: E Field@3m is 62.99dBuV/m = -32.21 dBm(0.0006mW)

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

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

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

$$= 443 \text{ mW}$$

$$> 0.0006 \text{ mW}$$

**Conclusion:**

The NFC SAR evaluation can be exempted.

**8.4 Standalone SAR estimation:**

Mode	Frequency (MHz)	Output Power (dBm)	Output Power (mW)	Distance (mm)	Estimated 1-g (W/kg)
BT Head	2480	4	2.51	0	0.11
BT Body	2480	4	2.51	10	0.06

*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:

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

W/kg for test separation distances ≤ 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

**8.5 SAR test exclusion for the EUT edge considerations Result**

Antenna Distance To Edge(mm)						
Mode	Back	Front	Left	Right	Top	Bottom
BT	Exclusion*	Exclusion*	Exclusion*	Exclusion*	Exclusion*	Exclusion*
WLAN	<b>Required</b>	<b>Required</b>	Exclusion	<b>Required</b>	<b>Required</b>	Exclusion
WWAN Main Antenna	<b>Required</b>	<b>Required</b>	<b>Required</b>	<b>Required</b>	<b>Required</b>	Exclusion
WWAN Div Antenna	<b>Required</b>	<b>Required</b>	<b>Required</b>	<b>Required</b>	Exclusion	<b>Required</b>

**Note:**

**Required:** The distance to Edge is less than 25mm, testing is required.

**Exclusion\*:** SAR test exclusion evaluation has been done above.

**Exclusion:** The distance to Edge is more than 25 mm, testing is not required.

**Extremity Exposure Considerations**

Per KDB 648474 D04v01r03, this device is considered a “Phablet” since the diagonal dimension is >160mm and < 200mm, when hotspot mode applies, extremity SAR is required only for the surfaces and edges with hotspot mode scaled to the maximum output power (with tolerance is 1g SAR > 1.2W/kg)

Extremity Exposure Condition		
Worst Mode	Hotspot SAR value	Extremity Condition Test
WCDMA Band 4	1.18	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>	21.4-22.5 °C	22.7-23.9°C	22.9-23.7 °C	22.4-23.6 °C
<b>Relative Humidity:</b>	53 %	56%	55 %	52 %
<b>ATM Pressure:</b>	100 kPa	99.9 kPa	100.2 kPa	100.1 kPa
<b>Test Date:</b>	2024/06/21	2024/06/22	2024/06/23	2024/06/24
<b>Temperature:</b>	22.1-23.3 °C	22.6-23.5 °C	22.2-23 °C	22.9-23.7 °C
<b>Relative Humidity:</b>	53 %	57 %	52 %	47 %
<b>ATM Pressure:</b>	100.2 kPa	100.5 kPa	100.6 kPa	100.4 kPa
<b>Test Date:</b>	2024/06/25	2024/06/26	2024/06/27	2024/06/28

*Testing was performed by Rain Yu, Wen Wang, Mark Dong.*

*Note: Head mode: PCS 1900/WCDMA bands 2/4/LTE bands 2/4/25/66 reduced power will be active, and the sensor on power is less than the sensor off power. During SAR measurement, PCS 1900/WCDMA band 2/4/LTE band 2/4/25/66 were tested in sensor off mode.*

**Sensor off:****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	GSM	33.12	34.1	1.253	0.611	0.77	/
	836.6	GSM	33.11	34.1	1.256	0.645	0.81	/
	848.8	GSM	32.94	34.1	1.306	0.533	0.70	/
Head Left Tilt	824.2	GSM	/	/	/	/	/	/
	836.6	GSM	33.11	34.1	1.256	0.59	0.74	/
	848.8	GSM	/	/	/	/	/	/
Head Right Cheek	824.2	GSM	33.12	34.1	1.253	0.803	1.01	1#
	836.6	GSM	33.11	34.1	1.256	0.787	0.99	/
	848.8	GSM	32.94	34.1	1.306	0.684	0.89	/
Head Right Tilt	824.2	GSM	33.12	34.1	1.253	0.673	0.84	/
	836.6	GSM	33.11	34.1	1.256	0.674	0.85	/
	848.8	GSM	32.94	34.1	1.306	0.567	0.74	/
Body Worn Front (10mm)	824.2	GSM	/	/	/	/	/	/
	836.6	GSM	33.11	34.1	1.256	0.193	0.24	/
	848.8	GSM	/	/	/	/	/	/
Body Worn Back (10mm)	824.2	GSM	/	/	/	/	/	/
	836.6	GSM	33.11	34.1	1.256	0.26	0.33	/
	848.8	GSM	/	/	/	/	/	/
Body Front (10mm)	824.2	GPRS	/	/	/	/	/	/
	836.6	GPRS	29.34	30.5	1.306	0.41	0.54	/
	848.8	GPRS	/	/	/	/	/	/
Body Back (10mm)	824.2	GPRS	/	/	/	/	/	/
	836.6	GPRS	29.34	30.5	1.306	0.434	0.57	2#
	848.8	GPRS	/	/	/	/	/	/
Body Left (10mm)	824.2	GPRS	/	/	/	/	/	/
	836.6	GPRS	29.34	30.5	1.306	0.413	0.54	/
	848.8	GPRS	/	/	/	/	/	/
Body Right (10mm)	824.2	GPRS	/	/	/	/	/	/
	836.6	GPRS	29.34	30.5	1.306	0.202	0.26	/
	848.8	GPRS	/	/	/	/	/	/
Body Top (10mm)	824.2	GPRS	/	/	/	/	/	/
	836.6	GPRS	29.34	30.5	1.306	0.348	0.45	/
	848.8	GPRS	/	/	/	/	/	/

*The data above was performed on 2024/06/22.***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, 1DL+4UL is the worst case.



**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	GSM	/	/	/	/	/	/
	1880	GSM	28.87	29.8	1.239	0.116	0.14	3#
	1909.8	GSM	/	/	/	/	/	/
Head Left Tilt	1850.2	GSM	/	/	/	/	/	/
	1880	GSM	28.87	29.8	1.239	0.055	0.07	/
	1909.8	GSM	/	/	/	/	/	/
Head Right Cheek	1850.2	GSM	/	/	/	/	/	/
	1880	GSM	28.87	29.8	1.239	0.056	0.07	/
	1909.8	GSM	/	/	/	/	/	/
Head Right Tilt	1850.2	GSM	/	/	/	/	/	/
	1880	GSM	28.87	29.8	1.239	0.064	0.08	/
	1909.8	GSM	/	/	/	/	/	/
Body Worn Front (15mm)	1850.2	GSM	/	/	/	/	/	/
	1880	GSM	28.87	29.8	1.239	0.12	0.15	/
	1909.8	GSM	/	/	/	/	/	/
Body Worn Back (19mm)	1850.2	GSM	/	/	/	/	/	/
	1880	GSM	28.87	29.8	1.239	0.241	0.30	/
	1909.8	GSM	/	/	/	/	/	/
Body Front (15mm)	1850.2	GPRS	/	/	/	/	/	/
	1880	GPRS	26.22	27.3	1.282	0.291	0.37	/
	1909.8	GPRS	/	/	/	/	/	/
Body Back (19mm)	1850.2	GPRS	/	/	/	/	/	/
	1880	GPRS	26.22	27.3	1.282	0.397	0.51	/
	1909.8	GPRS	/	/	/	/	/	/
Body Left (10mm)	1850.2	GPRS	/	/	/	/	/	/
	1880	GPRS	26.22	27.3	1.282	0.198	0.25	/
	1909.8	GPRS	/	/	/	/	/	/
Body Right (10mm)	1850.2	GPRS	/	/	/	/	/	/
	1880	GPRS	26.22	27.3	1.282	0.056	0.07	/
	1909.8	GPRS	/	/	/	/	/	/
Body Bottom (19mm)	1850.2	GPRS	/	/	/	/	/	/
	1880	GPRS	26.22	27.3	1.282	0.439	<b>0.56</b>	4#
	1909.8	GPRS	/	/	/	/	/	/

*The data above was performed on 2024/06/27.*

**Note:**

1. When the 1-g SAR is  $\leq 0.8W/Kg$ , 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  $> 0.5$  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, 2DL+3UL is the worst case.

**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	20.92	22	1.282	0.259	0.33	5#
	1907.6	RMC	/	/	/	/	/	/
Head Left Tilt	1852.4	RMC	/	/	/	/	/	/
	1880	RMC	20.92	22	1.282	0.175	0.22	/
	1907.6	RMC	/	/	/	/	/	/
Head Right Cheek	1852.4	RMC	/	/	/	/	/	/
	1880	RMC	20.92	22	1.282	0.167	0.21	/
	1907.6	RMC	/	/	/	/	/	/
Head Right Tilt	1852.4	RMC	/	/	/	/	/	/
	1880	RMC	20.92	22	1.282	0.184	0.24	/
	1907.6	RMC	/	/	/	/	/	/
Body Front (15mm)	1852.4	RMC	/	/	/	/	/	/
	1880	RMC	20.92	22	1.282	0.468	0.60	/
	1907.6	RMC	/	/	/	/	/	/
Body Back (19mm)	1852.4	RMC	/	/	/	/	/	/
	1880	RMC	20.92	22	1.282	0.551	0.71	/
	1907.6	RMC	/	/	/	/	/	/
Body Left (10mm)	1852.4	RMC	/	/	/	/	/	/
	1880	RMC	20.92	22	1.282	0.392	0.50	/
	1907.6	RMC	/	/	/	/	/	/
Body Right (10mm)	1852.4	RMC	/	/	/	/	/	/
	1880	RMC	20.92	22	1.282	0.1	0.13	/
	1907.6	RMC	/	/	/	/	/	/
Body Bottom (19mm)	1852.4	RMC	21.38	22	1.153	0.605	0.70	/
	1880	RMC	20.92	22	1.282	0.652	0.84	/
	1907.6	RMC	21.09	22	1.233	0.696	0.86	6#

*The data above was performed on 2024/06/24.*

**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	21.06	22	1.242	0.122	0.15	7#
	1752.6	RMC	/	/	/	/	/	/
Head Left Tilt	1712.4	RMC	/	/	/	/	/	/
	1732.6	RMC	21.06	22	1.242	0.11	0.14	/
	1752.6	RMC	/	/	/	/	/	/
Head Right Cheek	1712.4	RMC	/	/	/	/	/	/
	1732.6	RMC	21.06	22	1.242	0.12	0.15	/
	1752.6	RMC	/	/	/	/	/	/
Head Right Tilt	1712.4	RMC	/	/	/	/	/	/
	1732.6	RMC	21.06	22	1.242	0.087	0.11	/
	1752.6	RMC	/	/	/	/	/	/
Body Front (15mm)	1712.4	RMC	/	/	/	/	/	/
	1732.6	RMC	21.06	22	1.242	0.441	0.55	/
	1752.6	RMC	/	/	/	/	/	/
Body Back (19mm)	1712.4	RMC	/	/	/	/	/	/
	1732.6	RMC	21.06	22	1.242	0.603	0.75	8#
	1752.6	RMC	/	/	/	/	/	/
Body Left (10mm)	1712.4	RMC	/	/	/	/	/	/
	1732.6	RMC	21.06	22	1.242	0.3	0.37	/
	1752.6	RMC	/	/	/	/	/	/
Body Right (10mm)	1712.4	RMC	/	/	/	/	/	/
	1732.6	RMC	21.06	22	1.242	0.108	0.13	/
	1752.6	RMC	/	/	/	/	/	/
Body Bottom (19mm)	1712.4	RMC	/	/	/	/	/	/
	1732.6	RMC	21.06	22	1.242	0.59	0.73	/
	1752.6	RMC	/	/	/	/	/	/

*The data above was performed on 2024/06/25.*

**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	20.89	21.8	1.233	0.702	0.87	/
	836.6	RMC	20.93	21.8	1.222	0.741	0.91	/
	846.6	RMC	20.79	21.8	1.262	0.665	0.84	/
Head Left Tilt	826.4	RMC	20.89	21.8	1.233	0.563	0.69	/
	836.6	RMC	20.93	21.8	1.222	0.634	0.77	/
	846.6	RMC	20.79	21.8	1.262	0.478	0.60	/
Head Right Cheek	826.4	RMC	20.89	21.8	1.233	0.965	1.19	9#
	836.6	RMC	20.93	21.8	1.222	0.928	1.13	/
	846.6	RMC	20.79	21.8	1.262	0.868	1.1	/
Head Right Tilt	826.4	RMC	20.89	21.8	1.233	0.673	0.83	/
	836.6	RMC	20.93	21.8	1.222	0.687	0.84	/
	846.6	RMC	20.79	21.8	1.262	0.638	0.81	/
Body Front (10mm)	826.4	RMC	/	/	/	/	/	/
	836.6	RMC	20.93	21.8	1.222	0.247	0.30	/
	846.6	RMC	/	/	/	/	/	/
Body Back (10mm)	826.4	RMC	/	/	/	/	/	/
	836.6	RMC	20.93	21.8	1.222	0.264	0.32	10#
	846.6	RMC	/	/	/	/	/	/
Body Left (10mm)	826.4	RMC	/	/	/	/	/	/
	836.6	RMC	20.93	21.8	1.222	0.261	0.32	/
	846.6	RMC	/	/	/	/	/	/
Body Right (10mm)	826.4	RMC	/	/	/	/	/	/
	836.6	RMC	20.93	21.8	1.222	0.121	0.15	/
	846.6	RMC	/	/	/	/	/	/
Body Top (10mm)	826.4	RMC	/	/	/	/	/	/
	836.6	RMC	20.93	21.8	1.222	0.211	0.26	/
	846.6	RMC	/	/	/	/	/	/

*The data above was performed on 2024/06/22.*

**Note:**

1. When the 1-g SAR is  $\leq 0.8W/Kg$ , 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 Test Loop Model.
4. KDB 941225 D01-Body SAR is not required for HSDPA/HSUPA/DC-HSDPA/HSPA+ 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 12:**

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	23.16	24	1.213	0.386	0.47	11#
	711	10	1RB	/	/	/	/	/	/
	707.5	10	50%RB	22.36	23.5	1.3	0.31	0.4	/
Head Left Tilt	704	10	1RB	/	/	/	/	/	/
	707.5	10	1RB	23.16	24	1.213	0.211	0.26	/
	711	10	1RB	/	/	/	/	/	/
	707.5	10	50%RB	22.36	23.5	1.3	0.166	0.22	/
Head Right Cheek	704	10	1RB	/	/	/	/	/	/
	707.5	10	1RB	23.16	24	1.213	0.377	0.46	/
	711	10	1RB	/	/	/	/	/	/
	707.5	10	50%RB	22.36	23.5	1.3	0.303	0.39	/
Head Right Tilt	704	10	1RB	/	/	/	/	/	/
	707.5	10	1RB	23.16	24	1.213	0.298	0.36	/
	711	10	1RB	/	/	/	/	/	/
	707.5	10	50%RB	22.36	23.5	1.3	0.236	0.31	/
Body Front (10mm)	704	10	1RB	/	/	/	/	/	/
	707.5	10	1RB	23.16	24	1.213	0.071	0.09	/
	711	10	1RB	/	/	/	/	/	/
	707.5	10	50%RB	22.36	23.5	1.3	0.056	0.07	/
Body Back (10mm)	704	10	1RB	/	/	/	/	/	/
	707.5	10	1RB	23.16	24	1.213	0.123	0.15	12#
	711	10	1RB	/	/	/	/	/	/
	707.5	10	50%RB	22.36	23.5	1.3	0.098	0.13	/
Body Left (10mm)	704	10	1RB	/	/	/	/	/	/
	707.5	10	1RB	23.16	24	1.213	0.083	0.10	/
	711	10	1RB	/	/	/	/	/	/
	707.5	10	50%RB	22.36	23.5	1.3	0.067	0.09	/
Body Right (10mm)	704	10	1RB	/	/	/	/	/	/
	707.5	10	1RB	23.16	24	1.213	0.036	0.04	/
	711	10	1RB	/	/	/	/	/	/
	707.5	10	50%RB	22.36	23.5	1.3	0.029	0.04	/
Body Top (10mm)	704	10	1RB	/	/	/	/	/	/
	707.5	10	1RB	23.16	24	1.213	0.054	0.07	/
	711	10	1RB	/	/	/	/	/	/
	707.5	10	50%RB	22.36	23.5	1.3	0.043	0.06	/

*The data above was performed on 2024/06/21.*

**LTE Band 13:**

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	782	10	1RB	23.27	24	1.183	0.667	0.79	13#
	782	10	50%RB	22.64	23.5	1.219	0.57	0.69	/
Head Left Tilt	782	10	1RB	23.27	24	1.183	0.387	0.46	/
	782	10	50%RB	22.64	23.5	1.219	0.32	0.39	/
Head Right Cheek	782	10	1RB	23.27	24	1.183	0.629	0.74	/
	782	10	50%RB	22.64	23.5	1.219	0.526	0.64	/
Head Right Tilt	782	10	1RB	23.27	24	1.183	0.546	0.65	/
	782	10	50%RB	22.64	23.5	1.219	0.453	0.55	/
Body Front (10mm)	782	10	1RB	23.27	24	1.183	0.173	0.2	/
	782	10	50%RB	22.64	23.5	1.219	0.143	0.17	/
Body Back (10mm)	782	10	1RB	23.27	24	1.183	0.19	0.22	/
	782	10	50%RB	22.64	23.5	1.219	0.159	0.19	/
Body Left (10mm)	782	10	1RB	23.27	24	1.183	0.229	0.27	14#
	782	10	50%RB	22.64	23.5	1.219	0.183	0.22	/
Body Right (10mm)	782	10	1RB	23.27	24	1.183	0.11	0.13	/
	782	10	50%RB	22.64	23.5	1.219	0.089	0.11	/
Body Top (10mm)	782	10	1RB	23.27	24	1.183	0.154	0.18	/
	782	10	50%RB	22.64	23.5	1.219	0.138	0.17	/

*The data above was performed on 2024/06/24.*

**LTE Band 25&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	/	/	/	/	/	/
	1882.5	20	1RB	22.71	23.6	1.227	0.189	0.23	15#
	1905	20	1RB	/	/	/	/	/	/
	1882.5	20	50%RB	22.26	23.6	1.361	0.156	0.21	/
Head Left Tilt	1860	20	1RB	/	/	/	/	/	/
	1882.5	20	1RB	22.71	23.6	1.227	0.061	0.07	/
	1905	20	1RB	/	/	/	/	/	/
	1882.5	20	50%RB	22.26	23.6	1.361	0.052	0.07	/
Head Right Cheek	1860	20	1RB	/	/	/	/	/	/
	1882.5	20	1RB	22.71	23.6	1.227	0.165	0.20	/
	1905	20	1RB	/	/	/	/	/	/
	1882.5	20	50%RB	22.26	23.6	1.361	0.151	0.21	/
Head Right Tilt	1860	20	1RB	/	/	/	/	/	/
	1882.5	20	1RB	22.71	23.6	1.227	0.075	0.09	/
	1905	20	1RB	/	/	/	/	/	/
	1882.5	20	50%RB	22.26	23.6	1.361	0.071	0.10	/
Body Front (15mm)	1860	20	1RB	/	/	/	/	/	/
	1882.5	20	1RB	22.71	23.6	1.227	0.329	0.40	/
	1905	20	1RB	/	/	/	/	/	/
	1882.5	20	50%RB	22.26	23.6	1.361	0.315	0.43	/
Body Back (19mm)	1860	20	1RB	/	/	/	/	/	/
	1882.5	20	1RB	22.71	23.6	1.227	0.464	0.57	/
	1905	20	1RB	/	/	/	/	/	/
	1882.5	20	50%RB	22.26	23.6	1.361	0.407	0.55	/
Body Left (10mm)	1860	20	1RB	/	/	/	/	/	/
	1882.5	20	1RB	22.71	23.6	1.227	0.331	0.41	/
	1905	20	1RB	/	/	/	/	/	/
	1882.5	20	50%RB	22.26	23.6	1.361	0.292	0.40	/
Body Right (10mm)	1860	20	1RB	/	/	/	/	/	/
	1882.5	20	1RB	22.71	23.6	1.227	0.065	0.08	/
	1905	20	1RB	/	/	/	/	/	/
	1882.5	20	50%RB	22.26	23.6	1.361	0.06	0.08	/
Body Bottom (19mm)	1860	20	1RB	/	/	/	/	/	/
	1882.5	20	1RB	22.71	23.6	1.227	0.564	0.69	/
	1905	20	1RB	/	/	/	/	/	/
	1882.5	20	50%RB	22.26	23.6	1.361	0.521	0.71	16#

*The data above was performed on 2024/06/27.*

*Note: The E-UTRA Operating Band 2 is a subset of band 25, and they are same in modulation type and rated output power, therefore, they were considered as one frequency band during SAR measurement, LTE Band 25 (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
Body Front (13mm)	831.5	15	1RB	/	/	/	/	/	/
	836.5	15	1RB	23.26	24.3	1.271	0.154	0.2	/
	841.5	15	1RB	/	/	/	/	/	/
	836.5	15	50%RB	22.89	23.8	1.233	0.128	0.16	/
Body Back (17mm)	831.5	15	1RB	/	/	/	/	/	/
	836.5	15	1RB	23.26	24.3	1.271	0.166	0.21	/
	841.5	15	1RB	/	/	/	/	/	/
	836.5	15	50%RB	22.89	23.8	1.233	0.137	0.17	/
Body Left (10mm)	831.5	15	1RB	/	/	/	/	/	/
	836.5	15	1RB	23.26	24.3	1.271	0.263	0.33	17#
	841.5	15	1RB	/	/	/	/	/	/
	836.5	15	50%RB	22.89	23.8	1.233	0.218	0.27	/
Body Right (10mm)	831.5	15	1RB	/	/	/	/	/	/
	836.5	15	1RB	23.26	24.3	1.271	0.127	0.16	/
	841.5	15	1RB	/	/	/	/	/	/
	836.5	15	50%RB	22.89	23.8	1.233	0.105	0.13	/
Body Top (19mm)	831.5	15	1RB	/	/	/	/	/	/
	836.5	15	1RB	23.26	24.3	1.271	0.049	0.06	/
	841.5	15	1RB	/	/	/	/	/	/
	836.5	15	50%RB	22.89	23.8	1.233	0.039	0.05	/

*The data above was performed on 2024/06/23.*

*Note: 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:**

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	22.25	23.2	1.245	0.034	0.04	18#
	2636.5	20	1RB	/	/	/	/	/	/
	2680	20	1RB	/	/	/	/	/	/
	2593	20	50%RB	21.42	22.4	1.253	0.028	0.04	/
Head Left Tilt	2506	20	1RB	/	/	/	/	/	/
	2549.5	20	1RB	/	/	/	/	/	/
	2593	20	1RB	22.25	23.2	1.245	0.021	0.03	/
	2636.5	20	1RB	/	/	/	/	/	/
	2680	20	1RB	/	/	/	/	/	/
	2593	20	50%RB	21.42	22.4	1.253	0.017	0.02	/
Head Right Cheek	2506	20	1RB	/	/	/	/	/	/
	2549.5	20	1RB	/	/	/	/	/	/
	2593	20	1RB	22.25	23.2	1.245	0.016	0.02	/
	2636.5	20	1RB	/	/	/	/	/	/
	2680	20	1RB	/	/	/	/	/	/
	2593	20	50%RB	21.42	22.4	1.253	0.014	0.02	/
Head Right Tilt	2506	20	1RB	/	/	/	/	/	/
	2549.5	20	1RB	/	/	/	/	/	/
	2593	20	1RB	22.25	23.2	1.245	0.02	0.02	/
	2636.5	20	1RB	/	/	/	/	/	/
	2680	20	1RB	/	/	/	/	/	/
	2593	20	50%RB	21.42	22.4	1.253	0.017	0.02	/
Body Front (10mm)	2506	20	1RB	/	/	/	/	/	/
	2549.5	20	1RB	/	/	/	/	/	/
	2593	20	1RB	22.25	23.2	1.245	0.182	0.23	/
	2636.5	20	1RB	/	/	/	/	/	/
	2680	20	1RB	/	/	/	/	/	/
	2593	20	50%RB	21.42	22.4	1.253	0.15	0.19	/
Body Back (10mm)	2506	20	1RB	/	/	/	/	/	/
	2549.5	20	1RB	/	/	/	/	/	/
	2593	20	1RB	22.25	23.2	1.245	0.266	0.33	/
	2636.5	20	1RB	/	/	/	/	/	/
	2680	20	1RB	/	/	/	/	/	/
	2593	20	50%RB	21.42	22.4	1.253	0.219	0.27	/
Body Left (10mm)	2506	20	1RB	/	/	/	/	/	/
	2549.5	20	1RB	/	/	/	/	/	/
	2593	20	1RB	22.25	23.2	1.245	0.055	0.07	/
	2636.5	20	1RB	/	/	/	/	/	/
	2680	20	1RB	/	/	/	/	/	/

	2593	20	50%RB	21.42	22.4	1.253	0.046	0.06	/
Body Right (10mm)	2506	20	1RB	/	/	/	/	/	/
	2549.5	20	1RB	/	/	/	/	/	/
	2593	20	1RB	22.25	23.2	1.245	0.045	0.06	/
	2636.5	20	1RB	/	/	/	/	/	/
	2680	20	1RB	/	/	/	/	/	/
	2593	20	50%RB	21.42	22.4	1.253	0.038	0.05	/
Body Bottom (10mm)	2506	20	1RB	/	/	/	/	/	/
	2549.5	20	1RB	/	/	/	/	/	/
	2593	20	1RB	22.25	23.2	1.245	0.56	0.70	19#
	2636.5	20	1RB	/	/	/	/	/	/
	2680	20	1RB	/	/	/	/	/	/
	2593	20	50%RB	21.42	22.4	1.253	0.476	0.60	/

The data above was performed on 2024/06/26.

Note:

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

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.<sup>14</sup>

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

where

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

2. 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	22.23	23.3	1.279	0.092	0.12	20#
	1770	20	1RB	/	/	/	/	/	/
	1745	20	50%RB	21.51	22.8	1.346	0.076	0.1	/
Head Left Tilt	1720	20	1RB	/	/	/	/	/	/
	1745	20	1RB	22.23	23.3	1.279	0.045	0.06	/
	1770	20	1RB	/	/	/	/	/	/
	1745	20	50%RB	21.51	22.8	1.346	0.037	0.05	/
Head Right Cheek	1720	20	1RB	/	/	/	/	/	/
	1745	20	1RB	22.23	23.3	1.279	0.09	0.12	/
	1770	20	1RB	/	/	/	/	/	/
	1745	20	50%RB	21.51	22.8	1.346	0.07	0.09	/
Head Right Tilt	1720	20	1RB	/	/	/	/	/	/
	1745	20	1RB	22.23	23.3	1.279	0.061	0.08	/
	1770	20	1RB	/	/	/	/	/	/
	1745	20	50%RB	21.51	22.8	1.346	0.051	0.07	/
Body Front (15mm)	1720	20	1RB	/	/	/	/	/	/
	1745	20	1RB	22.23	23.3	1.279	0.541	0.69	/
	1770	20	1RB	/	/	/	/	/	/
	1745	20	50%RB	21.51	22.8	1.346	0.389	0.52	/
Body Back (19mm)	1720	20	1RB	/	/	/	/	/	/
	1745	20	1RB	22.23	23.3	1.279	0.44	0.56	/
	1770	20	1RB	/	/	/	/	/	/
	1745	20	50%RB	21.51	22.8	1.346	0.372	0.50	/
Body Left (10mm)	1720	20	1RB	/	/	/	/	/	/
	1745	20	1RB	22.23	23.3	1.279	0.326	0.42	/
	1770	20	1RB	/	/	/	/	/	/
	1745	20	50%RB	21.51	22.8	1.346	0.277	0.37	/
Body Right (10mm)	1720	20	1RB	/	/	/	/	/	/
	1745	20	1RB	22.23	23.3	1.279	0.065	0.08	/
	1770	20	1RB	/	/	/	/	/	/
	1745	20	50%RB	21.51	22.8	1.346	0.053	0.07	/
Body Bottom (19mm)	1720	20	1RB	/	/	/	/	/	/
	1745	20	1RB	22.23	23.3	1.279	0.564	0.72	21#
	1770	20	1RB	/	/	/	/	/	/
	1745	20	50%RB	21.51	22.8	1.346	0.469	0.63	/

*The data above was performed on 2024/06/25.*

*Note: 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.*

**LTE Band 71:**

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	673	10	1RB	/	/	/	/	/	/
	680.5	10	1RB	23.49	24.5	1.262	0.525	0.66	/
	688	10	1RB	/	/	/	/	/	/
	680.5	10	50%RB	22.78	24	1.324	0.43	0.57	/
Head Left Tilt	673	10	1RB	/	/	/	/	/	/
	680.5	10	1RB	23.49	24.5	1.262	0.348	0.44	/
	688	10	1RB	/	/	/	/	/	/
	680.5	10	50%RB	22.78	24	1.324	0.285	0.38	/
Head Right Cheek	673	10	1RB	/	/	/	/	/	/
	680.5	10	1RB	23.49	24.5	1.262	0.632	0.80	22#
	688	10	1RB	/	/	/	/	/	/
	680.5	10	50%RB	22.78	24	1.324	0.511	0.68	/
Head Right Tilt	673	10	1RB	/	/	/	/	/	/
	680.5	10	1RB	23.49	24.5	1.262	0.479	0.60	/
	688	10	1RB	/	/	/	/	/	/
	680.5	10	50%RB	22.78	24	1.324	0.381	0.50	/
Body Front (10mm)	673	10	1RB	/	/	/	/	/	/
	680.5	10	1RB	23.49	24.5	1.262	0.182	0.23	/
	688	10	1RB	/	/	/	/	/	/
	680.5	10	50%RB	22.78	24	1.324	0.153	0.20	/
Body Back (10mm)	673	10	1RB	/	/	/	/	/	/
	680.5	10	1RB	23.49	24.5	1.262	0.229	<b>0.29</b>	23#
	688	10	1RB	/	/	/	/	/	/
	680.5	10	50%RB	22.78	24	1.324	0.191	0.25	/
Body Left (10mm)	673	10	1RB	/	/	/	/	/	/
	680.5	10	1RB	23.49	24.5	1.262	0.154	0.19	/
	688	10	1RB	/	/	/	/	/	/
	680.5	10	50%RB	22.78	24	1.324	0.133	0.18	/
Body Right (10mm)	673	10	1RB	/	/	/	/	/	/
	680.5	10	1RB	23.49	24.5	1.262	0.089	0.11	/
	688	10	1RB	/	/	/	/	/	/
	680.5	10	50%RB	22.78	24	1.324	0.077	0.10	/
Body Top (10mm)	673	10	1RB	/	/	/	/	/	/
	680.5	10	1RB	23.49	24.5	1.262	0.067	0.08	/
	688	10	1RB	/	/	/	/	/	/
	680.5	10	50%RB	22.78	24	1.324	0.06	0.08	/

*The data above was performed on 2024/06/21.*

**Note:**

1. When the 1-g SAR is  $\leq 0.8W/Kg$ , 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 v02.

3. KDB941225D05-SAR for higher order modulation is required only when the highest maximum output power for the configuration in the higher order modulation is  $> 0.5$  dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is  $> 1.45$  W/kg
4. KDB941225D05-For QPSK with 100% RB allocation, when the reported SAR measured for the Highest output power channel is  $< 1.45$  W/kg, tests for the remaining required test channels are optional.
5. KDB941225D05- For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are  $\leq 0.8$  W/kg.
6. KDB941225D05- 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. KDB941225D05- other channel bandwidths SAR test is required when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is  $> 0.5$  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  $> 1.45$  W/kg.
8. Worst case SAR for 50% RB allocation is selected to be tested.

**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
Body Front (13mm)	2412	802.11b	/	/	/	/	/	/	/
	2437	802.11b	18.19	19	1.205	1.006	0.142	0.17	/
	2462	802.11b	/	/	/	/	/	/	/
Body Back (17mm)	2412	802.11b	/	/	/	/	/	/	/
	2437	802.11b	18.19	19	1.205	1.006	0.125	0.15	/
	2462	802.11b	/	/	/	/	/	/	/
Body Right (10mm)	2412	802.11b	/	/	/	/	/	/	/
	2437	802.11b	18.19	19	1.205	1.006	0.303	0.37	24#
	2462	802.11b	/	/	/	/	/	/	/
Body Top (19mm)	2412	802.11b	/	/	/	/	/	/	/
	2437	802.11b	18.19	19	1.205	1.006	0.094	0.11	/
	2462	802.11b	/	/	/	/	/	/	/

*The data above was performed on 2024/06/26.*

**Note:**

1. When the 1-g SAR is  $\leq 0.8W/kg$ , 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.

**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	5180	802.11a	/	/	/	/	/	/	/
	5200	802.11a	16.65	16.9	1.059	1	0.254	0.27	/
	5240	802.11a	/	/	/	/	/	/	/
Head Left Tilt	5180	802.11a	/	/	/	/	/	/	/
	5200	802.11a	16.65	16.9	1.059	1	0.289	<b>0.31</b>	25#
	5240	802.11a	/	/	/	/	/	/	/
Head Right Cheek	5180	802.11a	/	/	/	/	/	/	/
	5200	802.11a	16.65	16.9	1.059	1	0.17	0.18	/
	5240	802.11a	/	/	/	/	/	/	/
Head Right Tilt	5180	802.11a	/	/	/	/	/	/	/
	5200	802.11a	16.65	16.9	1.059	1	0.206	0.22	/
	5240	802.11a	/	/	/	/	/	/	/
Body Front (10mm)	5180	802.11a	/	/	/	/	/	/	/
	5200	802.11a	16.65	16.9	1.059	1	0.049	0.05	/
	5240	802.11a	/	/	/	/	/	/	/
Body Back (10mm)	5180	802.11a	/	/	/	/	/	/	/
	5200	802.11a	16.65	16.9	1.059	1	0.054	0.06	/
	5240	802.11a	/	/	/	/	/	/	/
Body Right (10mm)	5180	802.11a	/	/	/	/	/	/	/
	5200	802.11a	16.65	16.9	1.059	1	0.038	0.04	/
	5240	802.11a	/	/	/	/	/	/	/
Body Top (10mm)	5180	802.11a	/	/	/	/	/	/	/
	5200	802.11a	16.65	16.9	1.059	1	0.064	0.07	26#
	5240	802.11a	/	/	/	/	/	/	/

*The data above was performed on 2024/06/28.*

**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	5260	802.11a	/	/	/	/	/	/	/
	5280	802.11a	15.81	16	1.045	1	0.195	0.20	/
	5320	802.11a	/	/	/	/	/	/	/
Head Left Tilt	5260	802.11a	/	/	/	/	/	/	/
	5280	802.11a	15.81	16	1.045	1	0.207	<b>0.22</b>	27#
	5320	802.11a	/	/	/	/	/	/	/
Head Right Cheek	5260	802.11a	/	/	/	/	/	/	/
	5280	802.11a	15.81	16	1.045	1	0.121	0.13	/
	5320	802.11a	/	/	/	/	/	/	/
Head Right Tilt	5260	802.11a	/	/	/	/	/	/	/
	5280	802.11a	15.81	16	1.045	1	0.119	0.12	/
	5320	802.11a	/	/	/	/	/	/	/
Body Front (10mm)	5260	802.11a	/	/	/	/	/	/	/
	5280	802.11a	15.81	16	1.045	1	0.028	0.03	/
	5320	802.11a	/	/	/	/	/	/	/
Body Back (10mm)	5260	802.11a	/	/	/	/	/	/	/
	5280	802.11a	15.81	16	1.045	1	0.041	0.04	28#
	5320	802.11a	/	/	/	/	/	/	/
Body Right (10mm)	5260	802.11a	/	/	/	/	/	/	/
	5280	802.11a	15.81	16	1.045	1	0.025	0.03	/
	5320	802.11a	/	/	/	/	/	/	/
Body Top (10mm)	5260	802.11a	/	/	/	/	/	/	/
	5280	802.11a	15.81	16	1.045	1	0.04	0.04	/
	5320	802.11a	/	/	/	/	/	/	/

*The data above was performed on 2024/06/28.*



**WLAN 5.6G:**

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	5500	802.11a	/	/	/	/	/	/	/
	5580	802.11a	13.71	13.9	1.045	1	0.209	0.22	/
	5700	802.11a	/	/	/	/	/	/	/
Head Left Tilt	5500	802.11a	/	/	/	/	/	/	/
	5580	802.11a	13.71	13.9	1.045	1	0.282	<b>0.29</b>	29#
	5700	802.11a	/	/	/	/	/	/	/
Head Right Cheek	5500	802.11a	/	/	/	/	/	/	/
	5580	802.11a	13.71	13.9	1.045	1	0.133	0.14	/
	5700	802.11a	/	/	/	/	/	/	/
Head Right Tilt	5500	802.11a	/	/	/	/	/	/	/
	5580	802.11a	13.71	13.9	1.045	1	0.156	0.16	/
	5700	802.11a	/	/	/	/	/	/	/
Body Front (10mm)	5500	802.11a	/	/	/	/	/	/	/
	5580	802.11a	13.71	13.9	1.045	1	0.034	0.04	/
	5700	802.11a	/	/	/	/	/	/	/
Body Back (10mm)	5500	802.11a	/	/	/	/	/	/	/
	5580	802.11a	13.71	13.9	1.045	1	0.066	0.07	30#
	5700	802.11a	/	/	/	/	/	/	/
Body Right (10mm)	5500	802.11a	/	/	/	/	/	/	/
	5580	802.11a	13.71	13.9	1.045	1	0.028	0.03	/
	5700	802.11a	/	/	/	/	/	/	/
Body Top (10mm)	5500	802.11a	/	/	/	/	/	/	/
	5580	802.11a	13.71	13.9	1.045	1	0.066	0.07	/
	5700	802.11a	/	/	/	/	/	/	/

*The data above was performed on 2024/06/28.*

**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	5745	802.11a	/	/	/	/	/	/	/
	5785	802.11a	15.63	16	1.089	1	0.243	<b>0.26</b>	31#
	5825	802.11a	/	/	/	/	/	/	/
Head Left Tilt	5745	802.11a	/	/	/	/	/	/	/
	5785	802.11a	15.63	16	1.089	1	0.238	0.26	/
	5825	802.11a	/	/	/	/	/	/	/
Head Right Cheek	5745	802.11a	/	/	/	/	/	/	/
	5785	802.11a	15.63	16	1.089	1	0.207	0.23	/
	5825	802.11a	/	/	/	/	/	/	/
Head Right Tilt	5745	802.11a	/	/	/	/	/	/	/
	5785	802.11a	15.63	16	1.089	1	0.212	0.03	/
	5825	802.11a	/	/	/	/	/	/	/
Body Front (10mm)	5745	802.11a	/	/	/	/	/	/	/
	5785	802.11a	15.63	16	1.089	1	0.031	0.03	/
	5825	802.11a	/	/	/	/	/	/	/
Body Back (10mm)	5745	802.11a	/	/	/	/	/	/	/
	5785	802.11a	15.63	16	1.089	1	0.084	0.09	32#
	5825	802.11a	/	/	/	/	/	/	/
Body Right (10mm)	5745	802.11a	/	/	/	/	/	/	/
	5785	802.11a	15.63	16	1.089	1	0.043	0.05	/
	5825	802.11a	/	/	/	/	/	/	/
Body Top (10mm)	5745	802.11a	/	/	/	/	/	/	/
	5785	802.11a	15.63	16	1.089	1	0.049	0.05	/
	5825	802.11a	/	/	/	/	/	/	/

*The data above was performed on 2024/06/28.*

**Note:**

1. When the 1-g SAR is  $\leq 0.8W/kg$ , 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, 802.11 a mode as initial test configuration is selected to test.
4. According 2016 Oct. TCB, for SAR testing of 5G WIFI 802.11a signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to “1/(duty cycle)”.

**Sensor on:****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
Body Worn Front (10mm)	1850.2	GSM	/	/	/	/	/	/
	1880	GSM	25.71	26.8	1.285	0.284	0.36	/
	1909.8	GSM	/	/	/	/	/	/
Body Worn Back (10mm)	1850.2	GSM	/	/	/	/	/	/
	1880	GSM	25.71	26.8	1.285	0.599	0.77	33#
	1909.8	GSM	/	/	/	/	/	/
Body Front (10mm)	1850.2	GPRS	/	/	/	/	/	/
	1880	GPRS	25.13	26	1.222	0.151	0.18	/
	1909.8	GPRS	/	/	/	/	/	/
Body Back (10mm)	1850.2	GPRS	/	/	/	/	/	/
	1880	GPRS	25.13	26	1.222	0.336	0.41	/
	1909.8	GPRS	/	/	/	/	/	/
Body Bottom (10mm)	1850.2	GPRS	/	/	/	/	/	/
	1880	GPRS	25.13	26	1.222	0.26	0.32	/
	1909.8	GPRS	/	/	/	/	/	/

*The data above was performed on 2024/06/27.***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.

**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
Body Front (10mm)	1852.4	RMC	/	/	/	/	/	/
	1880	RMC	18.29	19	1.178	0.405	0.48	/
	1907.6	RMC	/	/	/	/	/	/
Body Back (10mm)	1852.4	RMC	18.37	19	1.156	0.605	0.70	/
	1880	RMC	18.29	19	1.178	0.763	0.90	/
	1907.6	RMC	18.22	19	1.197	0.806	0.96	/
Body Bottom (10mm)	1852.4	RMC	18.37	19	1.156	0.645	0.75	/
	1880	RMC	18.29	19	1.178	0.917	1.08	34#
	1907.6	RMC	18.22	19	1.197	0.798	0.96	/

*The data above was performed on 2024/06/24.*

**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
Body Front (10mm)	1712.4	RMC	/	/	/	/	/	/
	1732.6	RMC	18.34	19	1.164	0.377	0.44	/
	1752.6	RMC	/	/	/	/	/	/
Body Back (10mm)	1712.4	RMC	17.76	19	1.33	0.888	1.18	35#
	1732.6	RMC	18.14	19	1.219	0.719	0.84	/
	1752.6	RMC	18.08	19	1.236	0.803	0.99	/
Body Bottom (10mm)	1712.4	RMC	17.76	19	1.33	0.843	1.12	/
	1732.6	RMC	18.14	19	1.219	0.786	0.91	/
	1752.6	RMC	18.08	19	1.236	0.777	0.96	/

*The data above was performed on 2024/06/25.*

**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 Test Loop Model.
4. KDB 941225 D01-Body SAR is not required for HSDPA/HSUPA/DC-HSDPA/HSPA+ 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.
- 6.

**LTE Band 25&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
Body Front (10mm)	1860	20	1RB	/	/	/	/	/	/
	1882.5	20	1RB	19.78	20.6	1.208	0.299	0.36	/
	1905	20	1RB	/	/	/	/	/	/
	1882.5	20	50%RB	18.86	20.6	1.493	0.26	0.39	/
Body Back (10mm)	1860	20	1RB	/	/	/	/	/	/
	1882.5	20	1RB	19.78	20.6	1.208	0.587	0.71	/
	1905	20	1RB	/	/	/	/	/	/
	1882.5	20	50%RB	18.86	20.6	1.493	0.498	0.74	/
Body Bottom (10mm)	1860	20	1RB	/	/	/	/	/	/
	1882.5	20	1RB	19.78	20.6	1.208	0.63	0.76	36#
	1905	20	1RB	/	/	/	/	/	/
	1882.5	20	50%RB	18.86	20.6	1.493	0.512	0.76	/

*The data above was performed on 2024/06/27.*

Note: *The E-UTRA Operating Band 2 is a subset of band 25, 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 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	831.5	15	1RB	22.29	23.3	1.262	0.73	0.92	
	836.5	15	1RB	22.26	23.3	1.271	0.732	0.93	
	841.5	15	1RB	22.33	23.3	1.25	0.724	0.91	
	836.5	15	50%RB	21.86	22.8	1.242	0.61	0.76	
	836.5	15	100%RB	21.64	22.2	1.138	0.613	0.70	/
Head Left Tilt	831.5	15	1RB	/	/	/	/	/	/
	836.5	15	1RB	22.26	23.3	1.271	0.523	0.66	/
	841.5	15	1RB	/	/	/	/	/	/
	836.5	15	50%RB	21.86	22.8	1.242	0.426	0.53	/
Head Right Cheek	831.5	15	1RB	22.29	23.3	1.262	0.743	0.94	37#
	836.5	15	1RB	22.26	23.3	1.271	0.692	0.88	/
	841.5	15	1RB	22.33	23.3	1.25	0.742	0.93	/
	836.5	15	50%RB	21.86	22.8	1.242	0.618	0.77	/
	836.5	15	100%RB	21.64	22.2	1.138	0.521	0.59	/
Head Right Tilt	831.5	15	1RB	/	/	/	/	/	/
	836.5	15	1RB	22.26	23.3	1.271	0.581	0.74	/
	841.5	15	1RB	/	/	/	/	/	/
	836.5	15	50%RB	21.86	22.8	1.242	0.532	0.66	/
Body Front (10mm)	831.5	15	1RB	/	/	/	/	/	/
	836.5	15	1RB	22.26	23.3	1.271	0.257	0.33	/
	841.5	15	1RB	/	/	/	/	/	/
	836.5	15	50%RB	21.86	22.8	1.242	0.211	0.26	/
Body Back (10mm)	831.5	15	1RB	/	/	/	/	/	/
	836.5	15	1RB	22.26	23.3	1.271	0.253	0.32	/
	841.5	15	1RB	/	/	/	/	/	/
	836.5	15	50%RB	21.86	22.8	1.242	0.206	0.26	/
Body Top (10mm)	831.5	15	1RB	/	/	/	/	/	/
	836.5	15	1RB	22.26	23.3	1.271	0.27	0.34	38#
	841.5	15	1RB	/	/	/	/	/	/
	836.5	15	50%RB	21.86	22.8	1.242	0.221	0.27	/

The data above was performed on 2024/06/23.

Note: 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 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
Body Front (10mm)	1720	20	1RB	/	/	/	/	/	/
	1745	20	1RB	19.25	20.3	1.274	0.253	0.32	/
	1770	20	1RB	/	/	/	/	/	/
	1745	20	50%RB	18.43	19.8	1.371	0.233	0.32	/
Body Back (10mm)	1720	20	1RB	/	/	/	/	/	/
	1745	20	1RB	19.25	20.3	1.274	0.513	0.65	/
	1770	20	1RB	/	/	/	/	/	/
	1745	20	50%RB	18.43	19.8	1.371	0.478	0.66	/
Body Bottom (10mm)	1720	20	1RB	/	/	/	/	/	/
	1745	20	1RB	19.25	20.3	1.274	0.596	0.76	39#
	1770	20	1RB	/	/	/	/	/	/
	1745	20	50%RB	18.43	19.8	1.371	0.545	0.75	/

*The data above was performed on 2024/06/25.*

**Note:**

1. When the 1-g SAR is  $\leq 0.8W/Kg$ , 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 v02.
3. KDB941225D05-SAR for higher order modulation is required only when the highest maximum output power for the configuration in the higher order modulation is  $> 0.5$  dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is  $> 1.45$  W/kg
4. KDB941225D05-For QPSK with 100% RB allocation, when the reported SAR measured for the Highest output power channel is  $< 1.45$  W/kg, tests for the remaining required test channels are optional.
5. KDB941225D05- For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are  $\leq 0.8$  W/kg.
6. KDB941225D05- 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. KDB941225D05- other channel bandwidths SAR test is required when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is  $> 0.5$  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  $> 1.45$  W/kg.
8. Worst case SAR for 50% RB allocation is selected to be tested.

**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	15.12	16	1.225	1.006	0.516	0.64	40#
	2462	802.11b	/	/	/	/	/	/	/
Head Left Tilt	2412	802.11b	/	/	/	/	/	/	/
	2437	802.11b	15.12	16	1.225	1.006	0.444	0.55	/
	2462	802.11b	/	/	/	/	/	/	/
Head Right Cheek	2412	802.11b	/	/	/	/	/	/	/
	2437	802.11b	15.12	16	1.225	1.006	0.262	0.32	/
	2462	802.11b	/	/	/	/	/	/	/
Head Right Tilt	2412	802.11b	/	/	/	/	/	/	/
	2437	802.11b	15.12	16	1.225	1.006	0.304	0.37	/
	2462	802.11b	/	/	/	/	/	/	/
Body Front (10mm)	2412	802.11b	/	/	/	/	/	/	/
	2437	802.11b	15.12	16	1.225	1.006	0.136	0.17	/
	2462	802.11b	/	/	/	/	/	/	/
Body Back (10mm)	2412	802.11b	/	/	/	/	/	/	/
	2437	802.11b	15.12	16	1.225	1.006	0.202	<b>0.25</b>	41#
	2462	802.11b	/	/	/	/	/	/	/
Body Top (10mm)	2412	802.11b	/	/	/	/	/	/	/
	2437	802.11b	15.12	16	1.225	1.006	0.115	0.14	/
	2462	802.11b	/	/	/	/	/	/	/

*The data above was performed on 2024/06/26.*

**Note:**

1. When the 1-g SAR is  $\leq 0.8W/kg$ , 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.



## 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 (~ 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	Meas. SAR (W/kg)		Largest to Smallest SAR Ratio
				Original	Repeated	
835MHz (810-860MHz)	WCDMA Band 5	826.4	Head Right Cheek	0.965	0.954	1.01

#### Body

SAR probe calibration point	Frequency Band	Freq.(MHz)	EUT Position	Meas. SAR (W/kg)		Largest to Smallest SAR Ratio
				Original	Repeated	
1900MHz (1810-2000MHz)	WCDMA Band 2	1880	Body Bottom	0.917	0.906	1.01

#### Note:

1. Second Repeated Measurement is not required since the ratio of the largest to smallest SAR for the original and first repeated measurement is not  $> 1.20$ .
2. The measured SAR results **do not** have to be scaled to the maximum tune-up tolerance to determine if repeated measurements are required.
3. 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. SAR SIMULTANEOUS TRANSMISSION DESCRIPTION

### 11.1 Simultaneous Transmission:

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

**Note:**WLAN 5.3G/5.6G do not support hotspots

### 11.2 Simultaneous SAR test exclusion considerations:

Mode(SAR1+SAR2)	Position	Reported SAR(W/kg)		ΣSAR < 1.6W/kg
		SAR1	SAR2	
MAX.WWAN(GSM/WCDMA/LTE)+Bluetooth	Head Left Cheek	0.93	0.11	1.04
	Head Left Tilt	0.77	0.11	0.88
	Head Right Cheek	1.19	0.11	1.30
	Head Right Tilt	0.85	0.11	0.96
	Body Worn Front	0.36	0.06	0.42
	Body Worn Back	0.77	0.06	0.83
	Body Front	0.69	0.06	0.75
	Body Back	1.18	0.06	1.24
MAX.WWAN(GSM/WCDMA/LTE)+ WLAN 2.4G	Head Left Cheek	0.93	0.64	<b>1.57</b>
	Head Left Tilt	0.77	0.55	1.32
	Head Right Cheek	1.19	0.32	1.51
	Head Right Tilt	0.85	0.37	1.22
MAX.WWAN(GSM/WCDMA/LTE)+ WLAN 2.4G (Hotspot)	Body Front	0.69	0.17	0.86
	Body Back	1.18	0.25	<b>1.43</b>
	Body Left	0.54	NA	0.54
	Body Right	0.26	0.37	0.63
	Body Bottom	1.12	NA	1.12
	Body Top	0.45	0.14	0.59

Mode(SAR1+SAR2)	Position	Reported SAR(W/kg)		ΣSAR < 1.6W/kg
		SAR1	SAR2	
MAX.WWAN(GSM/WCDMA/LTE)+ WLAN 5.2G	Head Left Cheek	0.93	0.27	1.2
	Head Left Tilt	0.77	0.31	1.08
	Head Right Cheek	1.19	0.18	1.37
	Head Right Tilt	0.85	0.22	1.07
MAX.WWAN(GSM/WCDMA/LTE)+ WLAN 5.2G (Hotspot)	Body Front	0.69	0.05	0.74
	Body Back	1.18	0.06	1.24
	Body Left	0.54	NA	0.54
	Body Right	0.26	0.04	0.30
	Body Bottom	1.12	NA	1.12
	Body Top	0.45	0.07	0.52
MAX.WWAN(GSM/WCDMA/LTE)+ WLAN 5.3G	Head Left Cheek	0.93	0.20	1.13
	Head Left Tilt	0.77	0.22	0.99
	Head Right Cheek	1.19	0.13	1.32
	Head Right Tilt	0.85	0.12	0.97
	Body Front	0.69	0.03	0.72
	Body Back	1.18	0.04	1.22
	Body Left	0.54	NA	0.54
	Body Right	0.26	0.03	0.29
	Body Bottom	1.12	NA	1.12
	Body Top	0.45	0.04	0.49
MAX.WWAN(GSM/WCDMA/LTE)+ WLAN 5.6G	Head Left Cheek	0.93	0.22	1.15
	Head Left Tilt	0.77	0.29	1.06
	Head Right Cheek	1.19	0.14	1.33
	Head Right Tilt	0.85	0.16	1.01
	Body Front	0.69	0.04	0.73
	Body Back	1.18	0.07	1.25
	Body Left	0.54	NA	0.54
	Body Right	0.26	0.03	0.29
	Body Bottom	1.12	NA	1.12
	Body Top	0.45	0.07	0.52
MAX.WWAN(GSM/WCDMA/LTE)+ WLAN 5.8G	Head Left Cheek	0.93	0.26	1.19
	Head Left Tilt	0.77	0.26	1.03
	Head Right Cheek	1.19	0.23	1.42
	Head Right Tilt	0.85	0.03	0.88
MAX.WWAN(GSM/WCDMA/LTE)+ WLAN 5.8G (Hotspot)	Body Front	0.69	0.03	0.72
	Body Back	1.18	0.09	1.27
	Body Left	0.54	NA	0.54
	Body Right	0.26	0.05	0.31
	Body Bottom	1.12	NA	1.12
	Body Top	0.45	0.05	0.50

Mode(SAR1+SAR2+SAR3)	Position	Reported SAR(W/kg)			$\Sigma$ SAR < 1.6W/kg
		SAR1	SAR2	SAR3	
MAX.WWAN(GSM/WCDMA/LTE)+Bluetooth + MAX.WIFI 5G	Head Left Cheek	0.93	0.11	0.27	1.31
	Head Left Tilt	0.77	0.11	0.31	1.19
	Head Right Cheek	1.19	0.11	0.23	<b>1.53</b>
	Head Right Tilt	0.85	0.11	0.22	1.18
	Body Worn Front	0.36	0.06	0.05	0.47
	Body Worn Back	0.77	0.06	0.09	0.92
	Body Front	0.69	0.06	0.05	0.8
	Body Back	1.18	0.06	0.09	<b>1.33</b>

*Note:*

*For the EIRP of NFC is 0.0006mW, per KDB447498 D01 clause 4.3, the estimated SAR is so lower, so the NFC almost have no influence on the results of simultaneous transmission.*

**Conclusion:**

Sum of SAR: $\Sigma$ SAR  $\leq$  1.6 W/kg therefore simultaneous transmission SAR with Volume Scans is **not required**.

**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/uncertainty ± %	Probability distribution	Divisor	ci (1 g)	ci (10 g)	Standard uncertainty ± %, (1 g)	Standard uncertainty ± %, (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	4.7	N	1	1	1	4.7	4.7
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

## Measurement uncertainty evaluation for IEC62209-2 SAR test

Source of uncertainty	Tolerance/ Uncertainty value ± %	Probability Distribution	Divisor	ci (1 g)	ci (10 g)	Standard uncertainty ± %, (1 g)	Standard uncertainty ± %, (10 g)
<b>Measurement system</b>							
Probe calibration	6.55	N	1	1	1	6.6	6.6
Isotropy	4.7	R	$\sqrt{3}$	1	1	2.7	2.7
Linearity	4.7	R	$\sqrt{3}$	1	1	2.7	2.7
Probe modulation response	0.0	R	$\sqrt{3}$	1	1	0.0	0.0
Detection limits	1.0	R	$\sqrt{3}$	1	1	0.6	0.6
Boundary effect	1.0	R	$\sqrt{3}$	1	1	0.6	0.6
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. restrictions	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
Post-processing	2.0	R	$\sqrt{3}$	1	1	1.2	1.2
<b>Test sample related</b>							
Device holder uncertainty	4.7	N	1	1	1	4.7	4.7
Test sample positioning	3.3	N	1	1	1	3.3	3.3
Power scaling	4.5	R	$\sqrt{3}$	1	1	2.6	2.6
Drift of output power (measured SAR drift)	5.0	R	$\sqrt{3}$	1	1	2.9	2.9
<b>Phantom and set-up</b>							
Phantom uncertainty (shape and thickness tolerances)	4.0	R	$\sqrt{3}$	1	1	2.3	2.3
Algorithm for correcting SAR 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				11.8	11.7
Expanded uncertainty (95 % confidence interval)						23.6	23.4

## **APPENDIX B - SAR PLOTS**

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Please refer to the attachment.

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

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Please refer to the attachment.



## **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.

**==== END OF REPORT ====**