TEST REPORT

Applicant Name:	Quanzhou Rongyaokesi Electronic Technology Co., LTD
Address:	No. 68, Jinpu, Pudang Village, Xiamei Town, Nan 'an City, Quanzhou City, Fujian Province, China
Report Number:	2501V18169E-SA
FCC ID:	2BQVD-TK-168

Test Standard (s)

FCC 47 CFR part 2.1093

Sample Description

Product Name:	4G LTE POC RADIO
Model No.:	TK-168
Multiple Model(s) No.:	N/A
Trade Mark:	N/A
Serial Number:	35X4-1
Date Received:	2025/07/04
Date of Test:	2025/10/14
Issue Date:	2025/12/07

Test Result:	Pass▲

▲In the configuration tested, the EUT complied with the standards above.

Prepared and Checked By:

Bob Lu

Bob Lu
SAR Engineer

Approved By:

Luke Jiang

Luke Jiang
SAR Engineer

Note: The information marked# is provided by the applicant, the laboratory is not responsible for its authenticity and this information can affect the validity of the result in the test report. Customer model name, addresses, names, trademarks etc. are included.

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Attestation of Test Results		
Frequency Band	**Max. SAR Level(s) Reported(W/kg)**	**Limit(W/Kg)**
LTE Band 2	0.42 W/kg 1g Head SAR 0.38 W/kg 1g Body SAR	**1.6**
LTE Band 5	0.26 W/kg 1g Head SAR 0.28 W/kg 1g Body SAR	
LTE Band 7	**0.46** W/kg 1g Head SAR **0.53** W/kg 1g Body SAR	
LTE Band 66&4	0.33 W/kg 1g Head SAR 0.38 W/kg 1g Body SAR	
Applicable Standards	**FCC 47 CFR part 2.1093** Radiation exposure evaluation: portable devices	
	RF Exposure Procedures: TCB Workshop April 2019	
	IEEE 1528:2013 IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques	
	KDB procedures KDB 447498 D01 General RF Exposure Guidance v06 KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04 KDB 865664 D02 RF Exposure Reporting v01r02 KDB 941225 D05 SAR for LTE Devices v02r05	
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.**		

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	2501V18169E-SA	Original Report	2025/12/07

EUT DESCRIPTION

This report has been prepared on behalf of **Quanzhou Rongyaokesi Electronic Technology Co., LTD** and their product **4G LTE POC RADIO**, Test Model: **TK-168,** FCC ID: **2BQVD-TK-168** or the EUT (Equipment under Test) as referred to in the rest of this report.

**All measurement and test data in this report was gathered from production sample serial number: 35X4-1(Assigned by BACL, Shenzhen). The EUT supplied by the applicant was received on 2025/07/04.*

Technical Specification

Product Type:	Portable
Exposure Category:	Population / Uncontrolled
Antenna Type(s):	Internal Antenna
Body-Worn Accessories:	Belt Clip
Proximity Sensor:	None
Operation modes:	LTE CAT1
Frequency Band:	LTE Band 2: 1850-1910MHz(TX), 1930-1990MHz(RX) LTE Band 4: 1710-1755MHz(TX), 2110-2155MHz(RX) LTE Band 5: 824-849MHz(TX), 869-894MHz(RX) LTE Band 7: 2500-2570MHz(TX), 2620-2690MHz(RX) LTE Band 66: 1710-1780MHz(TX), 2110-2200MHz(RX)
Dimensions (L×W×H):	125 × 62 × 31 mm
Rated Input Voltage:	DC 3.7V from Rechargeable Li-ion Battery
Normal Operation:	Head and Body
EUT Received Status:	Good

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

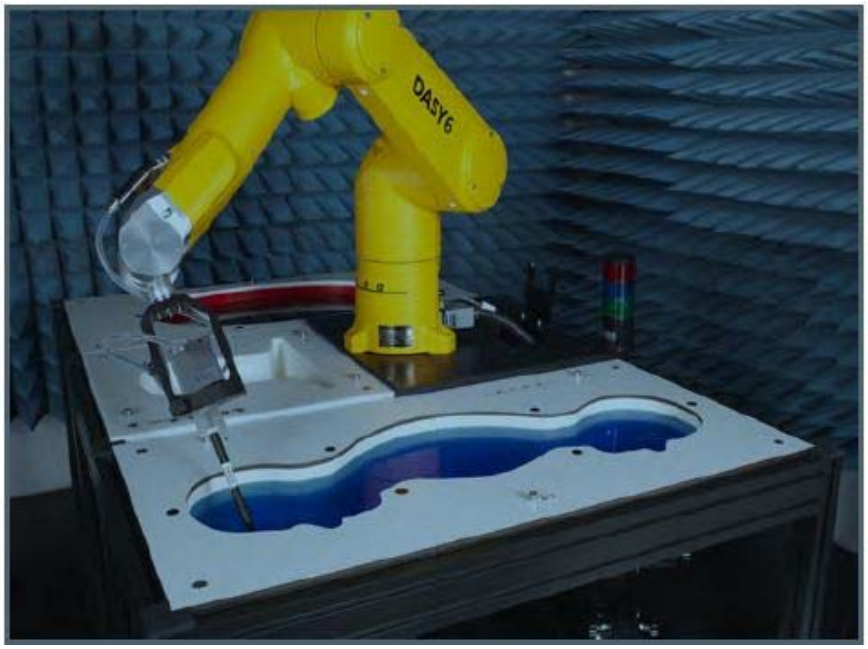
The test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect data is located at 5F(B-West) ,6F,7F,the 3rd Phase of Wan Li Industrial Building D,Shihua Rd, FuTian Free Trade Zone, Shenzhen, China

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.: 715558, the FCC Designation No.: CN5045.

Each test item follows test standards and with no deviation.

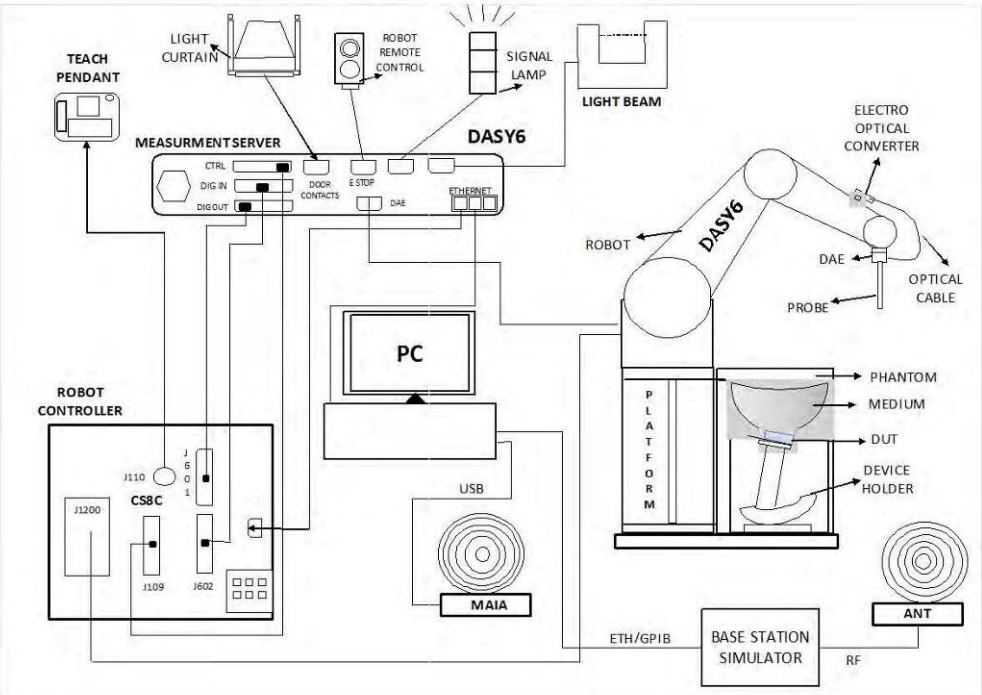
DESCRIPTION OF TEST SYSTEM

These measurements were performed with the automated near-field scanning system DASY6 from Schmid & Partner Engineering AG (SPEAG) which is the Fifth generation of the system shown in the figure hereinafter:



DASY6 System Description

The DASY6 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.

DASY6 Measurement Server

The DASY6 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 DASY6 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.

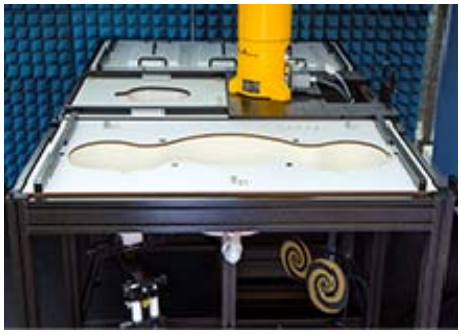
The mechanical probe mounting device includes two different sensor systems for frontal and sideways probe contacts. They are used for mechanical surface detection and probe collision detection.

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	4 MHz to >10 GHz Linearity: ± 0.2 dB (30 MHz to 10 GHz)
Directivity	± 0.1 dB in TSL (rotation around probe axis) ± 0.3 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, EASY6, EASY4/MRI

SAM Twin Phantom



The SAM Twin Phantom (shown in front of DASY6) is a fiberglass shell phantom with shell thickness 2 mm, except in the ear region where the thickness is increased to 6 mm. The phantom has three measurement areas: 1) Left Head, 2) Right Head, and 3) Flat Section. For larger devices, the use of the ELI-Phantom (shown behind DASY6) is required. For devices such as glasses with a wireless link, the Face Down Phantom is the most suitable (between the SAM Twin and ELI phantoms).

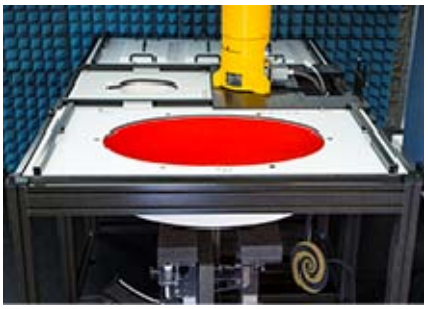
When the phantom is mounted inside allocated slot of the DASY6 platform, phantom reference points can be taught directly in the DASY5 V5.2software. When the DASY6 platform is used to mount the

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.

ELI Phantom



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

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 ELI phantom.

Robots

The DASY6 system uses the high-precision industrial robots TX60L, TX90XL, and RX160L from Staubli SA (France). The TX robot family - the successor of the well-known RX robot family - continues to offer the features important for DASY6 applications:

- 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 robots are controlled by the Staubli CS8c robot controllers. All information regarding the use and maintenance of the robot arm and the robot controller is provided

Calibration Frequency Points for EX3DV4 E-Field Probes SN: 7896 Calibrated: 2024/11/07

Calibration Frequency Point (MHz)	Frequency Range (MHz)		Conversion Factor		
	From	To	X	Y	Z
750 Head	650	810	8.72	9.14	9.15
900 Head	810	1000	8.08	8.47	8.48
1750 Head	1650	1810	7.20	7.55	7.56
1900 Head	1810	2000	6.96	7.29	7.30
2300 Head	2200	2399	6.79	7.12	7.13
2450 Head	2399	2500	6.54	6.85	6.86
2600 Head	2500	2700	6.60	6.92	6.93
3300 Head	3200	3400	5.83	6.12	6.12
3500 Head	3400	3600	5.91	6.19	6.20
3700 Head	3600	3800	5.92	6.20	6.21
3900 Head	3800	4000	5.79	6.07	6.07
5250 Head	5140	5360	4.86	5.09	5.09
5600 Head	5490	5700	4.52	4.74	4.74
5800 Head	5700	5900	4.56	4.78	4.78
6500 Head	5900	7200	4.74	4.96	4.97

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	$\frac{1}{2}\cdot\delta\cdot\ln(2)$ 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

Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$ mm	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

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 *reported* 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.

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 (5mm x 5mm x 5mm) providing a volume of 30 mm in the X & Y & Z axis.

Tissue Dielectric Parameters for Head and Body Phantoms

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

Recommended Tissue Dielectric Parameters for Head liquid

Table 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
DASY6 Measurement Server	DASY6 6.0.31	N/A	NCR	NCR
Data Acquisition Electronics	DAE4	1325	2025/09/28	2026/09/27
Dosimetric E-field Probes	EX3DV4	7896	2024/11/07	2025/11/06
Mounting Device	MD4HHTV5	SD 000 H01 KA	NCR	NCR
SAM Twin Phantom	SAM-Twin V8.0	1962	NCR	NCR
Dipole, 900MHz	D900V2	132	2023/09/26	2026/09/25
Dipole, 1750MHz	D1750V2	1199	2023/03/27	2026/03/26
Dipole, 1900MHz	D1900V2	5d231	2023/02/17	2026/02/16
Dipole, 2600MHz	D2600V2	1207	2023/03/27	2026/03/26
Simulated Tissue Liquid Head	HBBL600-10000V6	2200808-2	Each Time	/
Network Analyzer	E5071C	SER MY46519680	2025/04/29	2026/04/28
Dielectric Assessment Kit	DAK-3.5	1248	NCR	NCR
MXG Analog Signal Generator	N5181A	MY48180408	2024/12/04	2025/12/03
USB wideband power sensor	U2021XA	MY52350001	2025/04/29	2026/04/28
Directional Coupler	855673	3307	NCR	NCR
20dB Attenuator	2	BH9879	NCR	NCR
RF Power Amplifier	5205FE	1014	NCR	NCR
Amplifier	ZVE-8G+	558401902	NCR	NCR
Wideband Radio Communication Tester	CMW500	146520	2025/09/18	2026/09/17
Thermometer	DTM3000	N/A	2024/12/10	2025/12/09
Temperature & Humidity Meter	10316377	N/A	2024/12/10	2025/12/09
Spectrum Analyzer	FSU26	200982	2025/08/12	2026/08/11
Straight Steel Ruler	600mm	N/A	2024/12/11	2027/12/10

Note:

NCR: No Calibration Required.

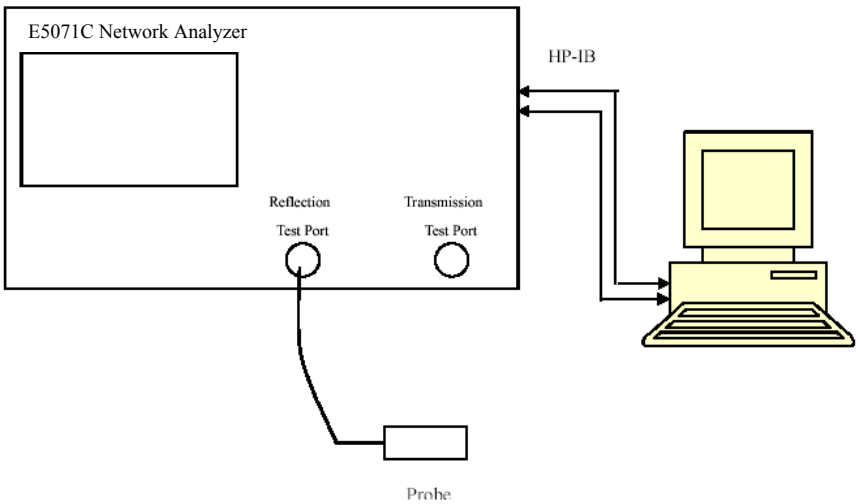
The Dipole calibration methods and procedures used were as detailed in:

FCC KDB Publication Number: "KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz"

1. The return-loss does not deviate more than 20% from the previous measurement and meets the required 20dB minimum return-loss requirement.
2. The measurement of real or imaginary parts of impedance does not deviate more than 5Ω from the previous measurement.
3. The verify result is on APPENDIX D.

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)	$\Delta\varepsilon_r$	Δσ (S/m)	
829	Simulated Tissue Liquid Head	42.764	0.896	41.53	0.9	2.97	-0.44	±5
836.5	Simulated Tissue Liquid Head	42.736	0.9	41.5	0.9	2.98	0	±5
844	Simulated Tissue Liquid Head	42.708	0.904	41.5	0.91	2.91	-0.66	±5
900	Simulated Tissue Liquid Head	42.502	0.937	41.5	0.97	2.41	-3.4	±5

**Liquid Verification above was performed on 2025/10/14.*

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	σ (S/m)	ε_r	σ (S/m)	$\Delta\varepsilon_r$	Δσ (S/m)	
1720	Simulated Tissue Liquid Head	41.186	1.36	40.13	1.35	2.63	0.74	±5
1745	Simulated Tissue Liquid Head	41.117	1.368	40.1	1.37	2.54	-0.15	±5
1750	Simulated Tissue Liquid Head	41.103	1.369	40.1	1.37	2.5	-0.07	±5
1770	Simulated Tissue Liquid Head	41.048	1.375	40.06	1.38	2.47	-0.36	±5

**Liquid Verification above was performed on 2025/10/14.*

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	σ (S/m)	ε_r	σ (S/m)	$\Delta\varepsilon_r$	Δσ (S/m)	
1860	Simulated Tissue Liquid Head	40.448	1.372	40	1.4	1.12	-2	±5
1880	Simulated Tissue Liquid Head	40.447	1.381	40	1.4	1.12	-1.36	±5
1900	Simulated Tissue Liquid Head	40.447	1.39	40	1.4	1.12	-0.71	±5

**Liquid Verification above was performed on 2025/10/14.*

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	σ (S/m)	ε_r	σ (S/m)	$\Delta\varepsilon_r$	Δσ (S/m)	
2510	Simulated Tissue Liquid Head	38.379	1.809	39.12	1.86	-1.89	-2.74	±5
2535	Simulated Tissue Liquid Head	38.356	1.842	39.09	1.89	-1.88	-2.54	±5
2560	Simulated Tissue Liquid Head	38.332	1.874	39.05	1.92	-1.84	-2.4	±5
2600	Simulated Tissue Liquid Head	38.294	1.926	39.00	1.96	-1.81	-1.73	±5

**Liquid Verification above was performed on 2025/10/14.*

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.

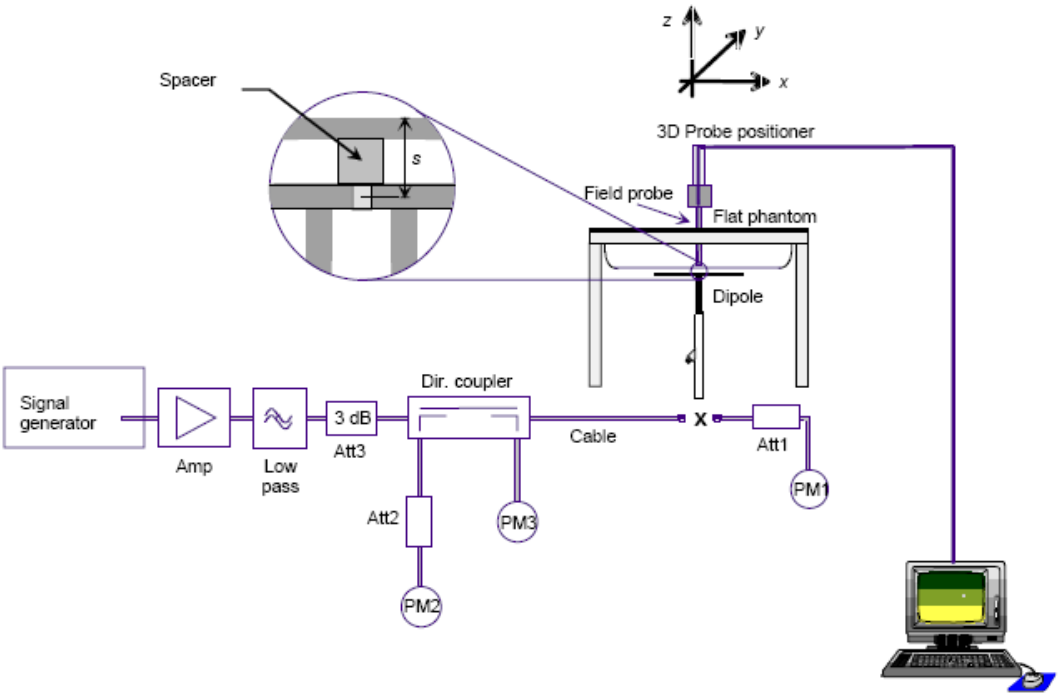
The spacing distances in the **System Verification Setup Block Diagram** is given by the following:

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 ≤ 3 000 MHz;

c) s = 10 mm ± 0,2 mm for 3 000 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 (%)
2025/10/14	900	Head	100	1g	0.99	9.9	10.8	-8.333	±10
2025/10/14	1750	Head	100	1g	3.48	34.8	36	-3.333	±10
2025/10/14	1900	Head	100	1g	3.83	38.3	39.9	-4.01	±10
2025/10/14	2600	Head	100	1g	5.33	53.3	55.2	-3.442	±10

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

SAR SYSTEM VALIDATION DATA

System Performance 900 MHz Head

DUT: Dipole 900 MHz; Type: D900V2; Serial: 132

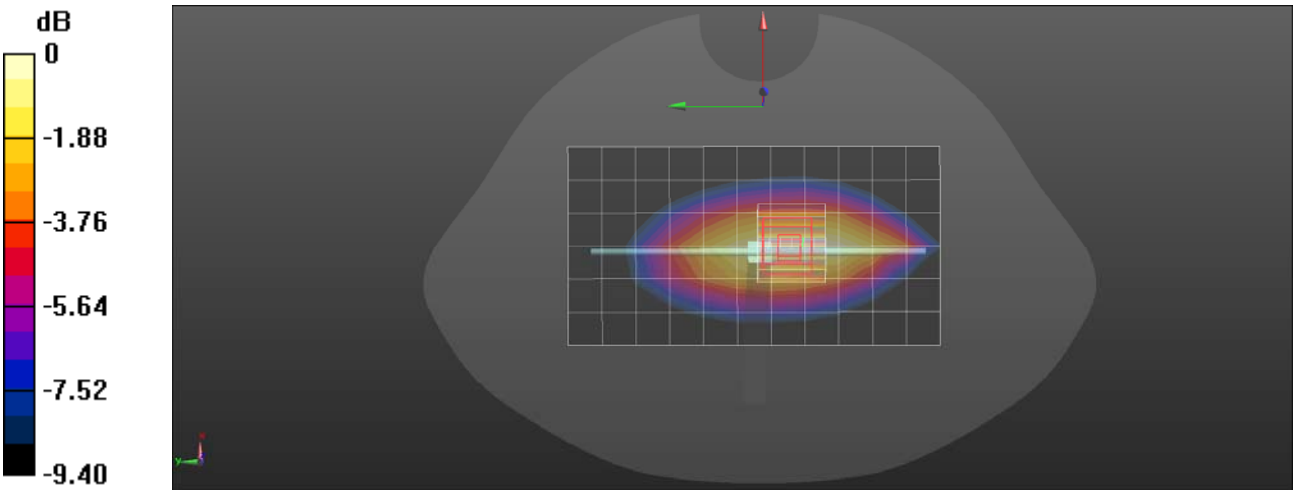
Communication System: UID 0, CW (0); Frequency: 900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 900 MHz; σ = 0.937 S/m; ε_r = 42.502; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7896; ConvF(8.08, 8.47, 8.48) @ 900 MHz; Calibrated: 11/7/2024
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1325; Calibrated: 9/28/2025
- Phantom: SAM-Twin V8.0 P1aP2a; Type: QD 000 P41 AA ; Serial: 1962
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Configuration/Head 900MHz Pin=100mW/Area Scan (7x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.26 W/kg

Configuration/Head 900MHz Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 33.74 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 1.32 W/kg
SAR(1 g) = 0.990 W/kg; SAR(10 g) = 0.670 W/kg
Smallest distance from peaks to all points 3 dB below = 16.6 mm
Ratio of SAR at M2 to SAR at M1 = 71.4%
Maximum value of SAR (measured) = 1.22 W/kg



0 dB = 1.22 W/kg = 0.86 dBW/kg

System Performance 1750 MHz Head

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1199

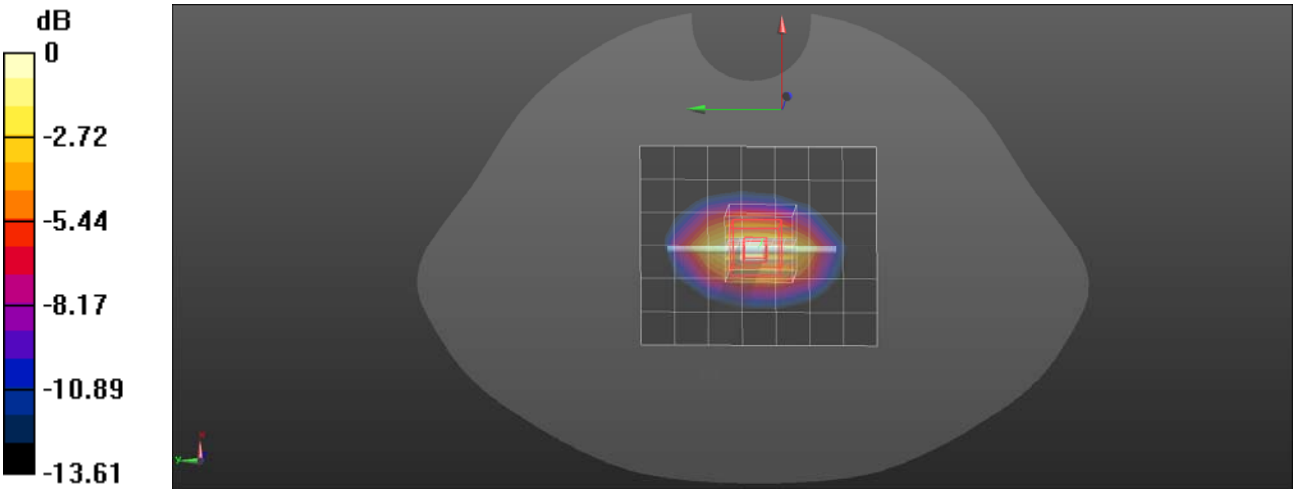
Communication System: UID 0, CW (0); Frequency: 1750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1750 MHz; σ = 1.369 S/m; ε_r = 41.103; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7896; ConvF(7.2, 7.55, 7.56) @ 1750 MHz; Calibrated: 11/7/2024
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1325; Calibrated: 9/28/2025
- Phantom: SAM-Twin V8.0 P1aP2a; Type: QD 000 P41 AA ; Serial: 1962
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Configuration/Head 1750MHz Pin=100mW/Area Scan (7x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 4.98 W/kg

Configuration/Head 1750MHz Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 58.14 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 5.41 W/kg
SAR(1 g) = 3.48 W/kg; SAR(10 g) = 2.02 W/kg
Smallest distance from peaks to all points 3 dB below = 11 mm
Ratio of SAR at M2 to SAR at M1 = 65%
Maximum value of SAR (measured) = 4.80 W/kg



0 dB = 4.80 W/kg = 6.81 dBW/kg

System Performance 1900 MHz Head

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d231

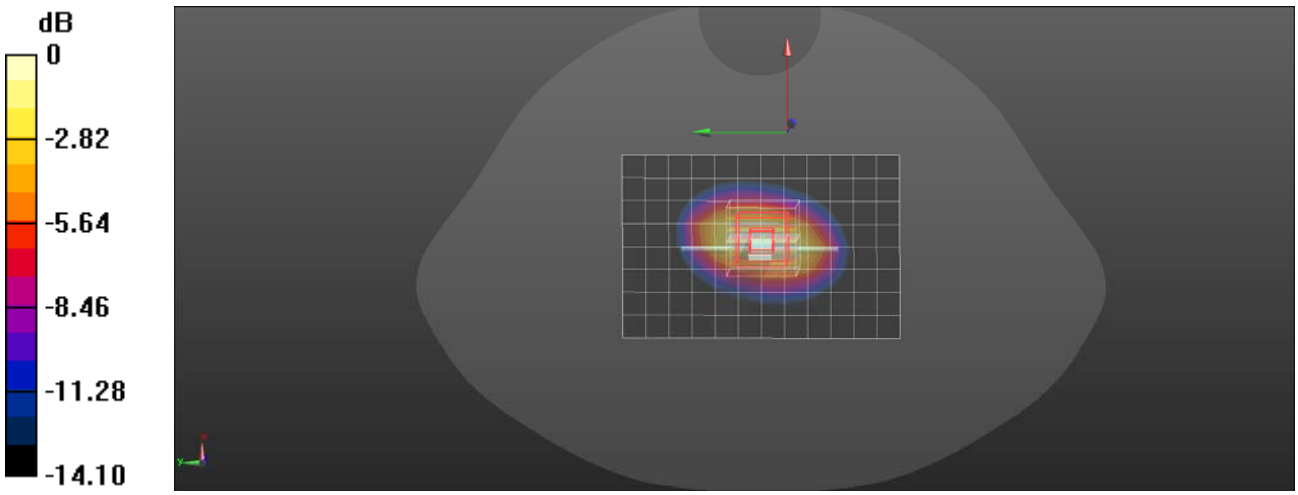
Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.39 S/m; ε_r = 40.447; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7896; ConvF(6.96, 7.29, 7.3) @ 1900 MHz; Calibrated: 11/7/2024
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1325; Calibrated: 9/28/2025
- Phantom: SAM-Twin V8.0 P1aP2a; Type: QD 000 P41 AA ; Serial: 1962
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Configuration/Head 1900MHz Pin=100mW/Area Scan (9x13x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 6.18 W/kg

Configuration/Head 1900MHz Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 62.15 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 6.55 W/kg
SAR(1 g) = 3.83 W/kg; SAR(10 g) = 2.18 W/kg
Smallest distance from peaks to all points 3 dB below = 10.4 mm
Ratio of SAR at M2 to SAR at M1 = 63.8%
Maximum value of SAR (measured) = 5.41 W/kg



0 dB = 5.41 W/kg = 7.33 dBW/kg

System Performance 2600 MHz Head

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1207

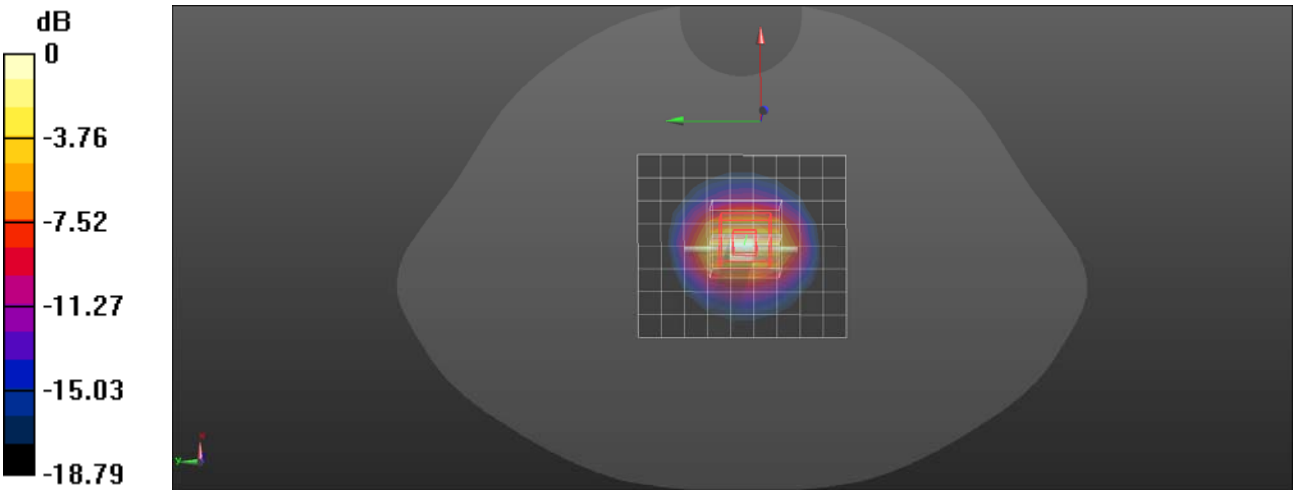
Communication System: UID 0, CW (0); Frequency: 2600 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2600 MHz; σ = 1.926 S/m; ε_r = 38.294; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7896; ConvF(6.6, 6.92, 6.93) @ 2600 MHz; Calibrated: 11/7/2024
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1325; Calibrated: 9/28/2025
- Phantom: SAM-Twin V8.0 P1aP2a; Type: QD 000 P41 AA ; Serial: 1962
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Configuration/Head 2600MHz Pin=100mW/Area Scan (9x10x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 7.54 W/kg

Configuration/Head 2600MHz Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.65 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 9.35 W/kg
SAR(1 g) = 5.33 W/kg; SAR(10 g) = 2.64 W/kg
Smallest distance from peaks to all points 3 dB below = 9 mm
Ratio of SAR at M2 to SAR at M1 = 58.1%
Maximum value of SAR (measured) = 8.13 W/kg

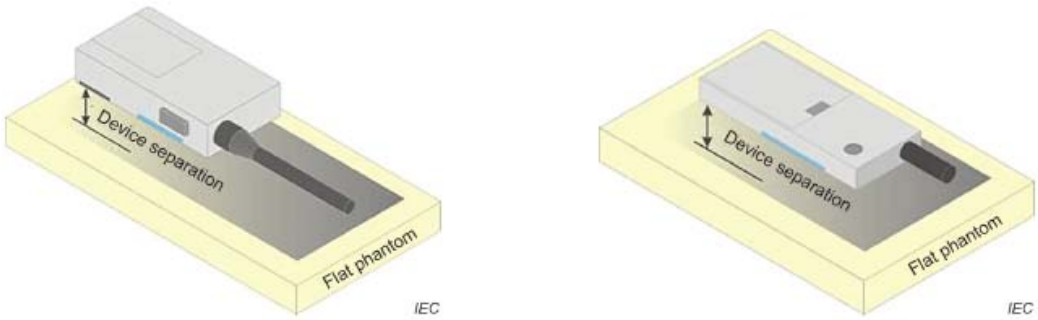


0 dB = 8.13 W/kg = 9.10 dBW/kg

EUT TEST STRATEGY AND METHODOLOGY

Test positions for Front-of-face configurations

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



b) Two-way radios

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

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.

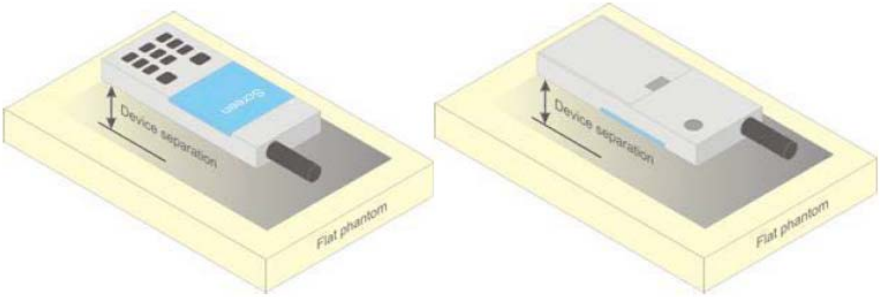


Figure 5 – Test positions for body-worn devices

Test Distance for SAR Evaluation

For Face Up mode(10g Head SAR) the EUT(Equipment Under Test) is set 25mm away from the phantom, the test distance is 25mm;

For Body mode (10g Body SAR) the EUT(Equipment Under Test) with belt clip is set 0mm away from the phantom, the test distance is 0mm.

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 Measured 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 Measured to calculate the averages.

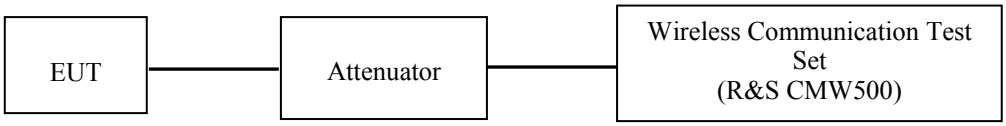
All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

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.



LTE

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

The maximum power was configured per 3GPP Standard for each operation modes as below setting:

LTE (FDD):

The following tests were conducted according to the test requirements in 3GPP TS36.101

The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP TS36.101 specification.

UE Power Class: 3 (23 +/- 2dBm). The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS36.101.

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

Modulation	Channel bandwidth / Transmission bandwidth (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

The allowed A-MPR values specified below in Table 6.2.4.-1 of 3GPP TS36.101 are in addition to the allowed MPR requirements. All the measurements below were performed with A-MPR disabled, by using Network Signaling Value of "NS_01".

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

Network Signalling value	Requirements (sub-clause)	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	NA
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	See 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	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	Table 6.2.4-3
NS_11	6.6.2.2.1	23[1]	1.4, 3, 5, 10	Table 6.2.4-5	Table 6.2.4-5
..					
NS_32	-	-	-	-	-

Note 1: Applies to the lower block of Band 23, i.e. a carrier placed in the 2000-2010 MHz region.

Maximum Target Output Power

Max Target Power(dBm)			
Band/Mode	Channel		
	Low	Middle	High
LTE Band 2 1RB	25	25	25
LTE Band 2 50%RB	24	24	24
LTE Band 2 100%RB	24	24	24
LTE Band 4 1RB	25	25	25
LTE Band 4 50%RB	24	24	24
LTE Band 4 100%RB	24	24	24
LTE Band 5 1RB	25	25	25
LTE Band 5 50%RB	23	23	23
LTE Band 5 100%RB	23	23	23
LTE Band 7 1RB	25.5	25.5	25.5
LTE Band 7 50%RB	24.5	24.5	24.5
LTE Band 7 100%RB	24.5	24.5	24.5
LTE Band 66 1RB	25	25	25
LTE Band 66 50%RB	24	24	24
LTE Band 66 100%RB	24	24	24

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

Test Results

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	24.63	24.86	23.91
		RB1#3	24.66	24.77	24.02
		RB1#5	24.81	24.58	24.15
		RB3#0	24.68	24.7	23.87
		RB3#1	24.81	24.62	24
		RB3#3	24.7	24.44	24.02
		RB6#0	23.85	23.55	23.03
	16-QAM	RB1#0	23.85	24.17	22.73
		RB1#3	23.63	23.96	22.9
		RB1#5	23.71	24.03	23.09
		RB3#0	24.07	24.04	23.04
		RB3#1	24.12	23.95	23.1
		RB3#3	24.06	23.92	23.22
		RB6#0	23.23	22.78	22.33
3M	QPSK	RB1#0	24.54	24.49	24.4
		RB1#8	24.28	24.17	23.64
		RB1#14	24.27	24.11	23.85
		RB8#0	23.54	23.68	23.4
		RB8#4	23.31	23.49	23
		RB8#7	23.29	23.34	22.75
		RB15#0	23.46	23.34	23.1
	16-QAM	RB1#0	23.92	23.45	23.46
		RB1#8	23.79	23.38	22.63
		RB1#14	23.57	23.13	22.85
		RB8#0	22.91	22.68	22.58
		RB8#4	22.79	22.64	22.51
		RB8#7	22.61	22.61	22.04
		RB15#0	22.6	22.51	22.47
5M	QPSK	RB1#0	24.49	24.64	24.28
		RB1#12	23.94	24.14	24.19
		RB1#24	23.81	24.11	23.78
		RB12#0	23.26	23.52	23.31
		RB12#7	23.16	23.26	23.39
		RB12#13	23.2	23.13	22.83
		RB25#0	23.15	23.19	23.3
	16-QAM	RB1#0	24.1	23.84	23.53
		RB1#12	23.72	23.44	23.45
		RB1#24	23.67	23.21	22.95
		RB12#0	22.42	22.66	22.59
		RB12#7	22.48	22.51	22.6
		RB12#13	22.29	22.5	22.25
		RB25#0	22.5	22.32	22.51

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
10M	QPSK	RB1#0	24.46	24.57	24.18
		RB1#25	23.92	24	24.17
		RB1#49	24.04	24	23.66
		RB25#0	22.87	23.51	23.04
		RB25#12	22.88	23.17	23.24
		RB25#25	22.78	23.23	23.13
		RB50#0	22.8	23.06	23.18
	16-QAM	RB1#0	23.72	23.76	23.26
		RB1#25	23.24	23.01	23.34
		RB1#49	23.34	23.16	22.57
		RB12#0	23.3	23.99	23.34
		RB12#19	23.11	23.23	23.35
		RB12#38	23.13	23.26	22.96
		RB27#0	22.18	22.56	22.21
		RB27#11	22.18	22.28	22.39
		RB27#23	22.05	22.3	22.28
15M	QPSK	RB1#0	24.36	24.94	24.54
		RB1#37	23.81	24.07	23.72
		RB1#74	24.56	24.04	23.41
		RB36#0	22.97	23.64	23.43
		RB36#20	22.95	23.07	23.16
		RB36#39	23.17	23.21	23.29
		RB75#0	22.97	23.17	23.25
	16-QAM	RB1#0	23.62	24.12	23.68
		RB1#37	23.3	23.22	23.02
		RB1#74	23.88	23.45	22.43
		RB12#0	23.06	24.06	23.58
		RB12#31	23.02	23.32	23.23
		RB12#63	23.45	23.18	22.93
		RB27#0	22.12	22.91	22.68
		RB27#24	22	22.28	22.29
		RB27#48	22.42	22.28	22.41
20M	QPSK	RB1#0	23.93	**24.96**	24.18
		RB1#49	23.63	24.02	24.13
		RB1#99	24.71	24.06	23.22
		RB50#0	22.8	23.76	23.53
		RB50#24	23	23.13	23.24
		RB50#50	23.62	22.94	23.15
		RB100#0	22.94	23.2	23.13
	16-QAM	RB1#0	23.37	24.74	23.67
		RB1#49	23.17	23.82	23.75
		RB1#99	24.26	23.87	22.69
		RB12#0	22.89	23.99	23.44
		RB12#43	23.02	23.4	23.53
		RB12#88	23.82	23.25	23.03
		RB27#0	22.07	22.99	22.62
		RB27#37	22.27	22.17	22.64
		RB27#73	22.97	22.17	22.28

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	**24.47**	24.39	23.53
		RB1#3	24.27	24.29	23.55
		RB1#5	24.25	24.24	23.56
		RB3#0	24.17	24.3	23.62
		RB3#1	24.24	24.15	23.55
		RB3#3	24.18	24.31	23.7
		RB6#0	23.05	23.28	22.55
	16-QAM	RB1#0	23.51	23.12	22.41
		RB1#3	23.43	23.11	22.34
		RB1#5	23.51	23.17	22.46
		RB3#0	23.51	23.43	22.77
		RB3#1	23.3	23.54	22.64
		RB3#3	23.41	23.4	22.69
		RB6#0	22.04	22.5	21.89
3M	QPSK	RB1#0	23.82	24.09	23.73
		RB1#8	23.86	24.28	23.8
		RB1#14	23.68	24.08	23.52
		RB8#0	22.8	23.4	22.61
		RB8#4	22.89	23.25	22.55
		RB8#7	22.83	23.17	22.48
		RB15#0	22.89	23.33	22.58
	16-QAM	RB1#0	22.65	23.31	22.96
		RB1#8	22.76	23.18	22.99
		RB1#14	22.62	23.01	22.75
		RB8#0	21.93	22.33	21.8
		RB8#4	22.03	22.43	21.83
		RB8#7	21.87	22.29	21.73
		RB15#0	22	22.4	21.56
5M	QPSK	RB1#0	24.13	24.26	23.91
		RB1#12	23.73	24.22	23.71
		RB1#24	23.82	24.02	23.55
		RB12#0	22.75	23.22	22.64
		RB12#7	22.82	23.35	22.51
		RB12#13	22.8	23.22	22.52
		RB25#0	22.9	23.11	22.47
	16-QAM	RB1#0	23.16	23.98	22.72
		RB1#12	23.04	23.88	22.62
		RB1#24	23	23.82	22.56
		RB12#0	22.01	22.39	21.77
		RB12#7	21.99	22.41	21.83
		RB12#13	21.87	22.35	21.67
		RB25#0	21.94	22.5	21.7

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
10M	QPSK	RB1#0	24.32	24.22	23.74
		RB1#25	23.78	24.19	23.68
		RB1#49	24.34	23.86	23.53
		RB25#0	22.78	23.22	22.7
		RB25#12	22.58	23.09	22.61
		RB25#25	22.72	22.92	22.42
		RB50#0	22.55	22.97	22.54
	16-QAM	RB1#0	23.37	23.08	22.83
		RB1#25	23.01	22.94	22.63
		RB1#49	23.59	22.72	22.52
		RB12#0	23.02	23.44	22.87
		RB12#19	22.88	23.32	22.72
		RB12#38	23.15	23.18	22.49
		RB27#0	21.76	22.29	21.74
		RB27#11	21.85	22.27	21.81
		RB27#23	21.79	21.98	21.48
15M	QPSK	RB1#0	23.97	24.37	23.91
		RB1#37	23.81	24.19	24.12
		RB1#74	24.32	23.93	23.77
		RB36#0	22.62	23.12	22.76
		RB36#20	22.84	23.22	22.78
		RB36#39	23.15	22.84	22.6
		RB75#0	22.76	23.18	22.83
	16-QAM	RB1#0	22.88	23.26	23.25
		RB1#37	23.01	23.23	23.33
		RB1#74	23.42	22.94	22.93
		RB12#0	22.73	23.22	22.58
		RB12#31	23	23.33	22.84
		RB12#63	23.23	22.72	22.41
		RB27#0	21.73	22.24	21.95
		RB27#24	22.08	22.35	21.96
		RB27#48	22.2	22	21.7
20M	QPSK	RB1#0	23.86	23.96	23.86
		RB1#49	23.99	24.23	23.9
		RB1#99	24.17	23.76	23.56
		RB50#0	22.67	23.29	22.7
		RB50#24	23.16	23.35	22.87
		RB50#50	23.37	22.8	22.68
		RB100#0	23.04	23.12	22.62
	16-QAM	RB1#0	23.24	23.43	23.56
		RB1#49	23.39	23.49	23.45
		RB1#99	23.7	23.06	22.95
		RB12#0	22.82	23.22	22.81
		RB12#43	23.3	23.34	22.91
		RB12#88	23.36	22.66	22.48
		RB27#0	21.66	22.26	21.66
		RB27#37	22.31	22.37	21.9
		RB27#73	22.23	21.88	21.46

LTE Band 5:

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	RB1#0	23.8	23.58	23.52
		RB1#3	23.85	23.63	23.3
		RB1#5	23.88	23.63	23.37
		RB3#0	23.89	23.48	23.2
		RB3#1	23.96	23.53	23.34
		RB3#3	23.99	23.73	23.25
		RB6#0	22.9	22.65	22.24
	16-QAM	RB1#0	22.89	22.35	22.86
		RB1#3	22.74	22.43	22.84
		RB1#5	22.91	22.67	22.61
		RB3#0	23.23	22.89	22.79
		RB3#1	23.21	22.92	22.74
		RB3#3	23.31	22.87	22.67
		RB6#0	22.17	21.92	21.4
3M	QPSK	RB1#0	23.89	23.39	23.86
		RB1#8	23.84	23.58	23.56
		RB1#14	23.89	23.55	23.37
		RB8#0	22.93	22.62	22.58
		RB8#4	22.91	22.63	22.65
		RB8#7	23.06	22.7	22.44
		RB15#0	22.91	22.73	22.64
	16-QAM	RB1#0	22.82	22.61	23.05
		RB1#8	22.79	22.71	23.06
		RB1#14	22.83	22.69	22.84
		RB8#0	22.12	21.83	21.93
		RB8#4	22.04	21.87	21.83
		RB8#7	22.09	21.87	21.69
		RB15#0	21.93	21.79	21.68
5M	QPSK	RB1#0	24.12	23.69	24.02
		RB1#12	24.15	23.87	23.55
		RB1#24	23.93	23.93	23.56
		RB12#0	22.99	22.68	22.77
		RB12#7	23.1	22.87	22.69
		RB12#13	22.94	22.81	22.61
		RB25#0	22.79	22.73	22.68
	16-QAM	RB1#0	23.23	22.87	23.54
		RB1#12	23.05	22.87	23.41
		RB1#24	22.96	23.06	23.26
		RB12#0	22.22	21.83	22.04
		RB12#7	22.18	22.02	22.01
		RB12#13	22.21	21.93	21.89
		RB25#0	21.97	21.95	21.87

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
10M	QPSK	RB1#0	**24.44**	23.6	23.99
		RB1#25	23.97	23.64	23.92
		RB1#49	23.86	24.11	23.37
		RB25#0	22.84	22.72	22.94
		RB25#12	22.87	22.76	22.85
		RB25#25	22.67	22.87	22.61
		RB50#0	22.76	22.75	22.69
	16-QAM	RB1#0	23.7	22.64	23.02
		RB1#25	23.29	22.51	22.96
		RB1#49	23.27	22.81	22.51
		RB12#0	23.27	22.56	23.02
		RB12#19	22.9	22.65	22.9
		RB12#38	22.86	22.91	22.61
		RB27#0	21.96	21.61	21.9
		RB27#11	22.03	21.77	21.97
		RB27#23	21.85	21.69	21.56

LTE Band 7:

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	RB1#0	24.23	25.07	24.46
		RB1#12	24.03	24.96	24.03
		RB1#24	23.98	24.75	23.78
		RB12#0	23	24.06	23.35
		RB12#7	23.24	24.15	23.4
		RB12#13	23.12	23.95	23.23
		RB25#0	23.16	24.02	23.31
	16-QAM	RB1#0	23.43	24.82	23.52
		RB1#12	23.2	24.63	23.3
		RB1#24	23.14	24.63	23.25
		RB12#0	22.17	23.2	22.7
		RB12#7	22.14	23.43	22.67
		RB12#13	22.22	23.21	22.59
		RB25#0	22.18	23.24	22.62
10M	QPSK	RB1#0	24.13	24.87	24.31
		RB1#25	23.85	24.76	24.39
		RB1#49	24.03	24.42	24.02
		RB25#0	22.93	24.08	23.45
		RB25#12	22.94	24.06	23.5
		RB25#25	23.04	23.85	23.08
		RB50#0	22.81	24	23.36
	16-QAM	RB1#0	23.1	24.05	23.75
		RB1#25	22.78	23.98	23.79
		RB1#49	23.06	23.64	23.54
		RB12#0	23.07	24.11	23.43
		RB12#19	23.15	24.05	23.61
		RB12#38	23.2	23.9	23.15
		RB27#0	21.96	23.07	22.62
		RB27#11	21.98	23.22	22.74
		RB27#23	21.96	22.99	22.44
15M	QPSK	RB1#0	24.13	24.99	24.07
		RB1#37	24.19	24.99	23.99
		RB1#74	24.45	24.19	23.86
		RB36#0	22.9	23.93	23.34
		RB36#20	23.13	24.12	23.47
		RB36#39	23.2	23.71	23.36
		RB75#0	22.97	23.96	23.32
	16-QAM	RB1#0	23.41	24.18	23.17
		RB1#37	23.48	24.04	23.46
		RB1#74	23.9	23.44	23.11
		RB12#0	22.93	24.23	23.15
		RB12#31	23.17	24.25	23.53
		RB12#63	23.2	23.42	23.24
		RB27#0	22.03	23.11	22.39
		RB27#24	22.25	23.35	22.7
		RB27#48	22.44	22.85	22.54

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
20M	QPSK	RB1#0	24.21	**25.1**	24.05
		RB1#49	24.37	25.08	24.51
		RB1#99	24.54	24.19	24.04
		RB50#0	23.23	24.25	23.43
		RB50#24	23.51	24.33	23.78
		RB50#50	23.54	23.8	23.84
		RB100#0	23.47	24.26	23.56
	16-QAM	RB1#0	23.5	24.77	23.68
		RB1#49	23.84	24.95	24.09
		RB1#99	24.13	23.99	23.78
		RB12#0	23.12	24.28	23.41
		RB12#43	23.57	24.57	23.9
		RB12#88	23.72	23.68	23.58
		RB27#0	22.22	23.2	22.57
		RB27#37	22.7	23.46	23.04
		RB27#73	22.68	22.62	22.91

LTE Band 66:

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	RB1#0	23.81	23.64	23.3
		RB1#3	23.71	23.71	23.35
		RB1#5	23.87	23.68	23.24
		RB3#0	23.94	23.76	23.08
		RB3#1	23.89	23.81	23.24
		RB3#3	24.09	23.77	23.17
		RB6#0	22.93	22.84	22.16
	16-QAM	RB1#0	22.85	22.58	22.58
		RB1#3	22.91	22.72	22.63
		RB1#5	22.97	22.71	22.59
		RB3#0	23.25	23.03	22.47
		RB3#1	23.31	22.86	22.6
		RB3#3	23.21	23.01	22.51
		RB6#0	22.3	22.2	21.18
3M	QPSK	RB1#0	24.34	23.75	22.98
		RB1#8	24.22	23.76	23.09
		RB1#14	24.06	23.65	23.02
		RB8#0	23.01	22.83	22.14
		RB8#4	23.09	22.83	22.07
		RB8#7	23.14	22.77	22.03
		RB15#0	23.06	22.82	22.04
	16-QAM	RB1#0	23.38	22.68	22.01
		RB1#8	23.59	22.7	22.13
		RB1#14	23.34	22.64	22.07
		RB8#0	22.28	21.87	21.22
		RB8#4	22.17	21.86	21.31
		RB8#7	22.21	21.78	21.34
		RB15#0	22.18	21.8	21.31
5M	QPSK	RB1#0	23.8	23.89	23.18
		RB1#12	23.77	23.86	23.07
		RB1#24	23.88	23.91	23.12
		RB12#0	22.83	22.7	22.13
		RB12#7	22.96	22.78	22.13
		RB12#13	22.81	22.71	22.16
		RB25#0	22.85	22.72	22.02
	16-QAM	RB1#0	23.1	22.78	22.79
		RB1#12	22.9	22.94	22.85
		RB1#24	23.19	23.17	22.88
		RB12#0	22.02	21.99	21.22
		RB12#7	22.1	21.95	21.36
		RB12#13	22.09	21.95	21.31
		RB25#0	21.87	21.88	21.2

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
10M	QPSK	RB1#0	24.43	23.58	23.26
		RB1#25	23.97	23.6	23.08
		RB1#49	24.49	23.93	23.03
		RB25#0	22.88	22.64	22.03
		RB25#12	22.83	22.83	22.07
		RB25#25	22.83	22.69	21.8
		RB50#0	22.85	22.69	21.89
	16-QAM	RB1#0	23.54	22.63	22.33
		RB1#25	23.3	22.55	22.13
		RB1#49	23.6	22.84	22.16
		RB12#0	23.1	22.7	22.22
		RB12#19	23.1	22.82	22.01
		RB12#38	23.23	22.99	22.14
		RB27#0	21.77	21.84	21.24
		RB27#11	22.03	21.84	21.07
		RB27#23	21.93	21.77	21.08
15M	QPSK	RB1#0	24.32	23.68	23.55
		RB1#37	24.38	23.86	23.14
		RB1#74	**24.65**	24.07	23.04
		RB36#0	22.86	22.78	22.23
		RB36#20	23.11	22.65	22.31
		RB36#39	23.3	22.93	22.13
		RB75#0	23.03	22.62	22.31
	16-QAM	RB1#0	23.53	22.8	22.58
		RB1#37	23.5	22.78	22.19
		RB1#74	23.71	23.16	22.15
		RB12#0	22.9	22.71	22.3
		RB12#31	23.02	22.96	22.19
		RB12#63	23.26	22.89	22.04
		RB27#0	21.96	21.85	21.57
		RB27#24	22.04	21.9	21.43
		RB27#48	22.19	22.1	21.08
20M	QPSK	RB1#0	23.67	23.42	23.47
		RB1#49	23.76	23.74	23.15
		RB1#99	23.84	24.17	23.04
		RB50#0	22.87	22.61	22.3
		RB50#24	23.1	22.8	22.36
		RB50#50	23.05	22.92	22.05
		RB100#0	22.81	22.61	22.44
	16-QAM	RB1#0	23.2	23.29	22.82
		RB1#49	23.34	23.36	22.6
		RB1#99	23.36	23.48	22.54
		RB12#0	22.72	22.75	22.36
		RB12#43	23.19	22.75	22.44
		RB12#88	23	22.72	22.17
		RB27#0	21.75	21.49	21.31
		RB27#37	22.17	21.88	21.46
		RB27#73	22.12	21.76	20.99

STANDALONE SAR TEST EXCLUSION CONSIDERATIONS

Antennas Location:

EUT Front View

SAR MEASUREMENT RESULTS

This page summarizes the results of the performed dosimetry evaluation.

Test Results:

Environmental Conditions:

Ambient Temperature:	20 ~ 21.9℃
Relative Humidity:	48 ~ 66%
ATM Pressure:	100.6 kPa
Test Date:	2025/10/14

** Testing was performed by Bob Lu, Calvin Li and Sid Luo.*

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
Face Up (25mm)	1860	20	1RB	/	/	/	/	/	/
	1880	20	1RB	24.96	25.0	1.009	0.417	**0.42**	**1#**
	1900	20	1RB	/	/	/	/	/	/
	1880	20	50%RB	23.76	24.0	1.057	0.296	0.31	/
Body Back With Belt Clip (0 mm)	1860	20	1RB	/	/	/	/	/	/
	1880	20	1RB	24.96	25.0	1.009	0.379	**0.38**	**2#**
	1900	20	1RB	/	/	/	/	/	/
	1880	20	50%RB	23.76	24.0	1.057	0.264	0.28	/

LTE Band 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
Face Up (25mm)	829	10	1RB	/	/	/	/	/	/
	836.5	10	1RB	24.11	25.0	1.227	0.211	**0.26**	**3#**
	844	10	1RB	/	/	/	/	/	/
	836.5	10	50%RB	22.87	23.0	1.03	0.150	0.15	/
Body Back With Belt Clip (0 mm)	829	10	1RB	/	/	/	/	/	/
	836.5	10	1RB	24.11	25.0	1.227	0.225	**0.28**	**4#**
	844	10	1RB	/	/	/	/	/	/
	836.5	10	50%RB	22.87	23.0	1.03	0.166	0.17	/

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
Face Up (25mm)	2510	20	1RB	/	/	/	/	/	/
	2535	20	1RB	25.1	25.5	1.096	0.417	**0.46**	**5#**
	2560	20	1RB	/	/	/	/	/	/
	2535	20	50%RB	24.33	24.5	1.04	0.390	0.41	/
Body Back With Belt Clip (0 mm)	2510	20	1RB	/	/	/	/	/	/
	2535	20	1RB	25.1	25.5	1.096	0.483	**0.53**	**6#**
	2560	20	1RB	/	/	/	/	/	/
	2535	20	50%RB	24.33	24.5	1.04	0.460	0.48	/

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
Face Up (25mm)	1720	20	1RB	/	/	/	/	/	/
	1745	20	1RB	24.17	25.0	1.211	0.272	**0.33**	**7#**
	1770	20	1RB	/	/	/	/	/	/
	1745	20	50%RB	22.92	24.0	1.282	0.195	0.25	/
Body Back With Belt Clip (0 mm)	1720	20	1RB	/	/	/	/	/	/
	1745	20	1RB	24.17	25.0	1.211	0.316	**0.38**	**8#**
	1770	20	1RB	/	/	/	/	/	/
	1745	20	50%RB	22.92	24.0	1.282	0.225	0.29	/

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.

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 SAR for LTE Devices v02r05.
3. KDB 941225 D05-SAR for higher order modulation is required only when the highest maximum output power for the configuration in the higher order modulation is > 0.5 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-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- 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- Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offset the upper edge, middle and lower edge of each required test channel.
7. KDB 941225 D05- other channel bandwidths SAR test is required when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is > 0.5 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.

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

Head

SAR probe calibration point	Frequency Band	Freq.(MHz)	EUT Position	Meas. SAR (W/kg)		Largest to Smallest SAR Ratio
				Original	Repeated	
/	/	/	/	/	/	/

Body

SAR probe calibration point	Frequency Band	Freq.(MHz)	EUT Position	Meas. SAR (W/kg)		Largest to Smallest SAR Ratio
				Original	Repeated	
/	/	/	/	/	/	/

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 $vi = \infty$ degrees of freedom:

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

The Highest Measured SAR Configuration among all applicable Frequency Band

Head

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

Body

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

SAR SIMULTANEOUS TRANSMISSION DESCRIPTION

The device does not have simultaneous transmission capability.

SAR Plots

Plot: 1#

DUT: 4G LTE POC RADIO; Type: TK-168; Serial: 35X4-1

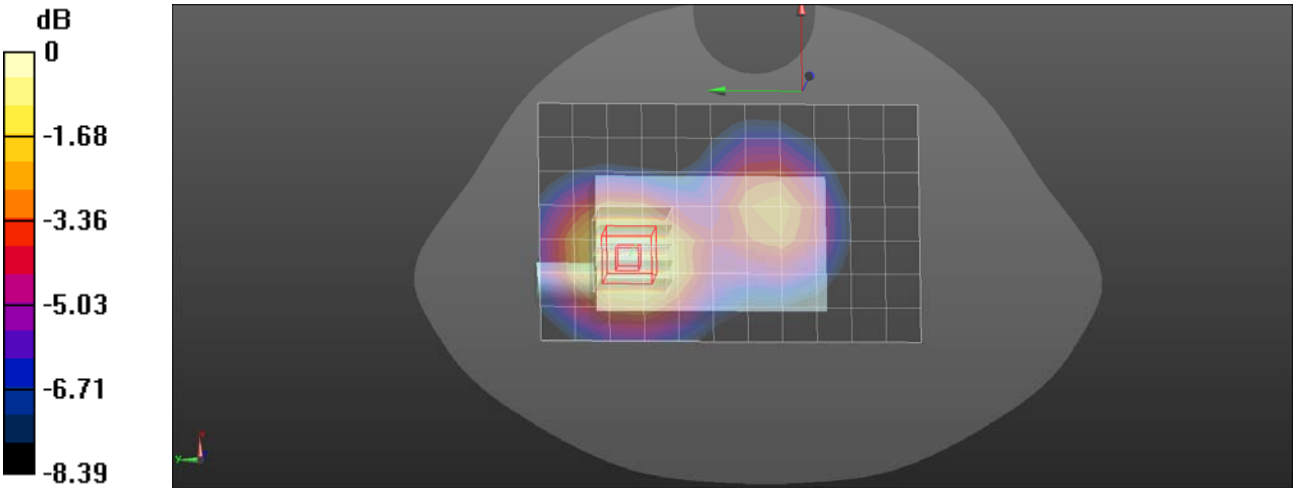
Communication System: UID 0, Generic FDD-LTE (0); Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.381 S/m; ε_r = 40.447; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7896; ConvF(6.96, 7.29, 7.3) @ 1880 MHz; Calibrated: 11/7/2024
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1325; Calibrated: 9/28/2025
- Phantom: SAM-Twin V8.0 P1aP2a; Type: QD 000 P41 AA ; Serial: 1962
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Face Up/LTE Band 2 1RB Mid/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.442 W/kg

Face Up/LTE Band 2 1RB Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.73 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 0.611 W/kg
SAR(1 g) = 0.417 W/kg; SAR(10 g) = 0.267 W/kg
Smallest distance from peaks to all points 3 dB below: Larger than measurement grid (> 16 mm)
Ratio of SAR at M2 to SAR at M1 = 66.4%
Maximum value of SAR (measured) = 0.487 W/kg



0 dB = 0.487 W/kg = -3.12 dBW/kg

Plot: 2#

DUT: 4G LTE POC RADIO; Type: TK-168; Serial: 35X4-1

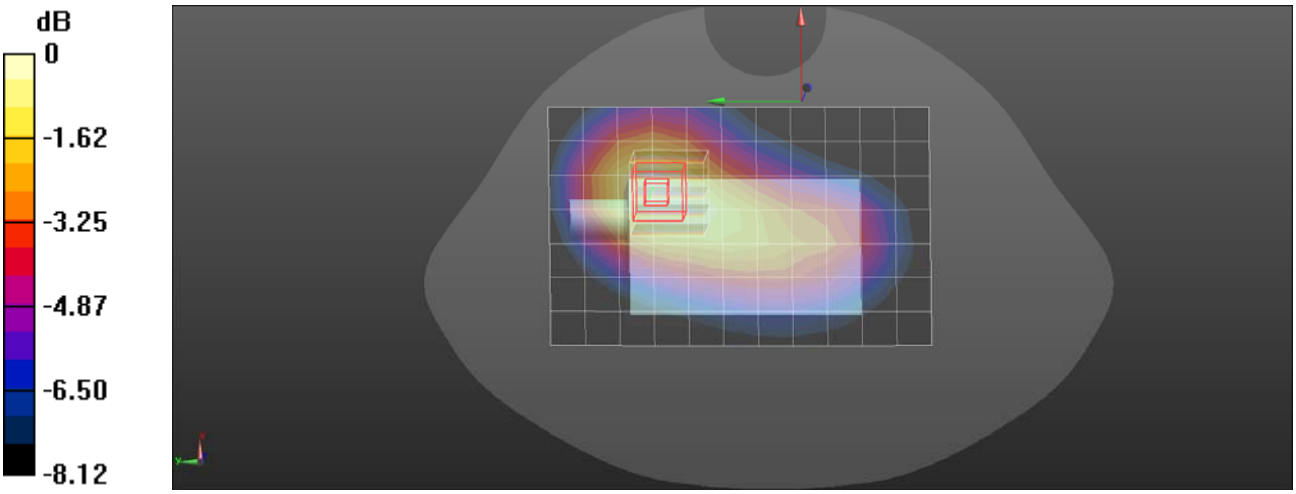
Communication System: UID 0, Generic FDD-LTE (0); Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.381 S/m; ε_r = 40.447; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7896; ConvF(6.96, 7.29, 7.3) @ 1880 MHz; Calibrated: 11/7/2024
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1325; Calibrated: 9/28/2025
- Phantom: SAM-Twin V8.0 P1aP2a; Type: QD 000 P41 AA ; Serial: 1962
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Body Back With Belt Clip/LTE Band 2 1RB Mid/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.413 W/kg

Body Back With Belt Clip/LTE Band 2 1RB Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.62 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.570 W/kg
SAR(1 g) = 0.379 W/kg; SAR(10 g) = 0.242 W/kg
Smallest distance from peaks to all points 3 dB below: Larger than measurement grid (> 16 mm)
Ratio of SAR at M2 to SAR at M1 = 65.3%
Maximum value of SAR (measured) = 0.437 W/kg



0 dB = 0.437 W/kg = -3.60 dBW/kg

Plot: 3#

DUT: 4G LTE POC RADIO; Type: TK-168; Serial: 35X4-1

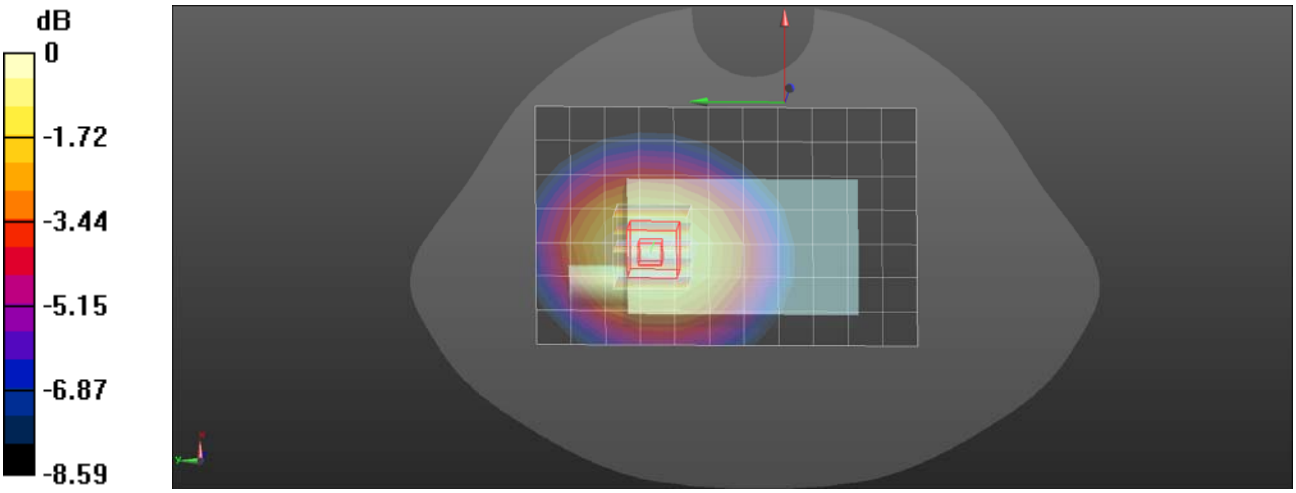
Communication System: UID 0, Generic FDD-LTE (0); Frequency: 836.5 MHz;Duty Cycle: 1:1
Medium parameters used: f = 836.5 MHz; σ = 0.9 S/m; ε_r = 42.736; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7896; ConvF(8.08, 8.47, 8.48) @ 836.5 MHz; Calibrated: 11/7/2024
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1325; Calibrated: 9/28/2025
- Phantom: SAM-Twin V8.0 P1aP2a; Type: QD 000 P41 AA ; Serial: 1962
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Face Up/LTE Band 5 1RB Mid/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.230 W/kg

Face Up/LTE Band 5 1RB Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.366 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.270 W/kg
SAR(1 g) = 0.211 W/kg; SAR(10 g) = 0.155 W/kg
Smallest distance from peaks to all points 3 dB below: Larger than measurement grid (> 16 mm)
Ratio of SAR at M2 to SAR at M1 = 77%
Maximum value of SAR (measured) = 0.235 W/kg



0 dB = 0.235 W/kg = -6.29 dBW/kg

Plot: 4#

DUT: 4G LTE POC RADIO; Type: TK-168; Serial: 35X4-1

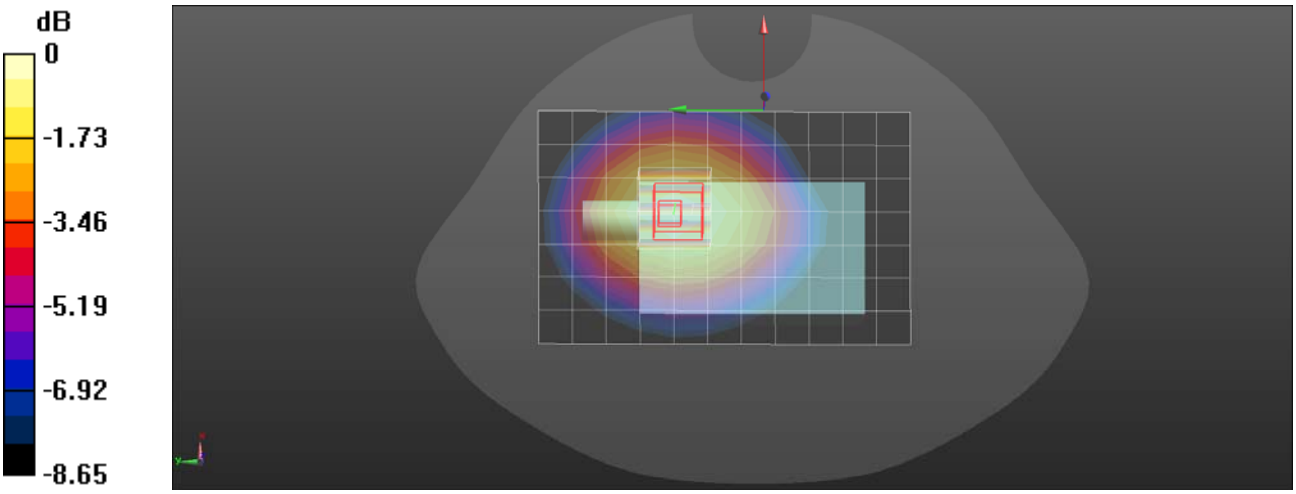
Communication System: UID 0, Generic FDD-LTE (0); Frequency: 836.5 MHz;Duty Cycle: 1:1
Medium parameters used: f = 836.5 MHz; σ = 0.9 S/m; ε_r = 42.736; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7896; ConvF(8.08, 8.47, 8.48) @ 836.5 MHz; Calibrated: 11/7/2024
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1325; Calibrated: 9/28/2025
- Phantom: SAM-Twin V8.0 P1aP2a; Type: QD 000 P41 AA ; Serial: 1962
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Body Back With Belt Clip/LTE Band 5 1RB Mid/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.249 W/kg

Body Back With Belt Clip/LTE Band 5 1RB Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.18 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 0.291 W/kg
SAR(1 g) = 0.225 W/kg; SAR(10 g) = 0.165 W/kg
Smallest distance from peaks to all points 3 dB below: Larger than measurement grid (> 16 mm)
Ratio of SAR at M2 to SAR at M1 = 76.4%
Maximum value of SAR (measured) = 0.250 W/kg



0 dB = 0.250 W/kg = -6.02 dBW/kg

Plot: 5#

DUT: 4G LTE POC RADIO; Type: TK-168; Serial: 35X4-1

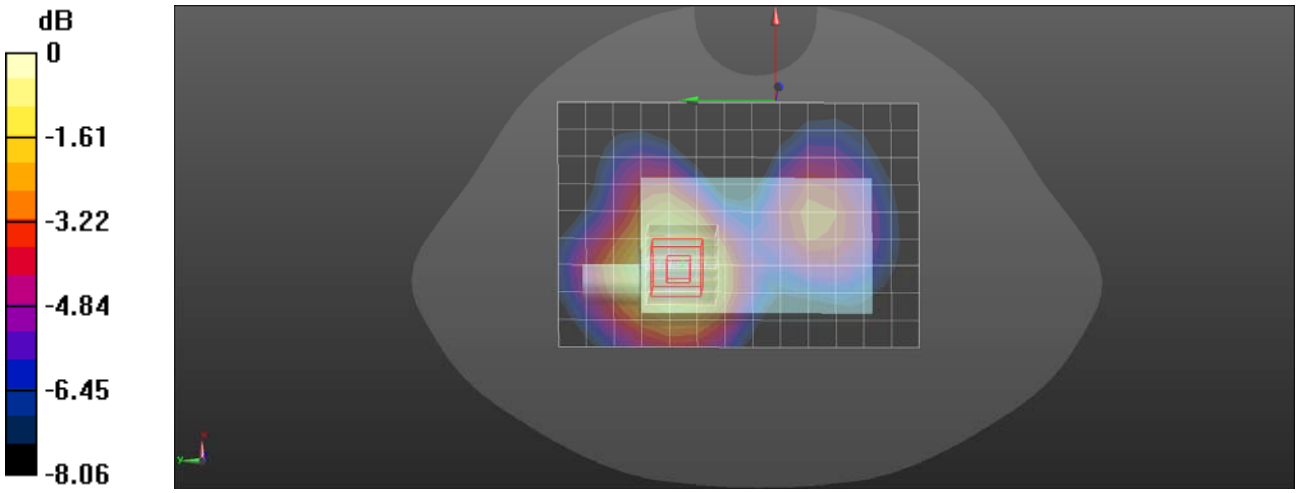
Communication System: UID 0, Generic FDD-LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2535 MHz; σ = 1.842 S/m; ε_r = 38.356; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7896; ConvF(6.6, 6.92, 6.93) @ 2535 MHz; Calibrated: 11/7/2024
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1325; Calibrated: 9/28/2025
- Phantom: SAM-Twin V8.0 P1aP2a; Type: QD 000 P41 AA ; Serial: 1962
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Face Up/LTE Band 7 1RB Mid/Area Scan (10x14x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.493 W/kg

Face Up/LTE Band 7 1RB Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.023 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.685 W/kg
SAR(1 g) = 0.417 W/kg; SAR(10 g) = 0.250 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 = 58.9%
Maximum value of SAR (measured) = 0.502 W/kg



0 dB = 0.502 W/kg = -2.99 dBW/kg

Plot: 6#

DUT: 4G LTE POC RADIO; Type: TK-168; Serial: 35X4-1

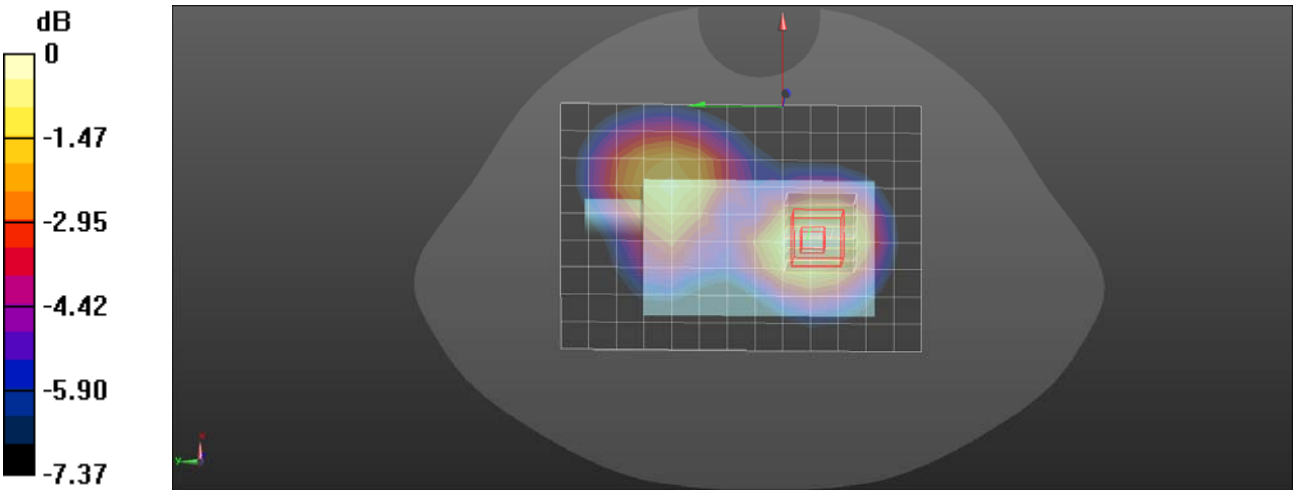
Communication System: UID 0, Generic FDD-LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2535 MHz; σ = 1.842 S/m; ε_r = 38.356; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7896; ConvF(6.6, 6.92, 6.93) @ 2535 MHz; Calibrated: 11/7/2024
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1325; Calibrated: 9/28/2025
- Phantom: SAM-Twin V8.0 P1aP2a; Type: QD 000 P41 AA ; Serial: 1962
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Body Back With Belt Clip/LTE Band 7 1RB Mid/Area Scan (10x14x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.571 W/kg

Body Back With Belt Clip/LTE Band 7 1RB Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.66 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 0.771 W/kg
SAR(1 g) = 0.483 W/kg; SAR(10 g) = 0.288 W/kg
Smallest distance from peaks to all points 3 dB below = 18.6 mm
Ratio of SAR at M2 to SAR at M1 = 60.9%
Maximum value of SAR (measured) = 0.576 W/kg



0 dB = 0.576 W/kg = -2.40 dBW/kg

Plot: 7#

DUT: 4G LTE POC RADIO; Type: TK-168; Serial: 35X4-1

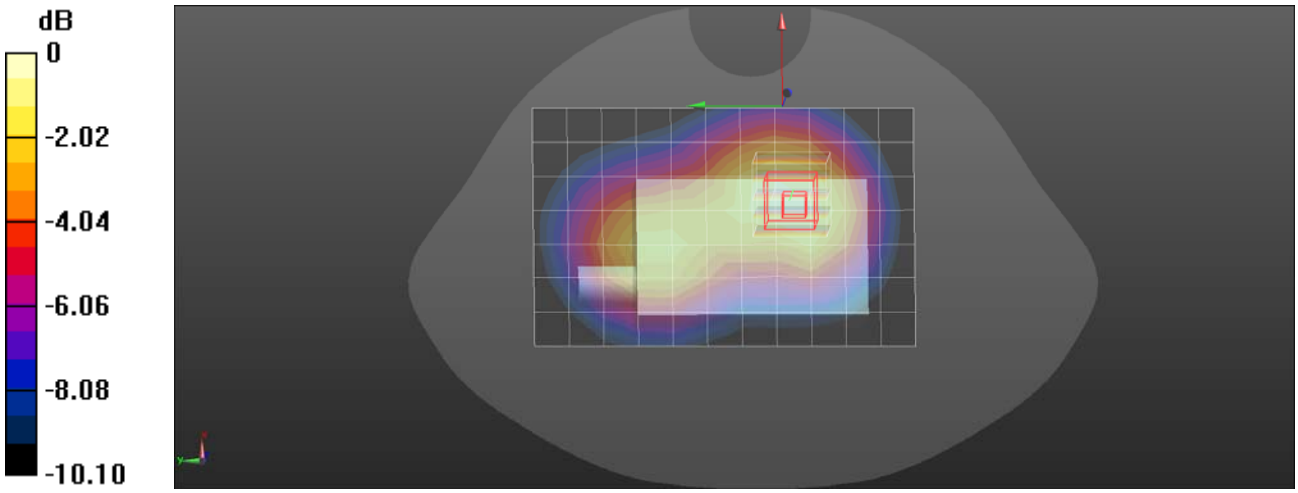
Communication System: UID 0, Generic FDD-LTE (0); Frequency: 1745 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1745 MHz; σ = 1.368 S/m; ε_r = 41.117; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7896; ConvF(7.2, 7.55, 7.56) @ 1745 MHz; Calibrated: 11/7/2024
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1325; Calibrated: 9/28/2025
- Phantom: SAM-Twin V8.0 P1aP2a; Type: QD 000 P41 AA ; Serial: 1962
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Face Up/LTE Band 66 1RB Mid/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.313 W/kg

Face Up/LTE Band 66 1RB Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.94 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.390 W/kg
SAR(1 g) = 0.272 W/kg; SAR(10 g) = 0.180 W/kg
Smallest distance from peaks to all points 3 dB below: Larger than measurement grid (> 16 mm)
Ratio of SAR at M2 to SAR at M1 = 71.4%
Maximum value of SAR (measured) = 0.345 W/kg



0 dB = 0.345 W/kg = -4.62 dBW/kg

Plot: 8#

DUT: 4G LTE POC RADIO; Type: TK-168; Serial: 35X4-1

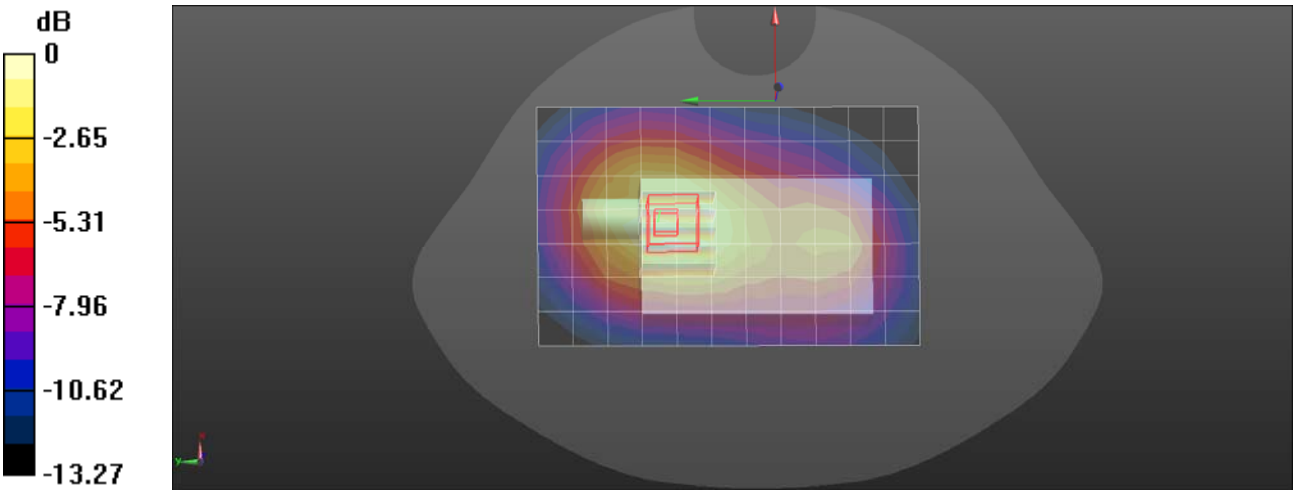
Communication System: UID 0, Generic FDD-LTE (0); Frequency: 1745 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1745 MHz; σ = 1.368 S/m; ε_r = 41.117; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7896; ConvF(7.2, 7.55, 7.56) @ 1745 MHz; Calibrated: 11/7/2024
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1325; Calibrated: 9/28/2025
- Phantom: SAM-Twin V8.0 P1aP2a; Type: QD 000 P41 AA ; Serial: 1962
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

Body Back With Belt Clip/LTE Band 66 1RB Mid/Area Scan (8x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.378 W/kg

Body Back With Belt Clip/LTE Band 66 1RB Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.52 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 0.492 W/kg
SAR(1 g) = 0.316 W/kg; SAR(10 g) = 0.204 W/kg
Smallest distance from peaks to all points 3 dB below = 14.7 mm
Ratio of SAR at M2 to SAR at M1 = 62.9%
Maximum value of SAR (measured) = 0.428 W/kg



0 dB = 0.428 W/kg = -3.69 dBW/kg

APPENDIX A MEASUREMENT UNCERTAINTY

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

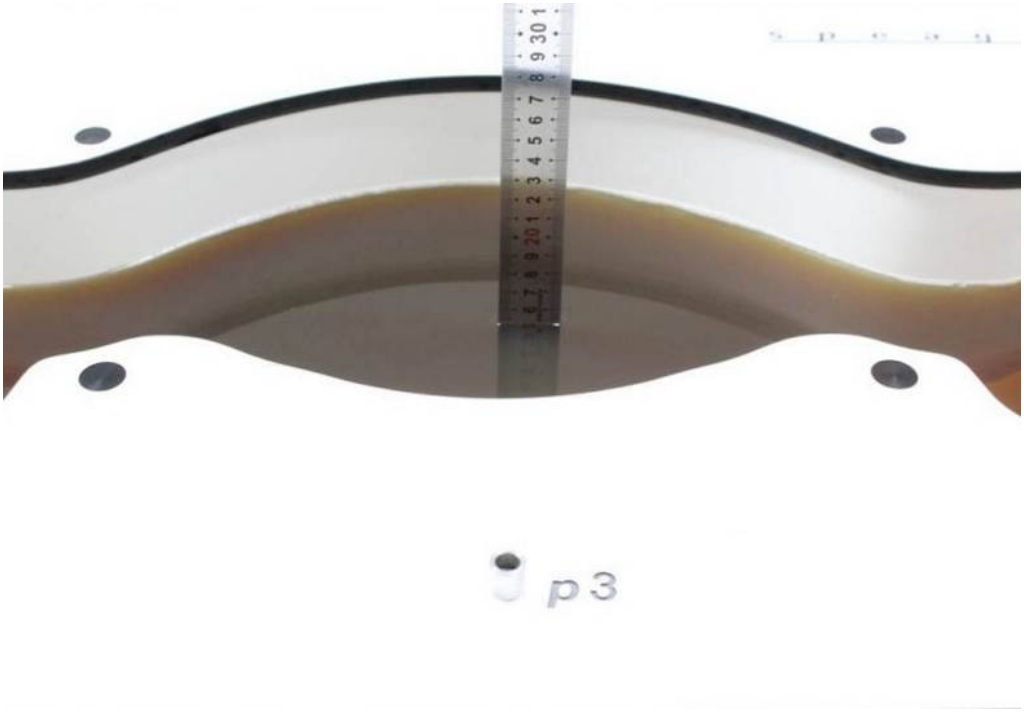
Measurement uncertainty evaluation for IEEE1528-2013 SAR test

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	13.9	N	1	1	1	13.9	13.9
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

Liquid depth ≥ 15cm

Phantom: SAM-Twin V8.0 P1aP2a; Type: QD 000 P41 AA ; Serial: 1962



Face Up Setup Photo (25 mm)

Body Back With Belt Clip Setup Photo (0 mm)

APPENDIX C CALIBRATION CERTIFICATES

Please Refer to the Attachment.

APPENDIX D RETURN LOSS&IMPEDANCE MEASUREMENT

Please Refer to the Attachment.

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