TEST REPORT

Applicant Name:	NOVISOLUTIONS CIA LTDA
Address:	Ponceano N73 y Mariano Paredes QUITO ECUADOR Ecuador
Report Number:	2504U66845E-SA
FCC ID:	2BO97TABPROMAX

Test Standard (s)

FCC 47 CFR part 2.1093

Sample Description

Product Type:	Tablet PC
Model No.:	ENV TAB PRO MAX
Multiple Model(s) No.:	N/A
Trade Mark:	ENV
Serial Number:	35IB-1
Date Received:	2025-06-17
Date of Test:	2025-06-18~2025-07-31
Issue Date:	2025-08-08

Test Result:	The EUT complied with the standards above.

Prepared and Checked By:

Jack Yang

SAR Engineer

Approved By:

Lance Li

SAR Engineer

Mode		Max. Reported SAR Level(s) (W/kg)	Limit (W/kg)
GSM 850	1g Body SAR	0.45	1.6
GSM 1900	1g Body SAR	0.65	
WCDMA Band 2	1g Body SAR	**0.92**	
WCDMA Band 5	1g Body SAR	0.23	
LTE Band 2	1g Body SAR	0.73	
LTE Band 4	1g Body SAR	0.27	
LTE Band 7	1g Body SAR	0.22	
WIFI 2.4G	1g Body SAR	0.40	
WIFI 5.2G	1g Body SAR	0.26	
Simultaneous	1g Body SAR	**1.32**	
	1g Hotspot SAR	1.32(Hotspot)	

Applicable Standards	**FCC 47 CFR part 2.1093** Radiation exposure evaluation: portable devices
	RF Exposure Procedures: **TCB Workshop April 2019** **TCB workshop October 2016**
	IEEE1528:2013 IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
	KDB procedures KDB 447498 D01 General RF Exposure Guidance v06 KDB 616217 D04 SAR for laptop and tablets v01r02 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
Note: 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 **FCC 47 CFR part 2.1093** and has been tested in accordance with the measurement procedures specified in IEEE 1528-2013 and RF exposure KDB procedures. **The results and statements contained in this report pertain only to the device(s) evaluated. Unless otherwise stated there are no any additions to, deviations, or exclusions from the method.**	

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	2504U66845E-SA	Original Report	2025-08-08

EUT DESCRIPTION

This report has been prepared on behalf of **NOVISOLUTIONS CIA LTDA** and their product **Tablet PC**, Model: **ENV TAB PRO MAX,** FCC ID: **2BO97TABPROMAX** or the EUT (Equipment under Test) as referred to in the rest of this report.

Technical Specification

Device Type:	Portable
Exposure Category:	Population / Uncontrolled
Antenna Type(s):	Internal Antenna
Body-Worn Accessories:	None
Proximity Sensor:	None
Carrier Aggregation:	None
Operation Modes:	GSM Voice/GPRS/EDGE Data, WCDMA(R99 (Data), HSUPA/HSDPA/DC-HSDPA/HSPA+), FDD-LTE, WLAN, Bluetooth and BLE
Operation Frequency:	GSM 850:824-849MHz(TX);869-894MHz(RX) GSM 1900:1850-1910MHz(TX);1930-1990MHz(RX) WCDMA Band 2:1850-1910MHz(TX);1930-1990MHz(RX) WCDMA Band 5:824-849MHz(TX);869-894MHz(RX) LTE Band 2:1850-1910MHz(TX);1930-1990MHz(RX) LTE Band 4:1710-1755MHz(TX);2110-2155MHz(RX) LTE Band 7:2500-2570MHz(TX);2620-2690MHz(RX) WIFI 2.4G:2412-2472MHz(TX/RX) WIFI 5.2G:5150-5250MHz(TX/RX) Bluetooth:2402-2480MHz(TX/RX) BLE:2402-2480MHz(TX/RX)
Dimensions (L*W*H):	252mm (L) *159mm (W) *7mm (H)
Rated Input Voltage:	DC3.89V from Rechargeable Battery
Serial Number:	35IB-1
Normal Operation:	Body

REFERENCE, STANDARDS, AND GUILDELINES

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.

SAR Limits

FCC Limit(1g Tissue)

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)	**1.6**	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 maybe incurred by people who are aware of the potential for exposure (i.e. as a result of employment or occupation).

General Population/Uncontrolled environments Spatial Peak limit 1.6W/kg for 1g SAR applied to the EUT.

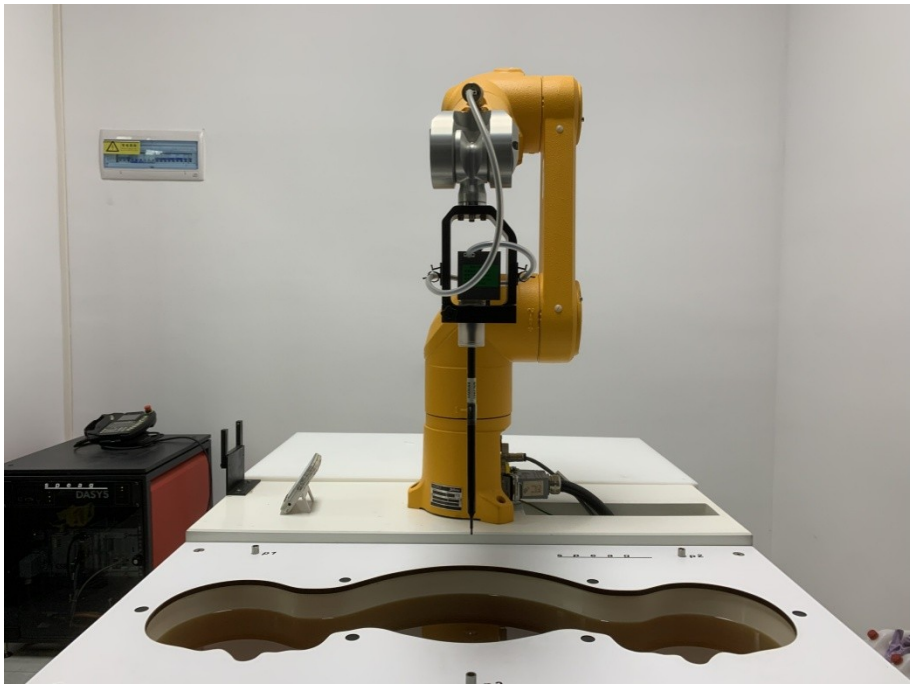
FACILITIES

The test site used by Shenzhen Accurate Technology Co., Ltd. to collect test data is located on the Floor 1, KuMaKe Building, Dongzhou Community, Guangming Street, Guangming District, Shenzhen, Guangdong, China.

Accredited by American Association for Laboratory Accreditation (A2LA).The Certificate Number is 4297.01.

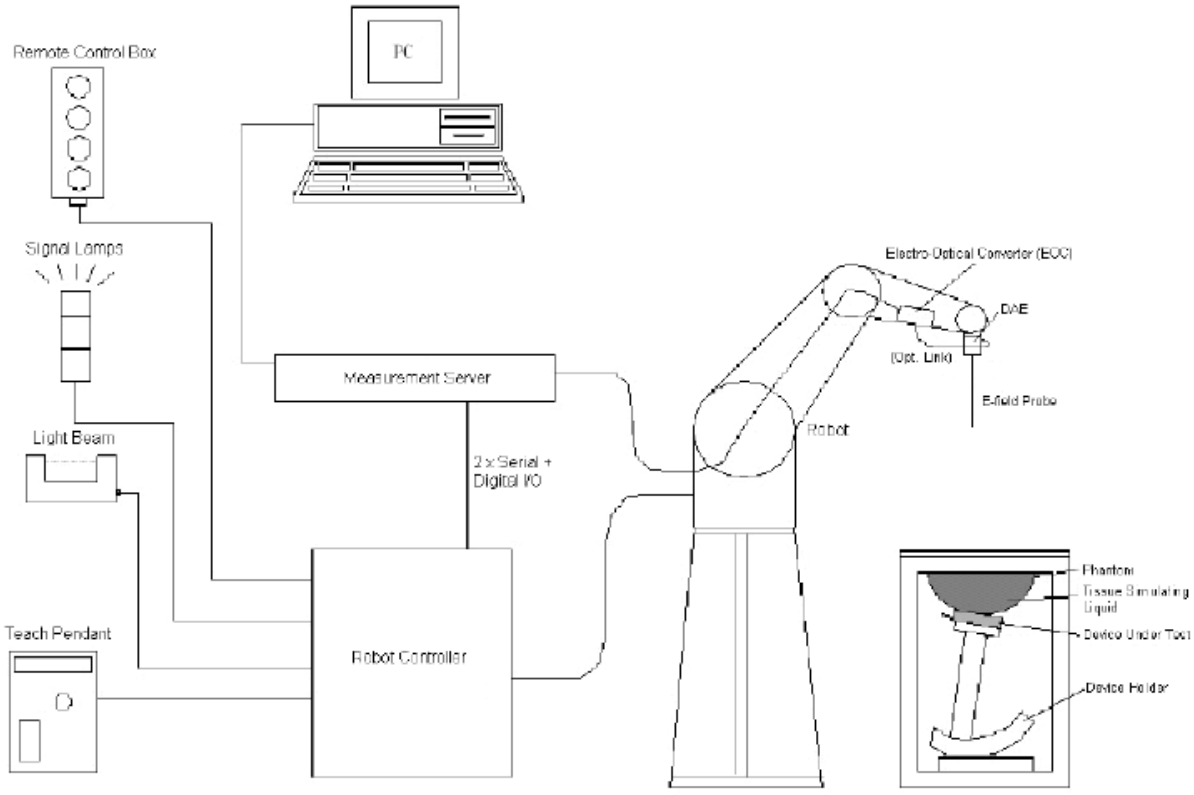
DESCRIPTION OF TEST SYSTEM

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 (Staubli TX=RX family) 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 400 MHz Intel ULV Celeron, 128 MB chip-disk and 128 MB 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 evaluations of field measurements and surface detection, controls robot movements, and handles safety operations. 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 pinout, and therefore only devices provided by SPEAG can be connected. Connection of 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 200MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

EX3DV4 E-Field Probes

Frequency	10 MHz to > 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in TSL (rotation around probe axis) ± 0.5 dB in TSL (rotation normal to probe axis)
Dynamic Range	10 μW/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 μW/g)
Dimensions	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
Application	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%.
Compatibility	DASY3, DASY4, DASY52 SAR and higher, EASY4/MRI

SAM Twin Phantom

The SAM Twin Phantom (shown in front of DASY5) is a fiberglass shell phantom with shell thickness 2 mm, except in the ear region where the thickness is increased to 6 mm.

When the phantom is mounted inside allocated slot of the DASY5 platform, phantom reference points can be taught directly in the DASY5 V5.2 software. When the DASY5 platform is used to mount the

Phantom, some of the phantom teaching points cannot be reached by the robot in DASY5 V5.2. A special tool called P1a-P2aX-Former is provided to transform two of the three points, P1 and P2, to reachable locations. To use these new teaching points, a revised phantom configuration file is required.
In addition to our standard broadband liquids, the phantom can be used with the following tissue simulating liquids:

Sugar-water-based liquids can be left permanently in the phantom. Always cover the liquid when the system is not in use to prevent changes in liquid parameters due to water evaporation.
DGBE-based liquids should be used with care. As DGBE is a softener for most plastics, the liquid should be taken out of the phantom, and the phantom should be dried when the system is not in use (desirable at least once a week).

Do not use other organic solvents without previously testing the solvent resistivity of the phantom. Approximately 25 liters of liquid is required to fill the SAM Twin phantom.

Calibration Frequency Points for EX3DV4 E-Field Probes SN: 3701 Calibrated: 2024/10/17

Calibration Frequency Point (MHz)	Frequency Range (MHz)		Conversion Factor		
	From	To	X	Y	Z
750 Head	650	850	9.47	9.47	9.47
900 Head	850	1000	9.06	9.06	9.06
1750 Head	1650	1850	8	8	8
1900 Head	1850	2000	7.65	7.65	7.65
2300 Head	2200	2400	7.45	7.45	7.45
2450 Head	2400	2550	7.2	7.2	7.2
2600 Head	2550	2700	7.06	7.06	7.06
5250 Head	5140	5360	5.36	5.36	5.36
5600 Head	5490	5700	4.75	4.75	4.75
5750 Head	5700	5860	4.87	4.87	4.87

SAR Scan Procedures

Step 1: Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. The minimum distance of probe sensors to surface is 1.4 mm. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

Step 2: Area 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 15mm2 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.

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

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 mm ± 1 mm	$½ \cdot \delta \cdot \ln(2)$ mm ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}	≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

Step 3: 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^3 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 5mm,with the side length of the 10g cube is 21.5mm.

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

<table>
<tr><td colspan="3">Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}</td><td>≤ 2 GHz: ≤ 8 mm
2 – 3 GHz: ≤ 5 mm*</td><td>3 – 4 GHz: ≤ 5 mm*
4 – 6 GHz: ≤ 4 mm*</td></tr>
<tr><td rowspan="3">Maximum zoom scan spatial resolution, normal to phantom surface</td><td colspan="2">uniform grid: $\Delta z_{Zoom}(n)$</td><td>≤ 5 mm</td><td>3 – 4 GHz: ≤ 4 mm
4 – 5 GHz: ≤ 3 mm
5 – 6 GHz: ≤ 2 mm</td></tr>
<tr><td rowspan="2">graded grid</td><td>$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface</td><td>≤ 4 mm</td><td>3 – 4 GHz: ≤ 3 mm
4 – 5 GHz: ≤ 2.5 mm
5 – 6 GHz: ≤ 2 mm</td></tr>
<tr><td>$\Delta z_{Zoom}(n>1)$: between subsequent points</td><td colspan="2">≤ 1.5·$\Delta z_{Zoom}(n-1)$ mm</td></tr>
<tr><td>Minimum zoom scan volume</td><td colspan="2">x, y, z</td><td>≥ 30 mm</td><td>3 – 4 GHz: ≥ 28 mm
4 – 5 GHz: ≥ 25 mm
5 – 6 GHz: ≥ 22 mm</td></tr>
<tr><td colspan="5">Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see IEEE Std 1528-2013 for details.
* When zoom scan is required and the <u>reported</u> SAR from the area scan based 1-g SAR estimation procedures of KDB Publication 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.</td></tr>
</table>

Step 4: Power Drift Measurement

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

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 x7 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 IEEE1528:2013

Recommended Tissue Dielectric Parameters for Head liquid

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

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

EQUIPMENT LIST AND CALIBRATION

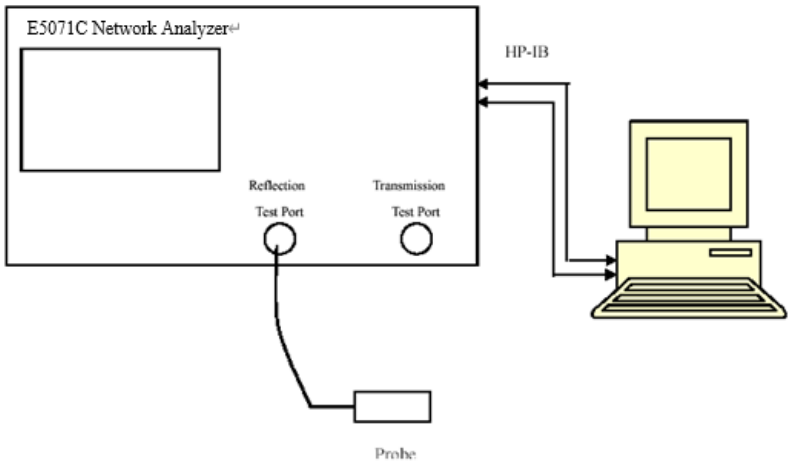
Equipment's List & Calibration Information

Equipment	Model	S/N	Calibration Date	Calibration Due Date
DASY5 Test Software	DASY52 52.10.4	N/A	NCR	NCR
DASY5 Measurement Server	DASY5 6.0.31	N/A	NCR	NCR
Data Acquisition Electronics	DAE4	1562	2024/12/31	2025/12/30
E-Field Probe	EX3DV4	3701	2024/10/17	2025/10/16
Mounting Device	MD4HHTV5	SD 000 H01 KA	NCR	NCR
SAM Twin Phantom	SAM-Twin V5.0	1744	NCR	NCR
Dipole,750MHz	D750V3	1194	2023/2/17	2026/2/16
Dipole, 1800MHz	D1800V2	2d018	2023/9/26	2026/9/25
Dipole, 1900MHz	D1900V2	5d128	2024/12/02	2027/12/01
Dipole,2450MHz	D2450V2	751	2023/09/26	2026/09/25
Dipole,2600MHz	D2600V2	1073	2023/02/17	2026/02/16
Dipole,5GHz	D5GHzV2	1301	2023/02/16	2026/02/15
Simulated Tissue Liquid Head(500-9500MHz)	HBBL600-10000V6	220406-1	Each Time	/
Network Analyzer	E5071B	MY42403851	2024/10/08	2025/10/07
Wideband Radio Communication Tester	CMW500	110566	2024/10/08	2025/10/07
Dielectric Assessment Kit	DAK-3.5	1320	NCR	NCR
Signal Generator	N5183A	MY47420360	2024/09/02	2025/09/01
Power Sensor	E9301A	MY55270006	2024/10/08	2025/10/07
Power Amplifier(80 – 1000MHz)	CBA 1G-070	T44328	2024/10/08	2025/10/07
Linear Power Amplifier (1 – 6GHz)	AS0860-40/45	1060913	2024/10/08	2025/10/07
Directional Coupler	4226-20	3315	2024/10/08	2025/10/07
6dB Attenuator	WA59-6-33	A329	NCR	NCR
Spectrum Analyzer	FSV40	101949	2024/10/08	2025/10/07
Thermometer	DTM3000	N/A	2024/10/10	2025/10/09
Temperature & Humidity Meter	10316377	N/A	2024/10/10	2025/10/09

NCR: No Calibration Required.

SAR MEASUREMENT SYSTEM VERIFICATION

Liquid Verification



Liquid Verification Setup Block Diagram

Liquid Verification Results

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	σ (S/m)	ε_r	σ (S/m)	$\Delta\varepsilon_r$	$\Delta\sigma$ (S/m)	
750	Simulated Tissue Liquid Head	41.935	0.870	41.90	0.89	0.08	-2.25	±5
824.2	Simulated Tissue Liquid Head	43.250	0.905	41.55	0.90	4.09	0.56	±5
826.4	Simulated Tissue Liquid Head	43.242	0.906	41.54	0.90	4.10	0.67	±5
836.6	Simulated Tissue Liquid Head	43.203	0.912	41.50	0.90	4.10	1.33	±5
846.6	Simulated Tissue Liquid Head	43.166	0.918	41.50	0.91	4.01	0.88	±5
848.8	Simulated Tissue Liquid Head	43.157	0.919	41.50	0.91	3.99	0.99	±5

**Liquid Verification above was performed on 2025/06/18*

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	σ (S/m)	ε_r	σ (S/m)	$\Delta\varepsilon_r$	$\Delta\sigma$ (S/m)	
1720	Simulated Tissue Liquid Head	41.038	1.323	40.13	1.35	2.26	-2.00	±5
1732.5	Simulated Tissue Liquid Head	41.109	1.318	40.12	1.36	2.47	-3.09	±5
1745	Simulated Tissue Liquid Head	41.179	1.312	40.10	1.37	2.69	-4.23	±5
1800	Simulated Tissue Liquid Head	41.539	1.436	40.00	1.40	3.85	2.57	±5

**Liquid Verification above was performed on 2025/06/19*

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	σ (S/m)	ε_r	σ (S/m)	$\Delta\varepsilon_r$	$\Delta\sigma$ (S/m)	
1850.2	Simulated Tissue Liquid Head	40.137	1.452	40.00	1.40	0.34	3.71	±5
1852.4	Simulated Tissue Liquid Head	40.205	1.452	40.00	1.40	0.51	3.71	±5
1860	Simulated Tissue Liquid Head	40.442	1.449	40.00	1.40	1.11	3.50	±5
1880	Simulated Tissue Liquid Head	41.064	1.444	40.00	1.40	2.66	3.14	±5
1900	Simulated Tissue Liquid Head	41.686	1.438	40.00	1.40	4.22	2.71	±5
1907.6	Simulated Tissue Liquid Head	41.597	1.429	40.00	1.40	3.99	2.07	±5
1909.8	Simulated Tissue Liquid Head	41.571	1.426	40.00	1.40	3.93	1.86	±5

**Liquid Verification above was performed on 2025/06/20*

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	σ (S/m)	ε_r	σ (S/m)	$\Delta\varepsilon_r$	$\Delta\sigma$ (S/m)	
2412	Simulated Tissue Liquid Head	40.833	1.791	39.28	1.77	3.95	1.19	±5
2442	Simulated Tissue Liquid Head	40.600	1.837	39.22	1.79	3.52	2.63	±5
2450	Simulated Tissue Liquid Head	40.538	1.850	39.20	1.80	3.41	2.78	±5
2472	Simulated Tissue Liquid Head	40.252	1.841	39.17	1.82	2.76	1.15	±5
2510	Simulated Tissue Liquid Head	39.956	1.831	39.12	1.86	2.14	-1.56	±5
2535	Simulated Tissue Liquid Head	40.128	1.833	39.09	1.89	2.66	-3.02	±5
2560	Simulated Tissue Liquid Head	40.010	1.852	39.05	1.92	2.46	-3.54	±5
2600	Simulated Tissue Liquid Head	39.126	1.923	39.00	1.96	0.32	-1.89	±5

**Liquid Verification above was performed on 2025/07/30*

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	σ (S/m)	ε_r	σ (S/m)	$\Delta\varepsilon_r$	$\Delta\sigma$ (S/m)	
5180	Simulated Tissue Liquid Head	36.907	4.634	36.02	4.64	2.46	-0.13	±5
5200	Simulated Tissue Liquid Head	37.351	4.762	36.00	4.66	3.75	2.19	±5
5240	Simulated Tissue Liquid Head	36.980	4.596	35.96	4.70	2.84	-2.21	±5
5250	Simulated Tissue Liquid Head	36.887	4.555	35.95	4.71	2.61	-3.29	±5

**Liquid Verification above was performed on 2025/07/31*

System Accuracy Verification

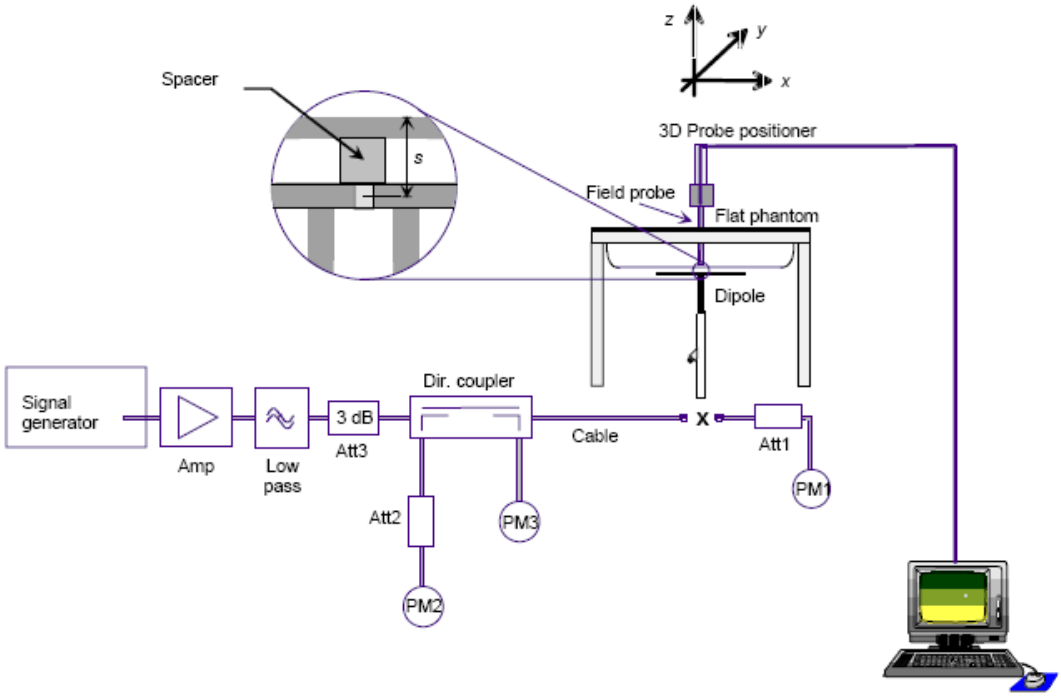
Prior to the assessment, the system validation kit was used to test whether the system was operating within its specifications of ±10%. The validation results are tabulated below. And also the corresponding SAR plot is attached as well in the SAR plots files.

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

a) s = 15 mm ± 0,2 mm for 300 MHz ≤ f ≤ 1 000 MHz;

b) s = 10 mm ± 0,2 mm for 1 000 MHz < f ≤ 6 000 MHz;

System Verification Setup Block Diagram



System Accuracy Check Results

Date	Frequency Band (MHz)	Liquid Type	Input Power (mW)	Measured SAR (W/kg)		Normalized to 1W (W/kg)	Target Value (W/Kg)	Delta (%)	Tolerance (%)
2025/06/18	750	Head	100	1g	0.888	8.88	8.57	3.617	±10
2025/06/19	1800	Head	100	1g	4.21	42.1	39.3	7.125	±10
2025/06/20	1900	Head	100	1g	4.13	41.3	40.1	2.993	±10
2025/07/30	2450	Head	100	1g	5.13	51.3	53.1	-3.390	±10
2025/07/30	2600	Head	100	1g	5.76	57.6	56.8	1.408	±10
2025/07/31	5250	Head	100	1g	8.39	83.9	77.7	7.979	±10

Note:

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

SAR SYSTEM VALIDATION DATA

System Performance 750 MHz Head

DUT: Dipole 750MHz; Type: D750V3; Serial: 1194

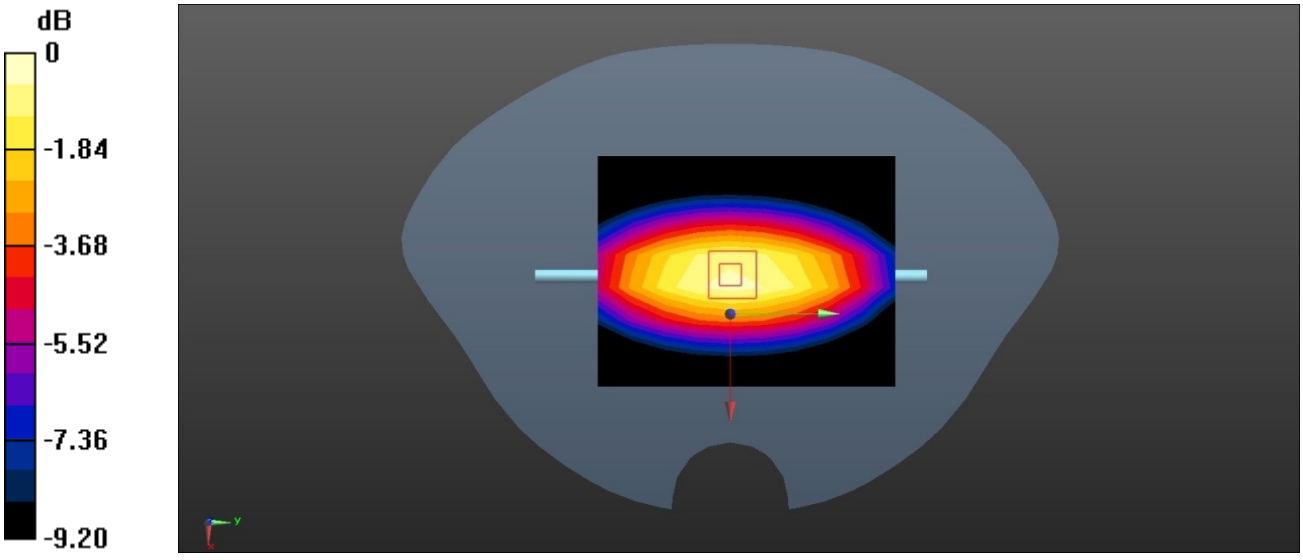
Communication System: CW (0); Frequency: 750 MHz; Duty Cycle: 1:1
Medium parameters used: f = 750 MHz; σ = 0.87 S/m; ε_r = 41.935; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3701; ConvF(9.47, 9.47, 9.47) @750 MHz; Calibrated: 2024/10/17
- Sensor-Surface: 1.4mm (Mechanical Surface Detection);
- Electronics: DAE4 Sn1562; Calibrated: 2024/12/31
- Phantom: Twin SAM; Type: QD000P40CD; Serial: 1744
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Area Scan (8x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.41 W/kg

Zoom Scan (5x5x7) /Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.73 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 1.89 W/kg
SAR(1 g) = 0.888 W/kg; SAR(10 g) = 0.541 W/kg
Smallest distance from peaks to all points 3 dB below: Larger than measurement grid (> 15 mm)
Ratio of SAR at M2 to SAR at M1 = 70.7%
Maximum value of SAR (measured) = 1.36 W/kg



0 dB = 1.36 W/kg = 1.34 dBW/kg

System Performance 1800 MHz Head

DUT: Dipole 1800MHz; Type: D1800V2; Serial: 2d018

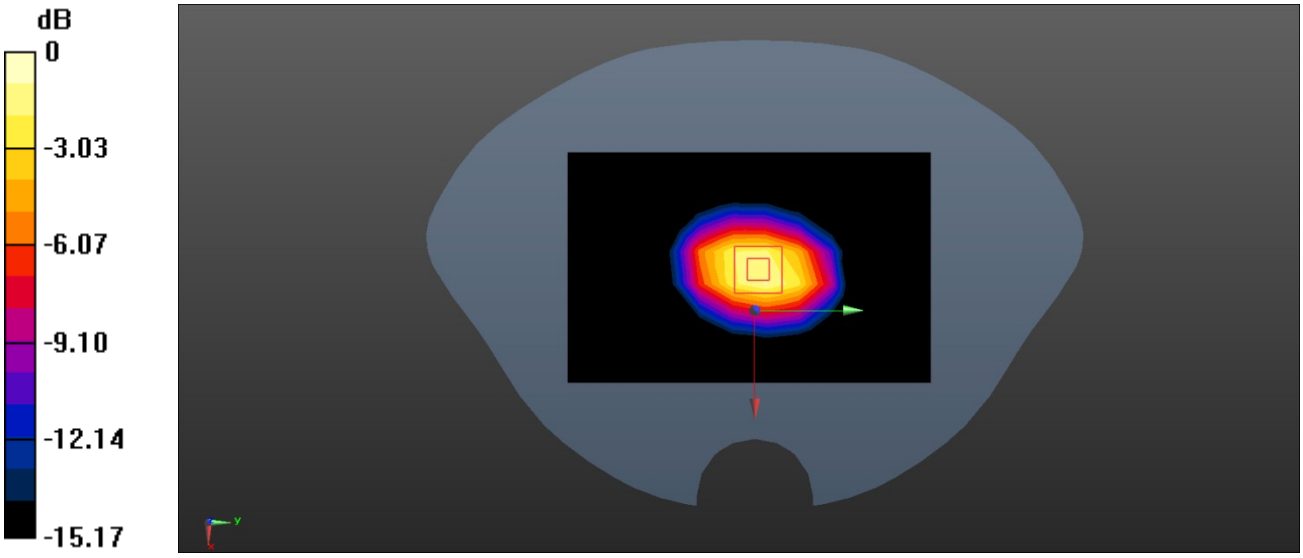
Communication System: CW (0); Frequency: 1800 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1800 MHz; σ = 1.436 S/m; ε_r = 41.539; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3701; ConvF(8, 8, 8) @1800 MHz; Calibrated: 2024/10/17
- Sensor-Surface: 1.4mm (Mechanical Surface Detection);
- Electronics: DAE4 Sn1562; Calibrated: 2024/12/31
- Phantom: Twin SAM; Type: QD000P40CD; Serial: 1744
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 10.6 W/kg

Zoom Scan (5x5x7) /Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 91.2 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 15.8 W/kg
SAR(1 g) = 4.21 W/kg; SAR(10 g) = 4.83 W/kg
Smallest distance from peaks to all points 3 dB below = 12 mm
Ratio of SAR at M2 to SAR at M1 = 58%
Maximum value of SAR (measured) = 9.71 W/kg



0 dB = 9.71 W/kg = 9.87 dBW/kg

System Performance 1900 MHz Head

DUT: Dipole 1900 MHz; Type: 1900 MHz; Serial: 5d128

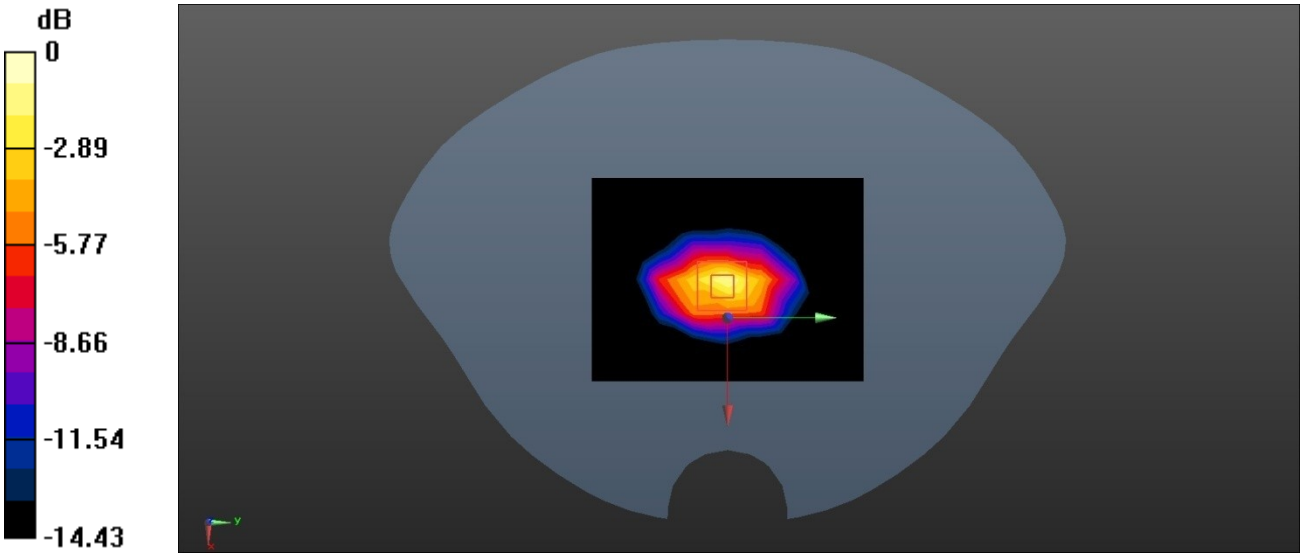
Communication System: CW (0); Frequency: 1900 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.438 S/m; ε_r = 41.686; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3701; ConvF(7.65, 7.65, 7.65) @1900 MHz; Calibrated: 2024/10/17
- Sensor-Surface: 1.4mm (Mechanical Surface Detection);
- Electronics: DAE4 Sn1562; Calibrated: 2024/12/31
- Phantom: Twin SAM; Type: QD000P40CD; Serial: 1744
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 7.7 W/kg

Zoom Scan (5x5x7) /Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 79.41 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 13.7 W/kg
SAR(1 g) = 4.13 W/kg; SAR(10 g) = 1.99 W/kg
Smallest distance from peaks to all points 3 dB below = 9.6 mm
Ratio of SAR at M2 to SAR at M1 = 75.3%
Maximum value of SAR (measured) = 7.1 W/kg



0 dB = 7.1 W/kg = 8.51 dBW/kg

System Performance 2450 MHz Head

DUT: Dipole 2450MHz; Type: D2450V2; Serial: 751

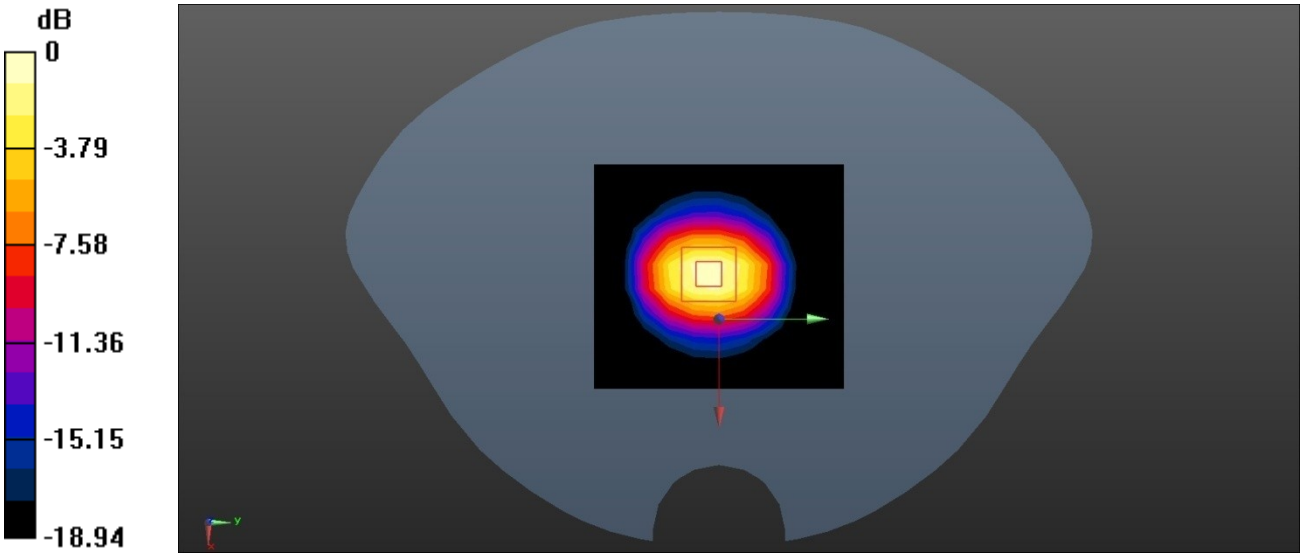
Communication System: CW (0); Frequency: 2450 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.85 S/m; ε_r = 40.538; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3701; ConvF(7.2, 7.2, 7.2) @2450 MHz; Calibrated: 2024/10/17
- Sensor-Surface: 1.4mm (Mechanical Surface Detection);
- Electronics: DAE4 Sn1562; Calibrated: 2024/12/31
- Phantom: Twin SAM; Type: QD000P40CD; Serial: 1744
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Area Scan (10x11x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 9.96 W/kg

Zoom Scan (7x7x7) /Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 29.0 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 12.9 W/kg
SAR(1 g) = 5.13 W/kg; SAR(10 g) = 2.51 W/kg
Smallest distance from peaks to all points 3 dB below = 10 mm
Ratio of SAR at M2 to SAR at M1 = 54.6%
Maximum value of SAR (measured) = 9.81 W/kg



0 dB = 9.81 W/kg = 9.92 dBW/kg

System Performance 2600 MHz Head

DUT: Dipole 2600MHz; Type: D2600V2; Serial: 1073

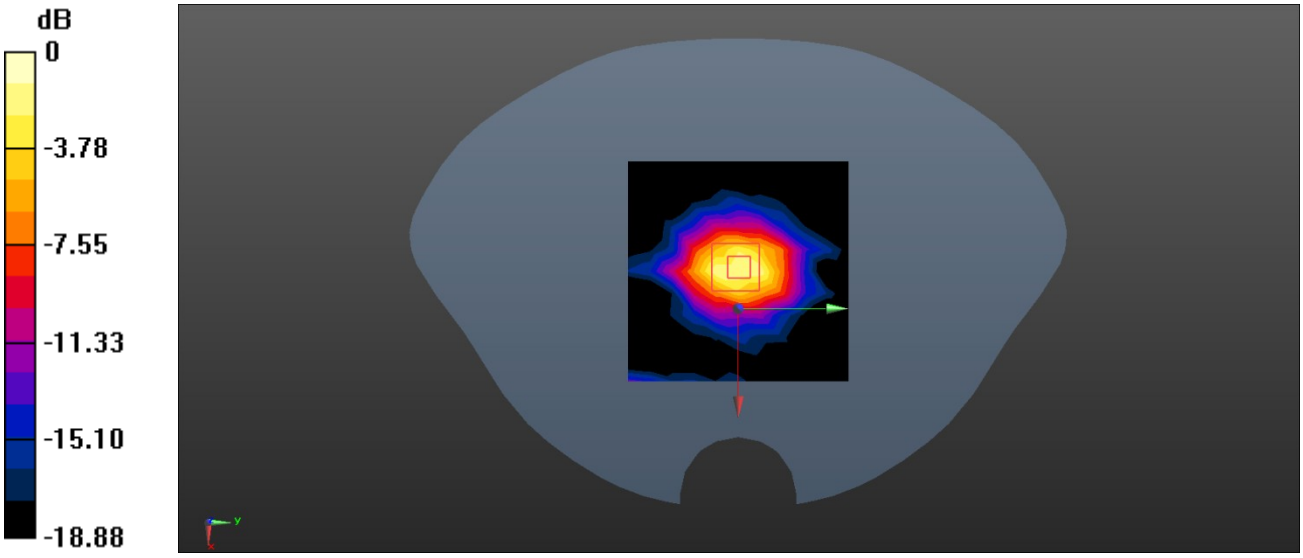
Communication System: CW (0); Frequency: 2600 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2600 MHz; σ = 1.923 S/m; ε_r = 39.126; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3701; ConvF(7.06, 7.06, 7.06) @2600 MHz; Calibrated: 2024/10/17
- Sensor-Surface: 1.4mm (Mechanical Surface Detection);
- Electronics: DAE4 Sn1562; Calibrated: 2024/12/31
- Phantom: Twin SAM; Type: QD000P40CD; Serial: 1744
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Area Scan (11x11x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 5.59 W/kg

Zoom Scan (7x7x7) /Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 65.6 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 12.8 W/kg
SAR(1 g) = 5.76 W/kg; SAR(10 g) = 2.74 W/kg
Smallest distance from peaks to all points 3 dB below = 9 mm
Ratio of SAR at M2 to SAR at M1 = 76.9%
Maximum value of SAR (measured) = 9.54 W/kg



0 dB = 9.54 W/kg = 9.80 dBW/kg

System Performance 5250 MHz Head

DUT: Dipole 5GHz; Type: D5GHzV2; Serial: 1301

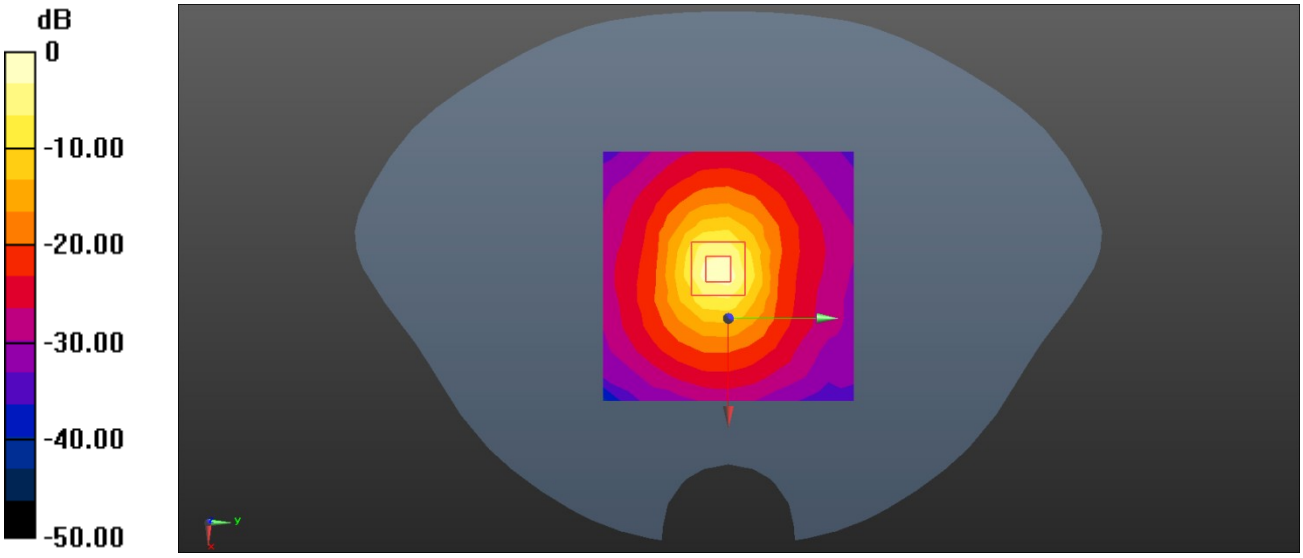
Communication System: CW (0); Frequency: 5250 MHz; Duty Cycle: 1:1
Medium parameters used: f = 5250 MHz; σ = 4.555 S/m; ε_r = 36.887; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3701; ConvF(5.36, 5.36, 5.36) @5250 MHz; Calibrated: 2024/10/17
- Sensor-Surface: 1.4mm (Mechanical Surface Detection);
- Electronics: DAE4 Sn1562; Calibrated: 2024/12/31
- Phantom: Twin SAM; Type: QD000P40CD; Serial: 1744
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Area Scan (11x11x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 24.8 W/kg

Zoom Scan (8x8x15) /Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 77.8 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 31.1 W/kg
SAR(1 g) = 8.39 W/kg; SAR(10 g) = 2.26 W/kg
Smallest distance from peaks to all points 3 dB below = 7.4 mm
Ratio of SAR at M2 to SAR at M1 = 59.4%
Maximum value of SAR (measured) = 20.4 W/kg



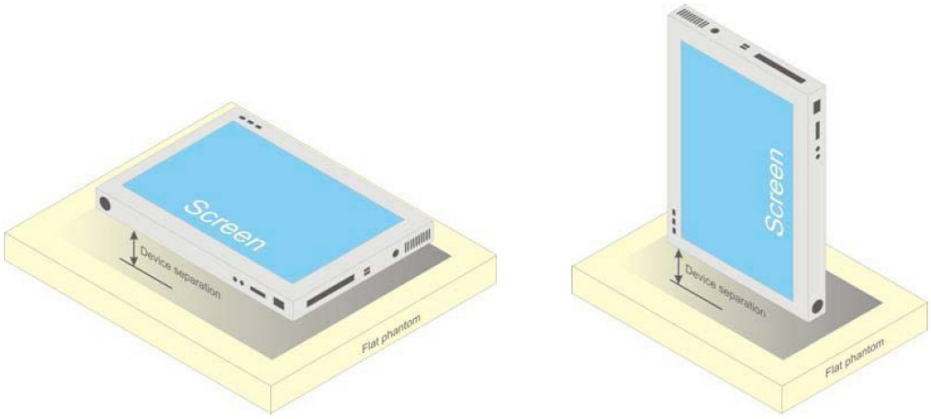
0 dB = 20.4 W/kg = 13.10 dBW/kg

EUT TEST STRATEGY AND METHODOLOGY

Test positions for body Supported and other configurations

A typical example of a body supported device is a wireless enabled laptop device that among other orientations may be supported on the thighs of a sitting user. To represent this orientation, the device shall be positioned with its base against the flat phantom.Other orientations may be specified by the manufacturer in the user instructions. If the intended use is not specified, the device shall be tested directly against the flat phantom in all usable orientations

Other devices that fall into this category include tablet type portable computers and credit card transaction authorisation terminals, point-of-sale and/or inventory terminals. Where these devices may be torso or limb-supported, the same principles for body-supported devices are applied.The example in Figure 7b) shows a tablet form factor portable computer for which SAR should be separately assessed with



b) Tablet form factor portable computer

Test Distance for SAR Evaluation

In this case the EUT(Equipment Under Test) is set 0mm away from the phantom, the test distance is 0mm for body.

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.

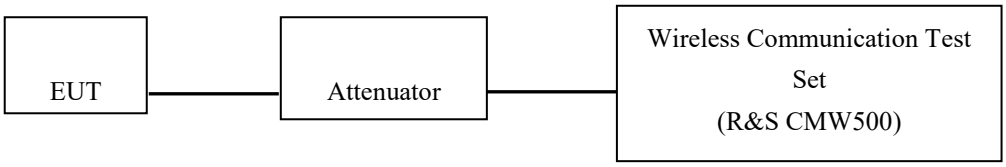
All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

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.

CONDUCTED OUTPUT POWER MEASUREMENT

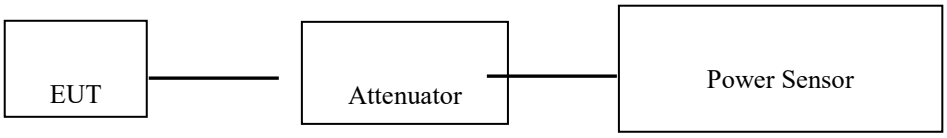
Test Procedure

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



GSM/WCDMA/LTE

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



WLAN/BT/BLE

Description of Test Configuration

EUT Operation Condition:

EUT Operation Mode:	The system was configured for testing in each operation mode.
Equipment Modifications:	No
EUT Exercise Software:	No

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 stabe)
BCCH Channel > choose desire 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).

WCDMA General Settings	Loopback Mode	Test Mode 1
	Rel99 RMC	12.2kbps RMC
	Power Control Algorithm	Algorithm2
	β_c/β_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
WCDMA General Settings	Loopback Mode	Test Mode 1			
	Rel99 RMC	12.2kbps RMC			
	HSDPA FRC	H-Set1			
	Power Control Algorithm	Algorithm2			
	β_c	2/15	12/15	15/15	15/15
	β_d	15/15	15/15	8/15	4/15
	β_d(SF)	64			
	β_c/β_d	2/15	12/15	15/8	15/4
	β_{hs}	4/15	24/15	30/15	30/15
	MPR(dB)	0	0	0.5	0.5
HSDPA Specific Settings	DACK	8			
	DNAK	8			
	DCQI	8			
	Ack-Nack repetition factor	3			
	CQI Feedback	4ms			
	CQI Repetition Factor	2			
	Ahs=βhs/ βc	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**
WCDMA General Settings	Loopback Mode	Test Mode 1				
	Rel99 RMC	12.2kbps RMC				
	HSDPA FRC	H-Set1				
	HSUPA Test	HSUPA Loopback				
	Power Control Algorithm	Algorithm2				
	β_c	11/15	6/15	15/15	2/15	15/15
	β_d	15/15	15/15	9/15	15/15	0
	β_{ec}	209/225	12/15	30/15	2/15	5/15
	β_c/β_d	11/15	6/15	15/9	2/15	-
	β_{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
HSDPA Specific Settings	DACK	8				
	DNAK	8				
	DCQI	8				
	Ack-Nack repetition factor	3				
	CQI Feedback	4ms				
	CQI Repetition Factor	2				
	Ahs=β_{hs}/ β_c	30/15				
HSUPA Specific Settings	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_FCIs	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 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	β_c (Note3)	β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{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	$\beta_{ed}1$: 30/15 $\beta_{ed}2$: 30/15	$\beta_{ed}3$: 24/15 $\beta_{ed}4$: 24/15	3.5	2.5	14	105	105

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_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 β_c is set to 1 and β_d = 0 by default.
Note 4: β_{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 6.2.2-1due 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
			10, 15, 20	Table 6.2.4-4	
NS_05	6.6.3.3.1	1	10,15,20	≥ 50	≤ 1
NS_06	6.6.2.2.3	12, 13, 14, 17	1.4, 3, 5, 10	Table 5.6-1	N/A
NS_07	6.6.2.2.3 6.6.3.3.2	13	10	Table 6.2.4-2	
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
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	-	-	-	-	-

Maximum Target Output Power

Max Target Power(dBm)			
Mode/Band	Channel		
	Low	Middle	High
GSM 850	33.0	33.0	33.0
GPRS 1 TX Slot	33.0	33.0	33.0
GPRS 2 TX Slot	32.0	32.5	32.0
GPRS 3 TX Slot	30.5	30.5	30.0
GPRS 4 TX Slot	29.0	29.0	29.0
EDGE 1 TX Slot	31.0	31.0	30.5
EDGE 2 TX Slot	30.0	29.5	29.5
EDGE 3 TX Slot	28.0	27.5	27.5
EDGE 4 TX Slot	27.0	26.5	26.5
GSM 1900	29.5	29.5	29.5
GPRS 1 TX Slot	29.5	30.0	29.5
GPRS 2 TX Slot	28.5	29.0	28.5
GPRS 3 TX Slot	27.0	27.0	27.0
GPRS 4 TX Slot	25.5	25.5	25.5
EDGE 1 TX Slot	29.5	29.0	28.5
EDGE 2 TX Slot	28.5	28.0	27.5
EDGE 3 TX Slot	27.0	26.5	26.0
EDGE 4 TX Slot	25.5	25.0	24.5
WCDMA Band 2	24.0	24.0	24.0
HSDPA	22.5	22.5	22.5
HSUPA	22.5	22.5	22.5
DC-HSDPA	22.0	22.5	22.5
HSPA+	21.5	21.5	21.5
WCDMA Band 5	24.0	24.0	24.0
HSDPA	22.5	22.5	22.5
HSUPA	20.5	20.5	20.5
DC-HSDPA	20.5	20.5	20.5
HSPA+	20.5	20.5	20.5
LTE Band 2 1RB	25.0	25.0	25.0
LTE Band 2 50%RB	24.0	24.0	24.0
LTE Band 2 100%RB	24.0	24.0	24.0
LTE Band 4 1RB	25.0	25.0	25.0
LTE Band 4 50%RB	24.0	24.0	24.0
LTE Band 4 100%RB	23.5	23.5	23.5
LTE Band 7 1RB	24.6	24.6	24.6
LTE Band 7 50%RB	23.5	23.5	23.5
LTE Band 7 100%RB	24.0	24.0	24.0
WIFI 2.4G(802.11b)	13.5	13.5	13.5
WIFI 2.4G(802.11g)	8.5	8.5	8.5
WIFI 2.4G(802.11n20)	7.5	7.5	7.5
WIFI 5.2G(802.11a)	17.0	17.0	17.0

Max Target Power(dBm)			
Mode/Band	Channel		
	Low	Middle	High
WIFI 5.2G(802.11n20/ac20)	15.0	15.0	15.0
WIFI 5.2G(802.11n40/ac40)	13.5	/	13.5
WIFI 5.2G(802.11ac80)	/	11.0	/
BT (GFSK)	4.8	4.8	4.8
BT (π/4-DQPSK)	3.7	3.7	3.7
BT (8DPSK)	3.9	3.9	3.9
BLE	3.0	3.0	3.0

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

Test Results

GSM:

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)
GSM 850	251	848.8	32.70
	128	824.2	32.88
	190	836.6	**32.91**
GSM 1900	810	1909.8	29.34
	512	1850.2	29.29
	661	1880	**29.42**

GPRS:

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)			
			1 slot	2 slots	3 slots	4 slots
GSM 850	128	824.2	**32.99**	31.96	30.00	28.73
	190	836.6	32.92	32.06	30.05	28.81
	251	848.8	32.88	31.91	29.76	28.47
GSM 1900	512	1850.2	29.22	28.48	26.43	25.28
	661	1880	**29.50**	28.51	26.45	25.36
	810	1909.8	29.32	28.45	26.51	25.25

EDGE:

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)			
			1 slot	2 slots	3 slots	4 slots
GSM 850	128	824.2	30.53	29.55	27.65	26.56
	190	836.6	**30.55**	29.44	27.40	26.24
	251	848.8	30.29	29.25	27.34	26.18
GSM 1900	512	1850.2	**29.21**	28.46	26.55	25.33
	661	1880	28.83	27.99	26.15	24.87
	810	1909.8	28.29	27.34	25.53	24.39

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

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

The time based average power for GSM

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)
GSM 850	251	848.8	23.70
	128	824.2	23.88
	190	836.6	**23.91**
GSM 1900	810	1909.8	20.34
	512	1850.2	20.29
	661	1880	**20.42**

The time based average power for GPRS

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)			
			1 slot	2 slots	3 slots	4 slots
GSM 850	128	824.2	23.99	25.96	25.75	25.73
	190	836.6	23.92	**26.06**	25.80	25.81
	251	848.8	23.88	25.91	25.51	25.47
GSM 1900	512	1850.2	20.22	22.48	22.18	22.28
	661	1880	20.50	**22.51**	22.20	22.36
	810	1909.8	20.32	22.45	22.26	22.25

The time based average power for EDGE

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)			
			1 slot	2 slots	3 slots	4 slots
GSM 850	128	824.2	21.53	23.55	23.40	**23.56**
	190	836.6	21.55	23.44	23.15	23.24
	251	848.8	21.29	23.25	23.09	23.18
GSM 1900	512	1850.2	20.21	**22.46**	22.30	22.33
	661	1880	19.83	21.99	21.90	21.87
	810	1909.8	19.29	21.34	21.28	21.39

Note:

1. Rohde & Schwarz Radio Communication Tester (CMW500) 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. For EGPRS, 1, 2, 3 and 4 timeslots has been activated separately with power control level 6(850 MHz band) and 5(1900 MHz band).
5. According to KDB 941225 D01 v03r01-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 band 2:

Test Mode	Conducted Average Output Power(dBm)		
	Lowest Channel	Middle Channel	Highest Channel
WCDMA	23.65	23.79	**23.90**
HSDPA Subset 1	21.55	21.81	21.44
HSDPA Subset 2	21.40	21.84	21.49
HSDPA Subset 3	21.90	21.96	21.97
HSDPA Subset 4	21.79	22.01	21.85
HSUPA Subset 1	22.28	22.19	22.46
HSUPA Subset 2	22.22	22.33	21.55
HSUPA Subset 3	22.25	22.31	22.29
HSUPA Subset 4	22.30	22.17	22.31
HSUPA Subset 5	22.23	22.23	22.36
DC-HSDPA Subset 1	21.16	21.56	21.96
DC-HSDPA Subset 2	21.54	21.57	21.85
DC-HSDPA Subset 3	21.61	21.77	22.19
DC-HSDPA Subset 4	21.60	22.14	22.06
HSPA+ Subset 1	21.31	21.36	21.22

WCDMA band 5:

Test Mode	Conducted Average Output Power(dBm)		
	Lowest Channel	Middle Channel	Highest Channel
WCDMA	23.81	23.82	**23.84**
HSDPA Subset 1	21.63	21.70	21.41
HSDPA Subset 2	21.35	21.62	21.36
HSDPA Subset 3	21.85	21.98	21.92
HSDPA Subset 4	21.83	22.01	21.81
HSUPA Subset 1	19.74	19.98	19.92
HSUPA Subset 2	19.90	19.97	20.01
HSUPA Subset 3	19.94	19.87	20.01
HSUPA Subset 4	19.94	20.00	19.90
HSUPA Subset 5	19.88	19.84	19.94
DC-HSDPA Subset 1	19.91	20.17	19.88

Test Mode	Conducted Average Output Power(dBm)		
	Lowest Channel	Middle Channel	Highest Channel
DC-HSDPA Subset 2	20.03	20.08	20.06
DC-HSDPA Subset 3	19.98	20.03	20.14
DC-HSDPA Subset 4	20.10	20.10	20.11
HSPA+ Subset 1	20.21	20.25	20.18

Note:

1. The default test configuration is to measure SAR with an established radio link between the EUT and a communication test set using a 12.2 kbps RMC (reference measurement Channel) Configured in All 1.
2. KDB 941225 D01 V03R01-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	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	RB1#0	24.57	24.39	24.79
		RB1#3	24.64	24.65	24.82
		RB1#5	24.50	24.38	24.75
		RB3#0	24.65	24.70	24.78
		RB3#1	24.78	24.61	24.61
		RB3#3	24.62	24.71	24.72
		RB6#0	23.61	23.69	23.60
	16QAM	RB1#0	23.38	23.35	23.85
		RB1#3	23.58	23.61	23.93
		RB1#5	23.38	23.38	23.94
		RB3#0	23.78	23.73	23.90
		RB3#1	23.79	23.84	23.87
		RB3#3	23.91	23.71	23.90
		RB6#0	22.90	22.90	22.55
3M	QPSK	RB1#0	24.55	24.81	24.58
		RB1#8	24.73	24.72	24.61
		RB1#14	24.68	24.88	24.58
		RB8#0	23.63	23.70	23.73
		RB8#4	23.73	23.68	23.74
		RB8#7	23.74	23.62	23.57
		RB15#0	23.57	23.69	23.73
	16QAM	RB1#0	23.49	23.90	23.43
		RB1#8	23.42	24.07	23.28
		RB1#14	23.56	23.96	23.28
		RB8#0	22.63	22.86	22.65
		RB8#4	22.75	22.81	22.76
		RB8#7	22.61	22.72	22.66
		RB15#0	22.75	22.63	22.56
5M	QPSK	RB1#0	24.62	24.50	24.46
		RB1#12	24.75	24.81	24.70
		RB1#24	24.54	24.42	24.44
		RB12#0	23.68	23.70	23.68
		RB12#7	23.75	23.73	23.70
		RB12#13	23.72	23.68	23.74
		RB25#0	23.63	23.65	23.61
	16QAM	RB1#0	23.56	24.12	23.58
		RB1#12	23.92	24.42	23.76
		RB1#24	23.46	24.14	23.43
		RB12#0	22.75	22.70	22.63
		RB12#7	22.72	22.80	22.76
		RB12#13	22.67	22.68	22.65
		RB25#0	22.68	22.72	22.65

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
10M	QPSK	RB1#0	24.59	24.86	24.43
		RB1#25	24.79	24.91	24.65
		RB1#49	24.47	24.73	24.42
		RB25#0	23.70	23.77	23.81
		RB25#12	23.57	23.72	23.75
		RB25#25	23.63	23.63	23.77
		RB50#0	23.61	23.80	23.72
	16QAM	RB1#0	23.51	23.91	23.28
		RB1#25	23.70	24.09	23.52
		RB1#49	23.56	24.07	23.39
		RB25#0	22.67	22.82	22.82
		RB25#12	22.72	22.77	22.89
		RB25#25	22.74	22.77	22.90
		RB50#0	22.63	22.80	22.78
15M	QPSK	RB1#0	24.48	24.62	24.65
		RB1#37	24.53	24.94	24.74
		RB1#74	24.44	24.64	24.57
		RB36#0	23.60	23.69	23.72
		RB36#20	23.67	23.62	23.69
		RB36#39	23.73	23.66	23.78
		RB75#0	23.67	23.74	23.79
	16QAM	RB1#0	23.38	23.88	23.52
		RB1#37	23.47	24.11	23.55
		RB1#74	23.46	23.88	23.38
		RB36#0	22.68	22.63	22.70
		RB36#20	22.63	22.68	22.55
		RB36#39	22.66	22.78	22.65
		RB75#0	22.59	22.73	22.69
20M	QPSK	RB1#0	24.36	24.24	24.24
		RB1#49	24.55	24.53	24.61
		RB1#99	24.43	24.27	24.23
		RB50#0	23.45	23.61	23.61
		RB50#24	23.58	23.54	23.52
		RB50#50	23.42	23.59	23.66
		RB100#0	23.46	23.67	23.58
	16QAM	RB1#0	23.87	23.61	23.58
		RB1#49	24.19	23.92	23.95
		RB1#99	23.98	23.55	23.63
		RB50#0	22.47	22.71	22.56
		RB50#24	22.50	22.64	22.60
		RB50#50	22.59	22.56	22.61
		RB100#0	22.45	22.65	22.65

LTE Band 4:

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	RB1#0	24.35	24.39	24.45
		RB1#3	24.61	24.59	24.56
		RB1#5	24.31	24.17	24.33
		RB3#0	24.55	24.37	24.43
		RB3#1	24.52	24.25	24.44
		RB3#3	24.37	24.13	24.41
		RB6#0	23.51	23.15	23.14
	16QAM	RB1#0	23.10	23.60	23.46
		RB1#3	23.09	23.73	23.71
		RB1#5	22.88	23.64	23.47
		RB3#0	23.38	23.75	23.56
		RB3#1	23.30	23.80	23.72
		RB3#3	23.04	23.82	23.65
		RB6#0	22.35	22.57	22.21
3M	QPSK	RB1#0	24.25	24.44	24.22
		RB1#8	24.32	24.34	24.11
		RB1#14	24.30	24.38	24.10
		RB8#0	23.21	23.25	23.25
		RB8#4	23.28	23.26	23.33
		RB8#7	23.24	23.35	23.27
		RB15#0	23.33	23.29	23.30
	16QAM	RB1#0	23.14	23.63	23.02
		RB1#8	23.06	23.70	22.97
		RB1#14	23.11	23.59	22.94
		RB8#0	22.30	22.46	22.27
		RB8#4	22.42	22.37	22.45
		RB8#7	22.28	22.43	22.26
		RB15#0	22.31	22.29	22.19
5M	QPSK	RB1#0	24.11	24.21	24.13
		RB1#12	24.35	24.32	24.38
		RB1#24	24.18	24.08	24.02
		RB12#0	23.29	23.26	23.28
		RB12#7	23.28	23.32	23.27
		RB12#13	23.30	23.32	23.22
		RB25#0	23.29	23.28	23.37
	16QAM	RB1#0	23.13	23.78	23.20
		RB1#12	23.51	24.11	23.29
		RB1#24	23.30	23.89	23.11
		RB12#0	22.31	22.44	22.50
		RB12#7	22.32	22.54	22.38
		RB12#13	22.44	22.45	22.39
		RB25#0	22.32	22.36	22.35

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
10M	QPSK	RB1#0	24.36	24.54	24.11
		RB1#25	24.47	24.65	24.36
		RB1#49	24.32	24.62	24.19
		RB25#0	23.35	23.27	23.45
		RB25#12	23.29	23.33	23.38
		RB25#25	23.38	23.44	23.40
		RB50#0	23.34	23.37	23.32
	16QAM	RB1#0	23.19	23.69	22.94
		RB1#25	23.33	23.85	23.06
		RB1#49	23.35	23.72	22.98
		RB25#0	22.39	22.42	22.44
		RB25#12	22.54	22.48	22.58
		RB25#25	22.61	22.64	22.58
		RB50#0	22.32	22.46	22.50
15M	QPSK	RB1#0	24.20	24.36	24.34
		RB1#37	24.49	24.70	24.59
		RB1#74	24.18	24.41	24.39
		RB36#0	23.30	23.42	23.45
		RB36#20	23.40	23.39	23.35
		RB36#39	23.42	23.44	23.47
		RB75#0	23.45	23.34	23.32
	16QAM	RB1#0	22.99	23.63	23.15
		RB1#37	23.41	23.93	23.30
		RB1#74	23.18	23.74	23.31
		RB36#0	22.34	22.37	22.33
		RB36#20	22.31	22.46	22.30
		RB36#39	22.51	22.54	22.26
		RB75#0	22.40	22.47	22.30
20M	QPSK	RB1#0	24.58	24.50	24.39
		RB1#49	24.77	24.81	24.74
		RB1#99	24.60	24.55	24.57
		RB50#0	23.84	23.76	23.83
		RB50#24	23.90	23.85	23.96
		RB50#50	23.99	23.90	23.87
		RB100#0	23.45	23.42	23.33
	16QAM	RB1#0	23.60	23.31	23.22
		RB1#49	24.09	23.58	23.56
		RB1#99	23.81	23.50	23.46
		RB50#0	22.34	22.37	22.36
		RB50#24	22.41	22.50	22.40
		RB50#50	22.42	22.41	22.37
		RB100#0	22.46	22.41	22.46

LTE Band 7:

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	RB1#0	24.41	24.04	23.92
		RB1#12	24.52	24.28	24.17
		RB1#24	24.36	24.06	23.90
		RB12#0	23.49	23.07	23.12
		RB12#7	23.45	23.30	23.24
		RB12#13	23.39	23.18	23.07
		RB25#0	23.52	23.22	23.16
	16QAM	RB1#0	23.33	23.53	22.89
		RB1#12	23.66	23.93	23.24
		RB1#24	23.43	23.58	22.90
		RB12#0	22.43	22.31	22.23
		RB12#7	22.43	22.27	22.26
		RB12#13	22.51	22.11	22.23
		RB25#0	22.35	22.18	22.16
10M	QPSK	RB1#0	24.40	24.32	23.93
		RB1#25	24.56	24.40	24.13
		RB1#49	24.34	24.31	23.98
		RB25#0	23.39	23.32	23.14
		RB25#12	23.50	23.25	23.26
		RB25#25	23.39	23.14	23.30
		RB50#0	23.38	23.26	23.28
	16QAM	RB1#0	23.32	23.45	22.85
		RB1#25	23.50	23.69	22.97
		RB1#49	23.26	23.45	22.79
		RB25#0	22.62	22.18	22.23
		RB25#12	22.65	22.35	22.23
		RB25#25	22.54	22.18	22.38
		RB50#0	22.42	22.27	22.20
15M	QPSK	RB1#0	24.39	24.42	24.24
		RB1#37	24.46	24.55	24.32
		RB1#74	24.24	24.36	24.17
		RB36#0	23.50	23.34	23.26
		RB36#20	23.48	23.24	23.30
		RB36#39	23.45	23.33	23.22
		RB75#0	23.44	23.26	23.35
	16QAM	RB1#0	23.22	23.42	23.02
		RB1#37	23.45	23.62	23.24
		RB1#74	23.15	23.46	23.05
		RB36#0	22.45	22.23	22.20
		RB36#20	22.37	22.25	22.15
		RB36#39	22.35	22.27	22.30
		RB75#0	22.50	22.16	22.24

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
20M	QPSK	RB1#0	24.22	23.94	23.95
		RB1#49	24.25	24.23	24.04
		RB1#99	24.13	23.88	23.88
		RB50#0	23.41	23.24	23.05
		RB50#24	23.33	23.15	23.13
		RB50#50	23.46	23.08	23.14
		RB100#0	23.52	23.11	23.18
	16QAM	RB1#0	23.75	23.10	23.19
		RB1#49	24.02	23.46	23.38
		RB1#99	23.74	23.12	23.06
		RB50#0	22.45	22.11	22.04
		RB50#24	22.50	22.13	22.19
		RB50#50	22.36	22.12	22.31
		RB100#0	22.52	22.19	22.13

WLAN: 2.4G

Mode	Channel frequency (MHz)	Data Rate	Duty cycle (%)	RF Output Power (dBm)
802.11b	2412	1M	100	**13.44**
	2442			13.39
	2472			12.98
802.11g	2412	6M	/	8.13
	2442			8.38
	2472			7.71
802.11n20	2412	MCS0	/	7.16
	2442			7.19
	2472			6.61

Note: The duty cycle plots, please refer to the radio report: 2504U66845E-RF-00C.

WLAN: 5.2G

Mode	Channel frequency (MHz)	Data Rate	Duty cycle (%)	RF Output Power (dBm)
802.11a	5180	6M	96.77	16.45
	5200			**16.64**
	5240			16.64
802.11n20	5180	MCS0	/	14.58
	5200			14.46
	5240			14.55
802.11n40	5190	MCS0	/	13.39
	5230			13.27
802.11ac20	5180	MCS0	/	14.61
	5200			14.43
	5240			14.55
802.11ac40	5190	MCS0	/	13.34
	5230			13.32
802.11ac80	5210	MCS0	/	10.02

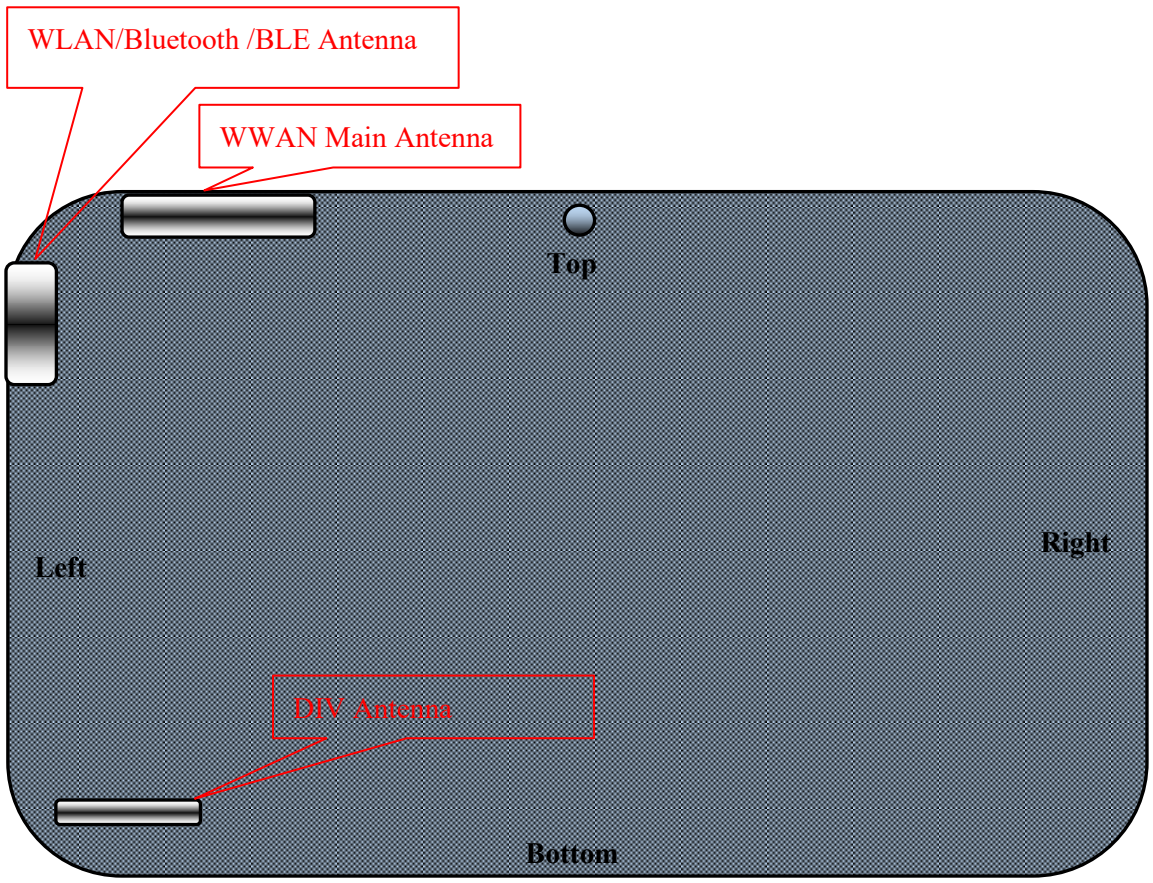
Note: The duty cycle plots, please refer to the radio report: 2504U66845E-RF-00D.

Bluetooth:

Mode	Channel frequency (MHz)	RF Output Power (dBm)
GFSK	2402	3.63
	2441	**4.09**
	2480	3.69
π/4-DQPSK	2402	2.92
	2441	3.14
	2480	3.03
8DPSK	2402	2.99
	2441	3.20
	2480	2.94
BLE 1M	2402	1.87
	2440	1.93
	2480	1.81
BLE 2M	2404	1.71
	2440	2.02
	2478	1.93

STANDALONE SAR TEST EXCLUSION CONSIDERATIONS

Antennas Location:



EUT Front View

Note: The DIV antenna can only receive.

Antenna Distance To Edge (TRX)

Antenna Distance To Edge(mm)						
Antenna	**Back**	**Front**	**Left**	**Right**	**Top**	**Bottom**
WWAN Antenna(GSM/WCDMA/LTE)	< 5	< 5	15	192	< 5	153
WLAN/BT/BLE Antenna	< 5	< 5	< 5	246	7	128

Standalone SAR test exclusion considerations

Mode	Frequency (MHz)	RF Output Power (dBm)	RF Output Power (mW)	Distance (mm)	Calculated value	Threshold (1-g)	SAR Test Exclusion
BT	2480	4.8	3.02	0	1.0	3	YES

Note: *The Bluetooth based peak 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:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤7.5 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.

For 100 MHz to 6 GHz and test separation distances > 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by:

1. {[Power allowed at numeric threshold for 50 mm in step a)] + [(test separation distance – 50 mm)·(f(MHz)/150)]} mW, for 100 MHz to 1500 MHz
2. {[Power allowed at numeric threshold for 50 mm in step a)] + [(test separation distance – 50 mm)·10]} mW, for > 1500 MHz and ≤ 6 GHz.

SAR test exclusion for the EUT edge considerations Result

Mode	Frequency (MHz)	Output Power (dBm)	Output Power (mW)	Test Exclusion Distance (mm)
GSM 850	848.8	26.5	446.68	101
GSM 1900	1909.8	23	199.53	60
WCDMA Band 2	1907.6	24	251.19	65
WCDMA Band 5	846.6	24	251.19	66
LTE Band 2	1900	25	316.23	71
LTE Band 4	1745	25	316.23	71
LTE Band 7	2560	24.6	288.40	70
WIFI 2.4G	2472	13.5	22.39	12
WIFI 5.2G	5240	17	50.12	39

Note: GSM850/1900 is calculated based on the maximum average power.

According to KDB 616217 D04 v01r02 Section 4.3, SAR evaluation for the front surface of tablet display screens are generally not necessary.

Mode	Back	Left	Right	Top	Bottom
GSM 850	**Required**	**Required**	Exclusion	**Required**	Exclusion
GSM 1900	**Required**	**Required**	Exclusion	**Required**	Exclusion
WCDMA Band 2	**Required**	**Required**	Exclusion	**Required**	Exclusion
WCDMA Band 5	**Required**	**Required**	Exclusion	**Required**	Exclusion
LTE Band 2	**Required**	**Required**	Exclusion	**Required**	Exclusion
LTE Band 4	**Required**	**Required**	Exclusion	**Required**	Exclusion
LTE Band 7	**Required**	**Required**	Exclusion	**Required**	Exclusion
WIFI 2.4G	**Required**	**Required**	Exclusion	**Required**	Exclusion
WIFI 5.2G	**Required**	**Required**	Exclusion	**Required**	Exclusion
BT	Exclusion*	Exclusion*	Exclusion*	Exclusion*	Exclusion*

Note:

Required：The distance to Edge is less than **Test Exclusion Distance**, testing is required.
Exclusion：The distance to Edge is more than **Test Exclusion Distance**, testing is not required.
Exclusion*：SAR test exclusion evaluation has been done above.

Standalone SAR estimation:

Mode	Frequency (MHz)	RF Output Power (dBm)	RF Output Power (mW)	Distance (mm)	Estimated (W/kg)
BT Body	2480	4.8	3.02	0	0.13@1g

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:
[(max. power of channel, including tune-up tolerance , mW)/(min. test separation distance,mm)] · [√f(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.

SAR MEASUREMENT RESULTS

This page summarizes the results of the performed dosimetry evaluation.

Test Results:

Environmental Conditions

Ambient Temperature:	23.4-23.5 ℃	22.9-23.9℃	23.2-23.5℃	23.1-23.6℃	23.0-23.4℃
Relative Humidity:	56%	52%	54%	53%	46%
ATM Pressure:	100.1 kPa	100.1 kPa	100.1 kPa	100.4 kPa	100.4 kPa
Test Date:	2025/6/18	2025/6/19	2025/6/20	2025/7/30	2025/7/31

Testing was performed by Devon Liang, Jack Yang, Ryse Chai.

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
Body Back (0mm)	824.2	GPRS	/	/	/	/	/	/
	836.6	GPRS	32.06	32.5	1.107	0.293	0.32	/
	848.8	GPRS	/	/	/	/	/	/
Body Left (0mm)	824.2	GPRS	/	/	/	/	/	/
	836.6	GPRS	32.06	32.5	1.107	0.116	0.13	/
	848.8	GPRS	/	/	/	/	/	/
Body Top (0mm)	824.2	GPRS	/	/	/	/	/	/
	836.6	GPRS	32.06	32.5	1.107	0.408	**0.45**	1#
	848.8	GPRS	/	/	/	/	/	/

The data above was performed on 2025/06/18

Note:

1. When the 1-g SAR is ≤ 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, 3DL+2UL is the worst case.
6. The test is based on the mode with the highest average power.

GSM 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 Back (0mm)	1850.2	GPRS	/	/	/	/	/	/
	1880	GPRS	28.51	29.0	1.119	0.408	0.46	/
	1909.8	GPRS	/	/	/	/	/	/
Body Left (0mm)	1850.2	GPRS	/	/	/	/	/	/
	1880	GPRS	28.51	29.0	1.119	0.388	0.43	/
	1909.8	GPRS	/	/	/	/	/	/
Body Top (0mm)	1850.2	GPRS	/	/	/	/	/	/
	1880	GPRS	28.51	29.0	1.119	0.584	**0.65**	2#
	1909.8	GPRS	/	/	/	/	/	/

The data above was performed on 2025/06/20

Note:

1. When the 1-g SAR is ≤ 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, 3DL+2UL is the worst case.
6. The test is based on the mode with the highest average power.

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 Back (0mm)	1852.4	RMC	/	/	/	/	/	/
	1880	RMC	23.79	24.0	1.050	0.504	0.53	/
	1907.6	RMC	/	/	/	/	/	/
Body Left (0mm)	1852.4	RMC	/	/	/	/	/	/
	1880	RMC	23.79	24.0	1.050	0.409	0.43	/
	1907.6	RMC	/	/	/	/	/	/
Body Top (0mm)	1852.4	RMC	23.65	24.0	1.084	0.846	**0.92**	3#
	1880	RMC	23.79	24.0	1.050	0.745	0.78	/
	1907.6	RMC	23.90	24.0	1.023	0.752	0.77	/

The data above was performed on 2025/06/20

WCDMA Band 5:

EUT Position	Frequency (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g SAR (W/kg)			
					Scaled Factor	Meas. SAR	Scaled SAR	Plot
Body Back (0mm)	826.4	RMC	/	/	/	/	/	/
	836.6	RMC	23.82	24.0	1.042	0.183	0.19	/
	846.6	RMC	/	/	/	/	/	/
Body Left (0mm)	826.4	RMC	/	/	/	/	/	/
	836.6	RMC	23.82	24.0	1.042	0.059	0.06	/
	846.6	RMC	/	/	/	/	/	/
Body Top (0mm)	826.4	RMC	/	/	/	/	/	/
	836.6	RMC	23.82	24.0	1.042	0.223	**0.23**	4#
	846.6	RMC	/	/	/	/	/	/

The data above was performed on 2025/06/18

Note:

1. When the 1-g SAR is≤ 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 All 1.
4. KDB 941225 D01 V03R01-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.
5. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.

LTE Band 2:

EUT Position	Frequency (MHz)	Bandwidth (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g SAR (W/kg)			
						Scaled Factor	Meas. SAR	Scaled SAR	Plot
Body Back (0mm)	1860	20	1RB	/	/	/	/	/	/
	1880	20	1RB	24.53	25.0	1.114	0.415	0.46	/
	1900	20	1RB	/	/	/	/	/	/
	1880	20	50%RB	23.61	24.0	1.094	0.353	0.39	/
Body Left (0mm)	1860	20	1RB	/	/	/	/	/	/
	1880	20	1RB	24.53	25.0	1.114	0.326	0.36	/
	1900	20	1RB	/	/	/	/	/	/
	1880	20	50%RB	23.61	24.0	1.094	0.290	0.32	/
Body Top (0mm)	1860	20	1RB	/	/	/	/	/	/
	1880	20	1RB	24.53	25.0	1.114	0.658	**0.73**	5#
	1900	20	1RB	/	/	/	/	/	/
	1880	20	50%RB	23.61	24.0	1.094	0.597	0.65	/

The data above was performed on 2025/06/20

LTE Band 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 Back (0mm)	1720	20	1RB	/	/	/	/	/	/
	1732.5	20	1RB	24.81	25.0	1.045	0.178	0.19	/
	1745	20	1RB	/	/	/	/	/	/
	1732.5	20	50%RB	23.90	24.0	1.023	0.157	0.16	/
Body Left (0mm)	1720	20	1RB	/	/	/	/	/	/
	1732.5	20	1RB	24.81	25.0	1.045	0.255	**0.27**	6#
	1745	20	1RB	/	/	/	/	/	/
	1732.5	20	50%RB	23.90	24.0	1.023	0.245	0.25	/
Body Top (0mm)	1720	20	1RB	/	/	/	/	/	/
	1732.5	20	1RB	24.81	25.0	1.045	0.108	0.11	/
	1745	20	1RB	/	/	/	/	/	/
	1732.5	20	50%RB	23.90	24.0	1.023	0.103	0.11	/

The data above was performed on 2025/06/19

LTE Band 7:

EUT Position	Frequency (MHz)	Bandwidth (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g SAR (W/kg)			
						Scaled Factor	Meas. SAR	Scaled SAR	Plot
Body Back (0mm)	2510	20	1RB	/	/	/	/	/	/
	2535	20	1RB	24.23	24.6	1.089	0.204	0.22	/
	2560	20	1RB	/	/	/	/	/	/
	2535	20	50%RB	23.24	23.5	1.062	0.158	0.17	/
Body Left (0mm)	2510	20	1RB	/	/	/	/	/	/
	2535	20	1RB	24.23	24.6	1.089	0.120	0.13	/
	2560	20	1RB	/	/	/	/	/	/
	2535	20	50%RB	23.24	23.5	1.062	0.095	0.10	/
Body Top (0mm)	2510	20	1RB	/	/	/	/	/	/
	2535	20	1RB	24.23	24.6	1.089	0.206	**0.22**	7#
	2560	20	1RB	/	/	/	/	/	/
	2535	20	50%RB	23.24	23.5	1.062	0.192	0.20	/

The data above was performed on 2025/07/30

Note:

1. When the 1-g SAR is ≤ 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 v02r05 SAR for LTE Devices.
3. KDB 941225 D05 v02r05-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. KDB 941225 D05 v02r05-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. KDB 941225 D05 v02r05- 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 ≤ 0.8 W/kg.
6. KDB 941225 D05 v02r05- Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offset the upper edge, middle and lower edge of each required test channel.
7. KDB 941225 D05 v02r05- 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.

WIFI 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 Back (0mm)	2412	802.11b	/	/	/	/	/	/	/
	2442	802.11b	13.39	13.5	1.026	1.000	0.112	0.12	/
	2472	802.11b	/	/	/	/	/	/	/
Body Left (0mm)	2412	802.11b	/	/	/	/	/	/	/
	2442	802.11b	13.39	13.5	1.026	1.000	0.393	**0.40**	8#
	2472	802.11b	/	/	/	/	/	/	/
Body Top (0mm)	2412	802.11b	/	/	/	/	/	/	/
	2442	802.11b	13.39	13.5	1.026	1.000	0.136	0.14	/
	2472	802.11b	/	/	/	/	/	/	/

The data above was performed on 2025/07/30

Note:

1. When the 1-g SAR is≤ 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. KDB 248227 D01 v02r02-SAR measurement is not required for 2.4 GHz OFDM(802.11g/n)when the highest reported SAR for DSSS(802.11b) is ≤ 1.2 W/kg, and the output power for DSSS is not less than that for OFDM.
4.According KDB 248227 D01 v02r02, for SAR testing of 2.4G WIFI 802.11b 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)”.

WIFI 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
Body Back (0mm)	5180	802.11a	/	/	/	/	/	/	/
	5200	802.11a	16.64	17.0	1.086	1.033	0.234	**0.26**	9#
	5240	802.11a	/	/	/	/	/	/	/
Body Left (0mm)	5180	802.11a	/	/	/	/	/	/	/
	5200	802.11a	16.64	17.0	1.086	1.033	0.158	0.18	/
	5240	802.11a	/	/	/	/	/	/	/
Body Top (0mm)	5180	802.11a	/	/	/	/	/	/	/
	5200	802.11a	16.64	17.0	1.086	1.033	0.041	0.05	/
	5240	802.11a	/	/	/	/	/	/	/

The data above was performed on 2025/07/31

Note:

1. When the 1-g SAR is≤ 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, 802.11a mode as initial test configuration is selected to test.
4. According KDB 248227 D01 v02r02, for SAR testing of 5G WIFI 802.11 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)”

SAR 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 ≥ 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 ≥ 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 ≥1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

The Highest Measured SAR Configuration in Each Frequency Band

Body

SAR probe calibration point)	Frequency Band	Freq.(MHz)	EUT Position	Meas. SAR (W/kg)		Largest to Smallest SAR Ratio
				Original	Repeated	
1900 Head	WCDMA Band 2	1852.4	Body Top	0.846	0.806	1.05

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.

SAR DUT HOLDER PERTURBATIONS

In accordance with TCB workshop October 2016:

1) SAR perturbation due to test device holders, depending on antenna locations, buttons locations on phones or device, form factor (e.g. dongles etc.), the measured SAR could be influenced by the relative positions of the test device and its holder

2) SAR measurement standards have included protocols to evaluate this with a flat phantom, with and without the device holder

3) When the highest reported SAR of an antenna is > 1.2 W/kg, holder perturbation verification is required for each antenna, using the highest SAR configuration among all applicable frequency bands in the same exact device and holder positions used for head and body SAR measurements; i.e. same device/button locations in the holder

Per IEEE 1528: 2013/Annex E/E.4.1.1: Device holder perturbation tolerance for a specific test device: Type B When it is unknown if a device holder perturbs the fields of a test device, the SAR uncertainty shall be assessed with a flat phantom (see Clause 5) by comparing the SAR with and without the device holder according to the following tests:

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

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

The Highest Measured SAR Configuration among all applicable Frequency Band

Body

Frequency Band	Freq.(MHz)	EUT Position	Meas. SAR (W/kg)		The Device holder perturbation uncertainty
			With holder	Without holder	
/	/	/	/	/	/

SAR SIMULTANEOUS TRANSMISSION DESCRIPTION

Simultaneous Transmission:

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

Note: In a WWAN antenna, only a single antenna in one band operates at a time.

Simultaneous SAR test exclusion considerations:

Mode(SAR1+SAR2)	Position	Reported SAR(W/kg)		ΣSAR < 1.6W/kg
		SAR1	SAR2	
WWAN(GSM/WCDMA/LTE) + Bluetooth	Body	0.92	0.13	1.05
WWAN(GSM/WCDMA/LTE) + WLAN 2.4G(Hotspot)	Body	0.92	0.40	**1.32**
WWAN(GSM/WCDMA/LTE) + WLAN 5G(Hotspot)	Body	0.92	0.26	1.18

Conclusion:

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

SAR Plots

Please Refer to the Attachment.

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

Source of uncertainty	Tolerance/ Uncertainty ± %	Probability distribution	Divisor	ci (1 g)	ci (10 g)	Standard Uncertainty ± %, (1 g)	Standard Uncertainty ± %, (10 g)
Measurement system							
Probe calibration	7.5	N	1	1	1	7.5	7.5
Axial Isotropy	4.7	R	√3	1	1	2.7	2.7
Hemispherical Isotropy	9.6	R	√3	0	0	0.0	0.0
Boundary effect	1.0	R	√3	1	1	0.6	0.6
Linearity	4.7	R	√3	1	1	2.7	2.7
Detection limits	1.0	R	√3	1	1	0.6	0.6
Modulation response	4.0	R	√3	1	1	2.3	2.3
Readout electronics	0.3	N	1	1	1	0.3	0.3
Response time	0.0	R	√3	1	1	0.0	0.0
Integration time	0.0	R	√3	1	1	0.0	0.0
RF ambientconditions – noise	1.0	R	√3	1	1	0.6	0.6
RF ambient conditions–reflections	1.0	R	√3	1	1	0.6	0.6
Probe positioner mech. Restrictions	0.8	R	√3	1	1	0.5	0.5
Probe positioning with respect to phantom shell	6.7	R	√3	1	1	3.9	3.9
Extrapolation, interpolation, and integrations algorithms for max. SAR evaluation	3.9	R	√3	1	1	2.3	2.3
Test sample related							
Test sample positioning	2.8	N	1	1	1	2.8	2.8
Device holder uncertainty	6.3	N	1	1	1	6.3	6.3
Drift of output power	5.0	R	√3	1	1	2.9	2.9
SAR scaling	2.0	R	√3	1	1	1.2	1.2
Phantom and tissue parameters							
Phantom uncertainty (shape and thickness tolerances)	4.0	R	√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 measurement	5.5	N	1	0.78	0.71	4.3	3.9
Liquid permittivity measurement	2.9	N	1	0.23	0.26	0.7	0.8

Liquid conductivity—temperature uncertainty	1.7	R	√3	0.78	0.71	0.8	0.7
Liquid permittivity—temperature uncertainty	2.7	R	√3	0.23	0.26	0.4	0.4
Combined standard uncertainty		RSS				12.2	12.0
Expanded uncertainty 95 % confidence interval)						24.3	23.9

APPENDIX B EUT TEST POSITION PHOTOS

Please Refer to the Attachment.

APPENDIX C CALIBRATION CERTIFICATES

Please Refer to the Attachment.

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