中认信通
CHINA CERTIFICATION ICT CO., LTD (DONGGUAN)

ACCREDITED
TESTING LABORATORY
CERTIFICATE # 6356.01

SAR TEST REPORT

Applicant: **Quanzhou Tietong Times Technology Co., Ltd**

Address: 5th Floor, Building 2, No.13 Zihua Road, Kengtou Community, Jinlong Street, LichengDistrict,Quanzhou, Fujian Province, China

FCC ID: **2BN3L-TS-K8S**

Product Name: **Two Way Radio**

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

The above device has been tested and found compliant with the requirement of the relative standards by China Certification ICT Co., Ltd (Dongguan)

Report Number: **2503R19206E-20**

Date Of Issue: **2025/4/14**

Reviewed By: **Ken Zong** Ken Zong

Title: SAR Engineer

Approved By: **Karl Gong** Karl Gong

Title: SAR Engineer

Test Laboratory: **China Certification ICT Co., Ltd (Dongguan)**

No. 113, Pingkang Road, Dalang Town, Dongguan,Guangdong, China
Tel:+86-769-83085888
www.ccttt.com.cn

SAR TEST RESULTSSUMMARY

Operation Frequency Bands	Highest Reported 1g SAR (W/kg)		Limits (W/kg)
	Face Up SAR (Gap 25mm)	Body SAR (Gap 0mm)	
LTE Band 2	0.56	**1.23**	**1.6**
LTE Band 5	0.65	0.98	
LTE Band 7	0.63	1.17	
LTE Band 66&4	**0.75**	1.17	
Maximum Simultaneous Transmission SAR			
Items	**Face Up SAR (Gap 25mm)**	**Body SAR (Gap 0mm)**	**Limits**
Sum SAR(W/kg)	/	/	1.6
SPLSR	NA	NA	0.04
EUT Received Date:	2025/3/6		
Tested Date:	2025/3/29~2025/4/1		
Tested Result:	Pass		

Test Facility

The Test site used by China Certification ICT Co., Ltd (Dongguan) to collect test data is located on the No. 113, Pingkang Road, Dalang Town, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 442868, the FCC Designation No. : CN1314.

Declarations

China Certification ICT Co., Ltd (Dongguan) is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with a triangle symbol "▲". Customer model name, addresses, names, trademarks etc. are not considered data.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

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Each test item follows the test standard(s) without deviation.

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	2503R19206E-20	Original Report	2025/4/14

1. GENERAL INFORMATION

1.1 Product Description for device under Test (EUT)

EUT Name:	Two Way Radio
EUT Model:	TS-K8S
Multiple Models	AI-K8, WBT-6.0, K29S, ET-C65, K67D, AD-K14, K15S, UP390, K11S, OMI-K15
Device Type:	Portable
Exposure Category:	Population / Uncontrolled
Antenna Type(s):	External Antenna
Body-Worn Accessories:	Belt Clip
Proximity Sensor:	None
Carrier Aggregation:	None
Operation modes:	FDD-LTE
Frequency Band:	LTE Band 2: 1850-1910 MHz(TX) LTE Band 4: 1710-1755MHz(TX) LTE Band 5: 824-849 MHz(TX) LTE Band 7: 2500-2570 MHz(TX) LTE Band 66: 1710-1780MHz(TX)
Rated Input Voltage:	DC3.7V from Rechargeable Battery
Sample Number:	2ZCX-1
Normal Operation:	Face Upand Body

Note:
The Multiple models are electrically identical with the test model. Please refer to the declaration letter for more detail, which was provided by manufacturer.

1.2Test Specification, Methods and Procedures

The tests documented in this report were performed in accordance with FCC 47 CFR § 2.1093, IEEE 1528-2013, the following FCC Published RF exposure 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

TCB WorkshopApril2019:RF Exposure Procedures

1.3 SAR Limits

FCC Limit

EXPOSURE LIMITS	SAR (W/kg)	
	(General Population / Uncontrolled Exposure Environment)	(Occupational / Controlled Exposure Environment)
Spatial Average (averaged over the whole body)	0.08	0.4
Spatial Peak (averaged over any 1 g of tissue)	**1.60**	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 ofindividual 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 employmentor occupation).

General Population/Uncontrolled environments Spatial Peak limit 1.6W/kgfor1g Body(Face Up) SARapplied to the EUT.

1.4 FACILITIES

The Test site used by China Certification ICT Co., Ltd (Dongguan) to collect test data is located on the No. 113, Pingkang Road, Dalang Town, Dongguan,Guangdong, China.

The test sites and measurement facilities used to collect data are located at:

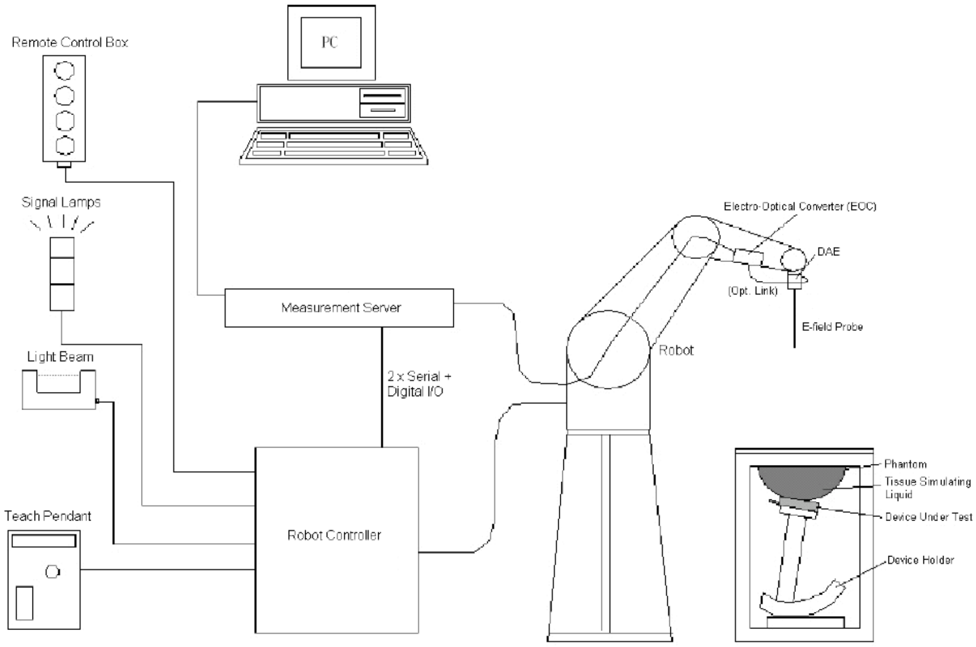
☒ SAR Lab 1	☐ SAR Lab 2

2. SAR MEASUREMENTSYSTEM

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

DASY5 System Description

The DASY5 system for performing compliance tests consists of the following items:



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal application, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running Win7 professional operating system and the DASY52 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

DASY5 Measurement Server

The DASY5 measurement server is based on aPC/104 CPU board with a 400MHz Intel ULVCeleron, 128MB chip-disk and 128MB RAM.The necessary circuits for communication withthe DAE4 (or DAE3) electronics box, as well asthe 16 bit AD-converter system for optical detectionand digital I/O interface are contained on theDASY5 I/O board, which is directly connected tothe PC/104 bus of the CPU board.

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

Data Acquisition Electronics

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

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

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

ES3DV3 E-Field Probes

Frequency	10 MHz - 4 GHz Linearity: ± 0.2 dB (30 MHz to 4 GHz)
Directivity	± 0.2 dB in TSL (rotation aroundprobe axis) ± 0.3 dB in TSL (rotation normal to probe axis)
Dynamic Range	5 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: 3.9 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 2.0 mm
Application	General dosimetry up to 4 GHz Dosimetry in strong gradient fields Compliance tests of mobile phones
Compatibility	DASY3, DASY4, DASY52, DASY6, DASY8 SAR, EASY6, EASY4/MRI

Calibration Frequency Points for ES3DV3 E-Field Probes SN: 3157 Calibrated: 2024/11/22

Calibration Frequency Point(MHz)	Frequency Range(MHz)		Conversion Factor		
	From	To	X	Y	Z
750 Head	650	850	6.45	6.45	6.45
900 Head	850	1000	6.2	6.2	6.2
1750 Head	1650	1850	5.41	5.41	5.41
1900 Head	1850	2000	5.15	5.15	5.15
2300 Head	2200	2400	4.95	4.95	4.95
2450 Head	2400	2550	4.75	4.75	4.75
2600 Head	2550	2700	4.55	4.55	4.55

SAM Twin Phantom

The SAM twin phantom is a fiberglass shell phantom with 2mm shell thickness (except the ear region, where shellthickness increases to 6 mm). The phantom has three measurement areas:
_ Left Head
_ Right Head
_ Flat phantom

The phantom table for the DASY systems based on the robots have the size of 100 x 50 x 85 cm (L xWx H).
For easy dislocation these tables have fork lift cut outs at the bottom.
The bottom plate contains three pairs of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. Only one device holder is necessary if two phantoms are used (e.g., for different liquids)

A white cover is provided to cover the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. Free space scans of devices on top of this phantom cover are possible. Three reference marks are provided on the phantom counter. These reference marks are used to teach the absolute phantom position relative to the robot.

Robots

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

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

The above mentioned robots are controlled by the Staubli CS8c robot controllers. All information regarding the use and maintenance of the robot arm and the robot controller is contained on the CDs delivered along with the robot. Paper manuals are available upon request direct from Staubli.

SAR Scan Procedures

Step 1: Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the deviceunder test in the batch process. The minimum distance of probe sensors to surface determines the closestmeasurement point to phantom surface. The minimum distance of probe sensors to surface is 1.4 mm. This distancecannot 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 measurementprocess being executed with a user definedvariable spacing between each measurementpoint (integral) allowing low uncertaintymeasurements 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·δ·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 phantomliquid 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"></td><td>≤ 3 GHz</td><td>> 3 GHz</td></tr>
<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">$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$ 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 referencemeasurement within the same procedure, and with the same settings. The Power Drift Measurement gives the fielddifference in dB from the reading conducted within the last Power Reference Measurement. This allows a user tomonitor the power drift of the device under test within a batch process. The measurement procedure is the same asStep 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 IEEE 1528-2013

Recommended Tissue Dielectric Parameters for Head liquid

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

Frequency (MHz)	Relative permittivity (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
1450	40.5	1.20
1500	*40.4*	*1.23*
1640	*40.2*	*1.31*
1750	*40.1*	*1.37*
1800	40.0	1.40
1900	40.0	1.40
2000	40.0	1.40
2100	*39.8*	*1.49*
2300	*39.5*	*1.67*
2450	39.2	1.80
2600	*39.0*	*1.96*
3000	38.5	2.40
3500	*37.9*	*2.91*
4000	*37.4*	*3.43*
4500	*36.8*	*3.94*
5000	*36.2*	*4.45*
5200	*36.0*	*4.66*
5400	*35.8*	*4.86*
5600	*35.5*	*5.07*
5800	35.3	5.27
6000	*35.1*	*5.48*

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

3. EQUIPMENT LIST AND CALIBRATION

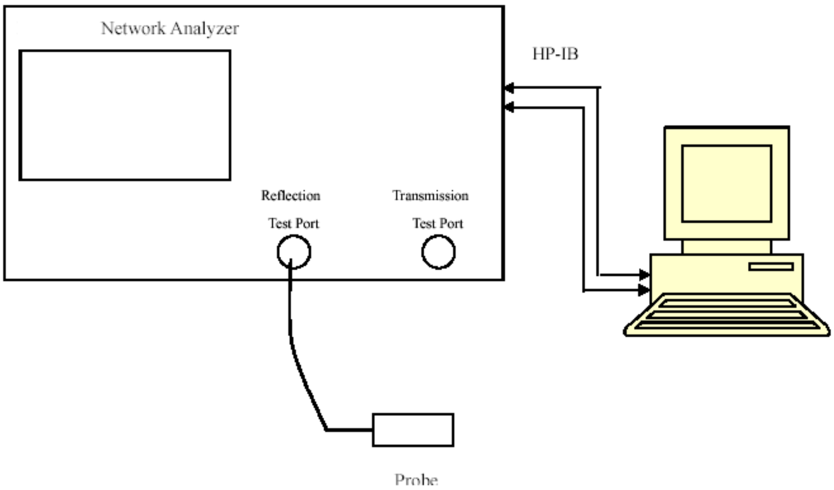
3.1 Equipments List & Calibration Information

Equipment	Model	S/N	Calibration Date	Calibration Due Date
DASY5 Test Software	DASY52.10	N/A	NCR	NCR
DASY5 Measurement Server	DASY5 4.5.12	1567	NCR	NCR
Data Acquisition Electronics	DAE4	1354	2024/12/3	2025/12/2
E-Field Probe	ES3DV3	3157	2024/11/22	2025/11/21
Mounting Device	MD4HHTV5	BJPCTC0152	NCR	NCR
Twin SAM	Twin SAM V5.0	1412	NCR	NCR
Dipole, 750 MHz	D750V3	1230	2023/3/24	2026/3/23
Dipole, 1750 MHz	D1750V2	1200	2023/3/27	2026/3/26
Dipole, 1900 MHz	D1900V2	5d251	2023/3/27	2026/3/26
Dipole, 2450 MHz	D2450V2	1102	2023/3/27	2026/3/26
Dipole,2600 MHz	D2600V2	1206	2023/3/27	2026/3/26
Simulated Tissue Liquid Head(500-9500 MHz)	HBBL600-10000V6	220420-2	Each Time	/
Network Analyzer	8753B	2828A00170	2024/10/17	2025/10/16
Dielectric assessment kit	1319	SM DAK 040 CA	NCR	NCR
MXG Vector Signal Generator	N5182B	MY51350142	2025/1/9	2026/1/8
Power Meter	ML2495A	1106009	2024/8/3	2025/8/2
USB Power Sensor	U2001H	MY50000432	2024/4/1	2025/3/31
			2025/3/31	2026/3/30
Power Amplifier	ZHL-5W-202-S+	416402204	NCR	NCR
Power Amplifier	ZVE-6W-83+	637202210	NCR	NCR
Directional Coupler	441493	520Z	NCR	NCR
Attenuator	20dB, 100W	LN749	NCR	NCR
Attenuator	6dB, 150W	2754	NCR	NCR
Thermometer	DTM3000	3892	2024/4/22	2025/4/21
Thermo-hygrometer	HTC-1	N/A	2024/4/22	2025/4/21
Radio Communication Analyzer	MT8820C	6201181458	2024/10/10	2025/10/9
Spectrum Analyzer	FSU26	100147	2024/4/1	2025/3/31
			2025/3/31	2026/3/30

The Dipole calibration methods and procedures used were as detailed in:
FCC KDB Publication Number: “KDB865664 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 20 dB minimum return-loss requirement.
2. The measurement of real or imaginary parts of impedance does not deviate more than 5Ω from the previous measurement.

4. SAR MEASUREMENT SYSTEM VERIFICATION

4.1 Liquid Verification



Liquid Verification Setup Block Diagram

Liquid Verification Results

Frequency (MHz)	LiquidType	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	σ (S/m)	ε_r	σ (S/m)	$\Delta\varepsilon_r$	Δσ	
750	Simulated Tissue Liquid Head	42.835	0.902	41.9	0.89	2.23	1.35	±5
829	Simulated Tissue Liquid Head	42.597	0.923	41.53	0.9	2.57	2.56	±5
836.5	Simulated Tissue Liquid Head	42.426	0.929	41.5	0.9	2.23	3.22	±5
844	Simulated Tissue Liquid Head	42.315	0.934	41.5	0.91	1.96	2.64	±5

**Liquid Verification above was performed on 2025/3/29.*

Frequency (MHz)	LiquidType	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	σ (S/m)	ε_r	σ (S/m)	$\Delta\varepsilon_r$	Δσ	
1720	Simulated Tissue Liquid Head	41.035	1.332	40.13	1.35	2.26	-1.33	±5
1745	Simulated Tissue Liquid Head	40.844	1.363	40.1	1.37	1.86	-0.51	±5
1750	Simulated Tissue Liquid Head	40.766	1.387	40.1	1.37	1.66	1.24	±5
1770	Simulated Tissue Liquid Head	40.473	1.391	40.06	1.38	1.03	0.8	±5

**Liquid Verification above was performed on 2025/3/30.*

Frequency (MHz)	LiquidType	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	40.848	1.415	40	1.4	2.12	1.07	±5
1880	Simulated Tissue Liquid Head	40.454	1.421	40	1.4	1.14	1.5	±5
1900	Simulated Tissue Liquid Head	40.228	1.425	40	1.4	0.57	1.79	±5

Liquid Verification above was performed on 2025/3/31.

Frequency (MHz)	LiquidType	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	σ (S/m)	ε_r	σ (S/m)	$\Delta\varepsilon_r$	Δσ (S/m)	
2450	Simulated Tissue Liquid Head	40.238	1.784	39.2	1.8	2.65	-0.89	±5
2510	Simulated Tissue Liquid Head	39.957	1.816	39.12	1.86	2.14	-2.37	±5
2535	Simulated Tissue Liquid Head	39.726	1.869	39.09	1.89	1.63	-1.11	±5
2560	Simulated Tissue Liquid Head	39.589	1.891	39.05	1.92	1.38	-1.51	±5
2600	Simulated Tissue Liquid Head	39.043	1.984	39	1.96	0.11	1.22	±5

Liquid Verification above was performed on 2025/4/1.

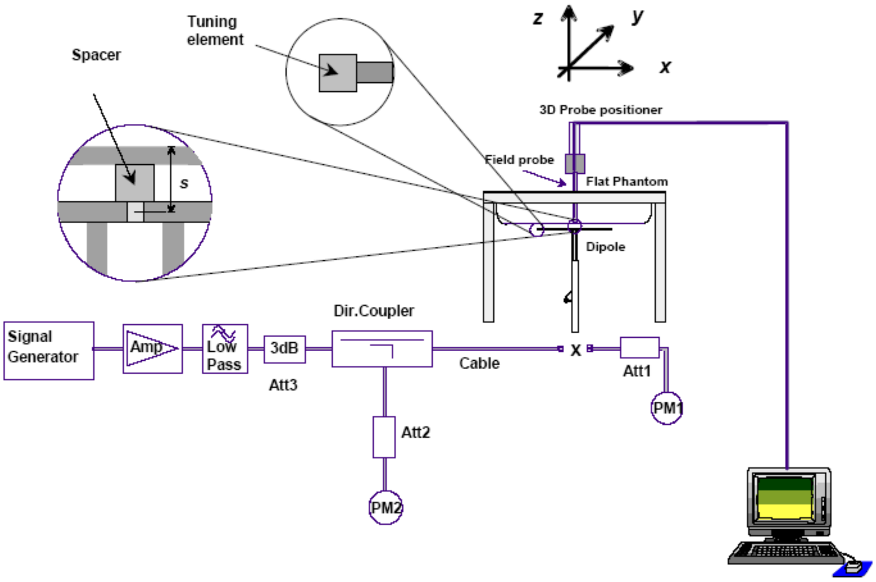
4.2 System Accuracy Verification

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	Liquid Type	Input Power (mW)	Measured SAR (W/kg)		Normalized to 1W (W/kg)	Target Value (W/kg)	Delta (%)	Tolerance (%)
2025/3/29	750	Simulated Tissue Liquid Head	100	1g	0.871	8.71	8.49	2.59	±10
2025/3/30	1750	Simulated Tissue Liquid Head	100	1g	3.61	36.1	35.8	0.84	±10
2025/3/31	1900	Simulated Tissue Liquid Head	100	1g	3.94	39.4	38.9	1.29	±10
2025/4/1	2450	Simulated Tissue Liquid Head	100	1g	5.29	52.9	50.9	3.93	±10
2025/4/1	2600	Simulated Tissue Liquid Head	100	1g	5.71	57.1	56	1.96	±10

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

4.3 SAR SYSTEM VALIDATION DATA

System Performance 750 MHz Headwas performed on 2025/03/29

DUT: D750V3; Type: 750 MHz; Serial: 1230

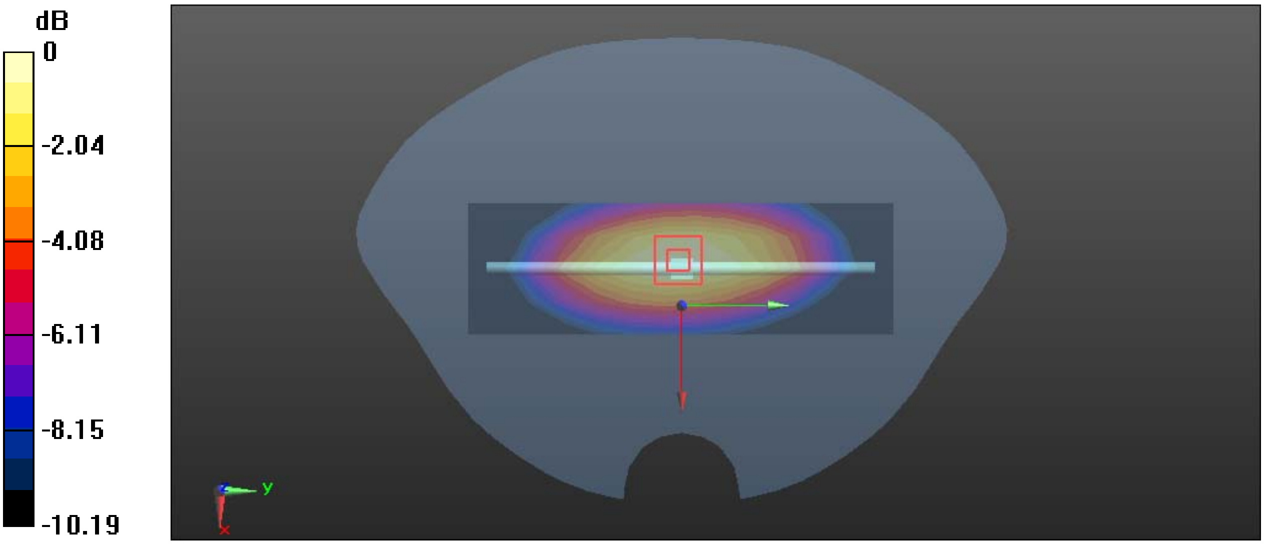
Communication System: CW (0); Frequency: 750 MHz; Duty Cycle: 1:1
Medium parameters used: f = 750 MHz; σ = 0.902 S/m; ε_r = 42.835; ρ = 1000 kg/m^3;
Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3157; ConvF(6.45, 6.45, 6.45) @750 MHz; Calibrated: 2024/11/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1354; Calibrated: 2024/12/3
- Phantom: Twin SAM; Type: Twin SAM V5.0; Serial: TP:1412
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Area Scan (5x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.981 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 33.68 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 1.52 W/kg
SAR(1 g) = 0.871 W/kg; SAR(10 g) = 0.562 W/kg
Maximum value of SAR (measured) = 0.983 W/kg



0 dB = 0.983 W/kg = -0.07dBW/kg

System Performance 1750 MHz Headwas performed on 2025/03/30

DUT: D1750V2; Type: 1750 MHz; Serial: 1200

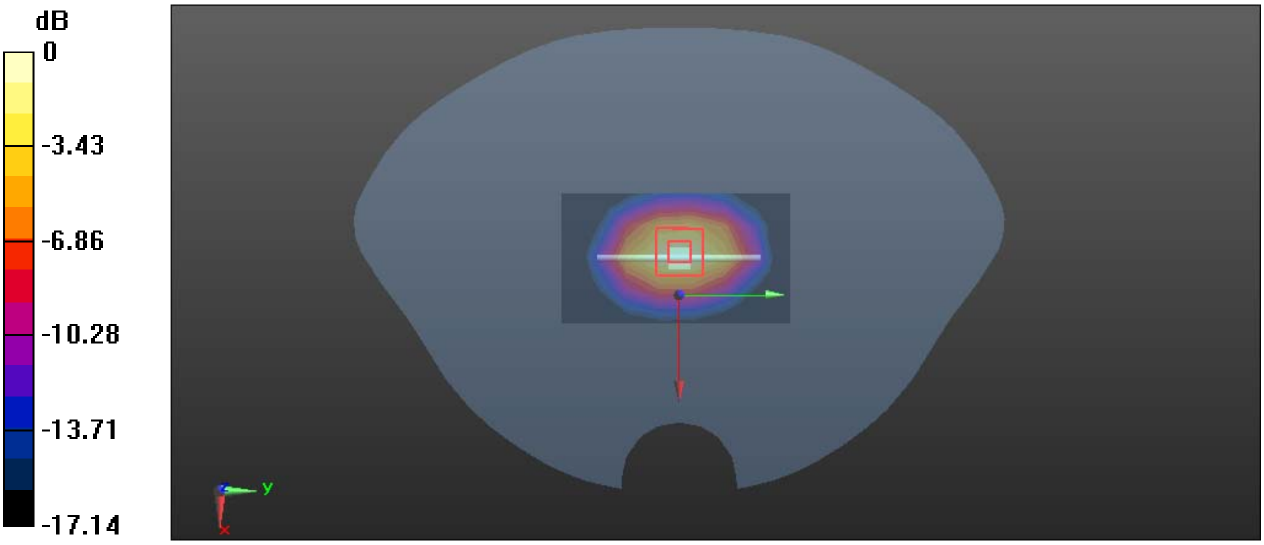
Communication System: CW (0); Frequency: 1750 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1750 MHz; σ = 1.387 S/m; ε_r = 40.766; ρ = 1000 kg/m^3;
Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3157; ConvF(5.41, 5.41, 5.41) @1750 MHz; Calibrated: 2024/11/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1354; Calibrated: 2024/12/3
- Phantom: Twin SAM; Type: Twin SAM V5.0; Serial: TP:1412
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Area Scan (5x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 3.69 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 56.65 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 6.39 W/kg
SAR(1 g) = 3.61 W/kg; SAR(10 g) = 1.89 W/kg
Maximum value of SAR (measured) = 4.07 W/kg



0 dB = 4.07 W/kg = 6.10 dBW/kg

System Performance 1900 MHz Headwas performed on 2025/03/31

DUT: D1900V2; Type: 1900 MHz; Serial: 5d251

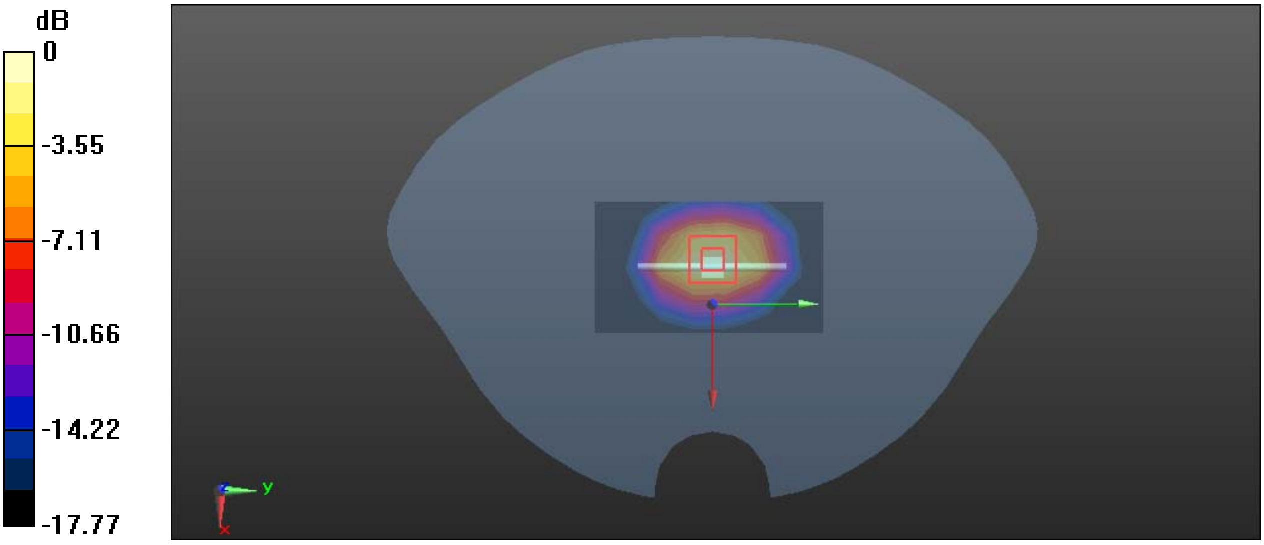
Communication System: CW (0); Frequency: 1900 MHz; Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.425 S/m; ε_r = 40.228; ρ = 1000 kg/m^3;
Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3157; ConvF(5.15, 5.15, 5.15) @1900 MHz; Calibrated: 2024/11/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1354; Calibrated: 2024/12/3
- Phantom: Twin SAM; Type: Twin SAM V5.0; Serial: TP:1412
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Area Scan (5x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 3.74 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 55.59 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 7.21 W/kg
SAR(1 g) = 3.94 W/kg; SAR(10 g) = 2.06 W/kg
Maximum value of SAR (measured) = 4.41 W/kg



0 dB = 4.41 W/kg = 6.44 dBW/kg

System Performance 2450 MHz Headwas performed on 2025/04/01

DUT: D2450V2; Type: 2450 MHz; Serial: 1102

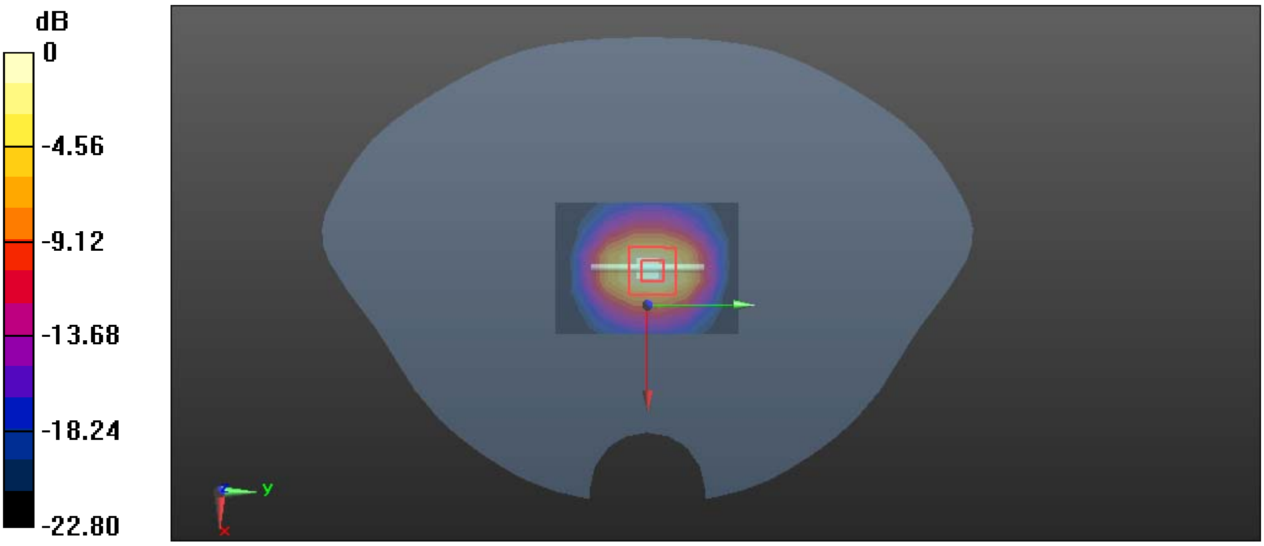
Communication System: CW (0); Frequency: 2450 MHz; Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.784 S/m; ε_r = 40.238; ρ = 1000 kg/m^3;
Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3157; ConvF(4.75, 4.75, 4.75) @2450 MHz; Calibrated: 2024/11/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1354; Calibrated: 2024/12/3
- Phantom: Twin SAM; Type: Twin SAM V5.0; Serial: TP:1412
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Area Scan (8x6x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 6.73 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 71.77 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 10.7 W/kg
SAR(1 g) = 5.29 W/kg; SAR(10 g) = 2.45 W/kg
Maximum value of SAR (measured) = 8.77 W/kg



0 dB = 8.77 W/kg = 9.43 dBW/kg

System Performance 2600MHzHeadwas performed on 2025/04/01

DUT: D2600V2; Type: 2600 MHz; Serial: 1206

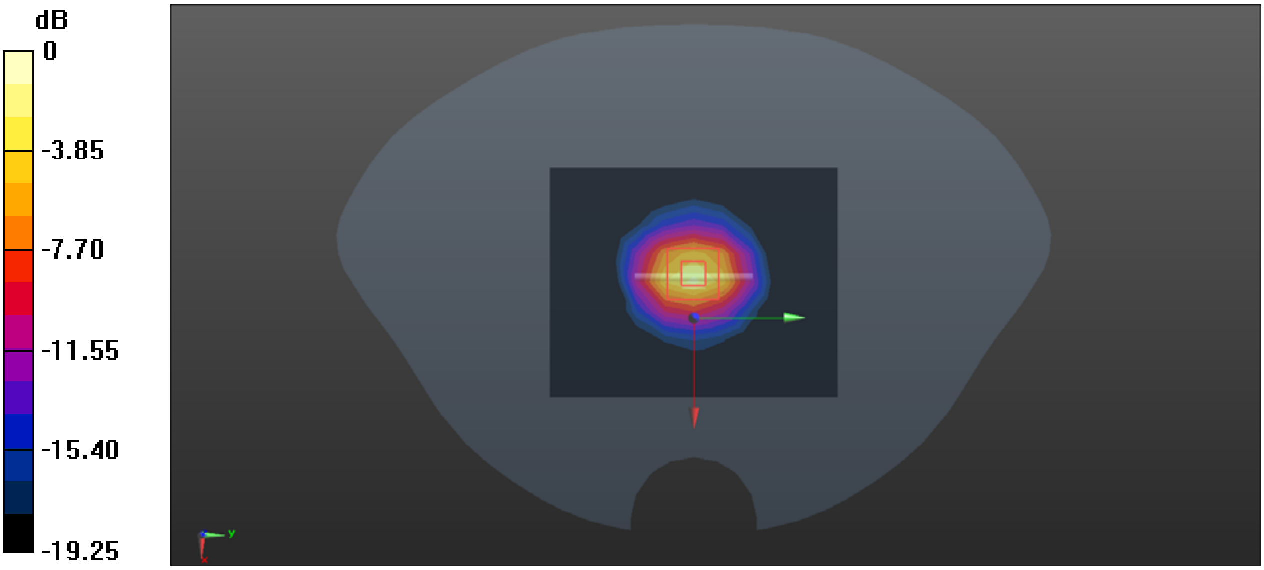
Communication System: CW; Frequency: 2600 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2600 MHz; σ = 1.984S/m; ε_r = 39.043; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3157; ConvF(4.55, 4.55, 4.55) @ 2600 MHz; Calibrated: 2024/11/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1354; Calibrated: 2024/12/3
- Phantom: Twin SAM; Type: Twin SAM V5.0; Serial: TP:1412
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Area Scan (9x11x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 12.3 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 64.51 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 15.6 W/kg
SAR(1 g) = 5.71 W/kg; SAR(10 g) = 2.62 W/kg
Maximum value of SAR (measured) = 11.4 W/kg

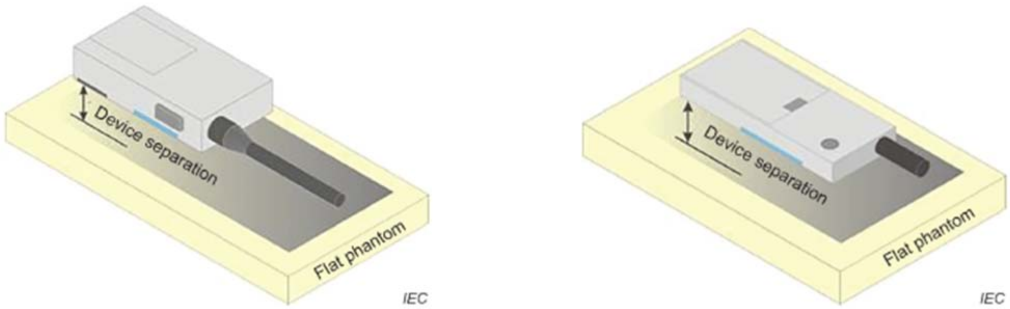


0 dB = 11.4 W/kg = 10.57dBW/kg

5. EUT TEST STRATEGY AND METHODOLOGY

5.1 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

5.2 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. If the user instructions provided by the manufacturer specify an intended use with an appropriate accessory at a certain separation distance to the body, the device shall be positioned as intended at the distance to the outer surface of the phantom that corresponds to the specified distance (Figure 5). When evaluating device SAR without a specific carry accessory, the separation distance shall not exceed 25 mm. The surface of the device pointing towards the flat phantom should be parallel to the surface of the phantom.

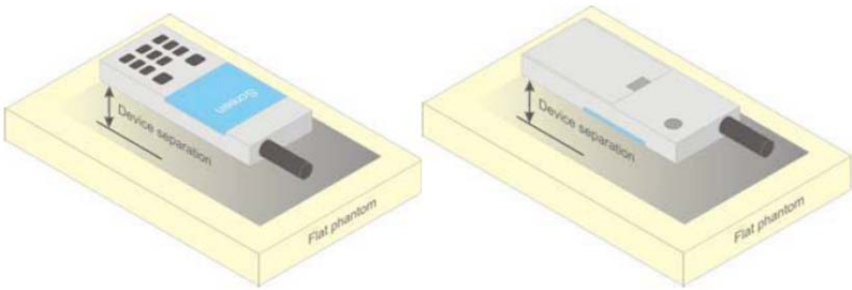


Figure 5 – Test positions for body-worn devices

5.3 Test Distance for SAR Evaluation

In this case the DUT(Device Under Test) is set directly against the phantom, the test distance is 0mm for Body Back mode; for Face Up mode the distance is 25mm.

5.4SAR 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.

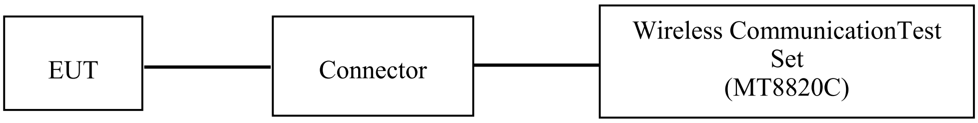
All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

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.

6. CONDUCTED OUTPUT POWER MEASUREMENT

6.1 Test Procedure

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



LTE

6.2 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.

6.3 Maximum Target Output Power

Max Target Power(dBm)			
Mode/Band	Channel		
	Low	Middle	High
LTE Band 2	23.5	23.5	23.1
LTE Band 4	21.7	21.7	21.1
LTE Band 5	22.1	22.1	22.1
LTE Band 7	23	23	22
LTE Band 66	22.3	22.3	21.8

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

6.4 Test Results:

LTE Band 2:

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	RB1#0	0	0	22.73	22.56	21.6
		RB1#3	0	0	22.33	22.32	21.93
		RB1#5	0	0	22.21	22.23	21.9
		RB3#0	1	1	22.52	22.49	21.6
		RB3#3	1	1	22.33	22.29	21.83
		RB6#0	1	1	21.53	21.63	21.11
	16-QAM	RB1#0	1	1	21.97	21.48	20.9
		RB1#3	1	1	21.68	21.28	20.33
		RB1#5	2	2	21.66	21.28	20.13
		RB3#0	2	2	21.8	21.74	20.64
		RB3#3	2	2	21.74	21.75	20.42
		RB6#0	2	2	20.54	20.93	19.25
3M	QPSK	RB1#0	0	0	22.47	22.81	22.17
		RB1#8	0	0	22.23	22.34	21.38
		RB1#14	0	0	21.89	22.13	21.83
		RB6#0	1	1	21.67	21.75	21.36
		RB6#9	1	1	21.59	21.74	21.27
		RB15#0	1	1	21.55	21.59	21.19
	16-QAM	RB1#0	1	1	21.41	21.88	21.23
		RB1#8	1	1	20.82	21.52	21
		RB1#14	1	1	20.66	21.24	20.16
		RB6#0	2	2	20.42	20.89	20.11
		RB6#9	2	2	20.38	20.74	19.87
		RB15#0	2	2	20.19	20.8	19.72
5M	QPSK	RB1#0	0	0	22.68	23.09	22.69
		RB1#13	0	0	22.01	22.49	21.83
		RB1#24	0	0	21.84	22.22	21.58
		RB15#0	1	1	21.68	21.79	21.62
		RB15#10	1	1	21.58	21.65	21.15
		RB25#0	1	1	21.55	21.57	21.11
	16-QAM	RB1#0	1	1	21.62	22.22	22.38
		RB1#13	1	1	21.07	21.7	21.58
		RB1#24	1	1	20.56	21.32	20.62
		RB15#0	2	2	20.53	21.15	20.67
		RB15#10	2	2	20.21	20.94	20.32
		RB25#0	2	2	20.2	20.78	20.27

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
10M	QPSK	RB1#0	0	0	22.36	23.34	22.83
		RB1#25	0	0	21.3	22.21	22.97
		RB1#49	1	1	21.8	21.97	21.9
		RB25#0	1	1	21.56	21.85	21.67
		RB25#25	1	1	21.74	21.79	21.58
		RB50#0	1	1	21.52	21.62	21.4
	16-QAM	RB1#0	1	1	21.11	22.29	22.01
		RB1#25	1	1	20.23	21.48	22.19
		RB1#49	1	1	19.76	20.62	20.24
		RB15#0	2	2	21.17	22.06	21.68
		RB15#25	2	2	20.44	21.37	21.77
		RB25#0	2	2	20.01	21.07	20.89
15M	QPSK	RB1#0	0	0	22.54	23.43	21.69
		RB1#38	0	0	22.07	22.27	22.92
		RB1#74	1	1	22.62	21.11	21.5
		RB36#0	1	1	21.76	21.98	21.15
		RB36#39	1	1	21.65	21.84	21.81
		RB75#0	1	1	21.57	21.62	21.39
	16-QAM	RB1#0	1	1	21.55	22.22	21.01
		RB1#38	1	1	20.04	21.46	22.06
		RB1#74	2	2	20.66	20.35	20.67
		RB15#0	2	2	20.99	22.25	20.73
		RB15#39	2	2	20.1	21.63	21.78
		RB25#0	2	2	19.72	21.38	21.08
20M	QPSK	RB1#0	0	0	22.56	**23.44**	22.42
		RB1#50	0	0	23.28	23.34	22.54
		RB1#99	0	0	22.64	22.54	21.86
		RB50#0	1	1	22.58	22.48	21.71
		RB50#50	1	1	22.32	22.05	21.64
		RB100#0	1	1	21.55	21.76	21.21
	16-QAM	RB1#0	1	1	21.36	22.85	20.4
		RB1#50	1	1	20.26	22.23	21.83
		RB1#99	2	2	21.8	20.58	20.79
		RB15#0	2	2	20.72	22.27	19.96
		RB15#50	2	2	19.88	21.68	21.64
		RB25#0	2	2	19.92	21.31	20.53

LTE Band 4:

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	RB1#0	0	0	21.00	21.44	19.61
		RB1#3	0	0	20.59	21.43	19.51
		RB1#5	0	0	20.58	21.46	19.54
		RB3#0	1	1	20.96	21.50	19.48
		RB3#3	1	1	20.62	21.49	19.49
		RB6#0	1	1	19.98	20.48	19.11
	16-QAM	RB1#0	1	1	19.72	20.05	18.16
		RB1#3	1	1	19.60	20.11	18.11
		RB1#5	2	2	19.59	20.16	18.13
		RB3#0	2	2	20.06	20.49	18.04
		RB3#3	2	2	20.06	20.45	18.00
		RB6#0	2	2	19.20	19.60	16.83
3M	QPSK	RB1#0	0	0	21.27	21.10	19.59
		RB1#8	0	0	20.80	21.37	19.83
		RB1#14	0	0	20.28	21.35	19.52
		RB6#0	1	1	20.19	20.34	19.19
		RB6#9	1	1	19.75	20.33	19.24
		RB15#0	1	1	19.88	20.37	19.18
	16-QAM	RB1#0	1	1	19.97	19.92	18.52
		RB1#8	1	1	19.36	20.29	18.20
		RB1#14	1	1	19.05	20.14	17.91
		RB6#0	2	2	18.89	19.43	17.40
		RB6#9	2	2	18.77	19.64	17.41
		RB15#0	2	2	18.62	19.44	17.40
5M	QPSK	RB1#0	0	0	21.13	21.30	19.42
		RB1#13	0	0	20.24	21.49	19.86
		RB1#24	0	0	20.22	21.52	19.93
		RB15#0	1	1	20.15	20.23	19.21
		RB15#10	1	1	19.74	20.31	19.27
		RB25#0	1	1	19.87	20.14	19.19
	16-QAM	RB1#0	1	1	20.08	20.14	19.12
		RB1#13	1	1	19.35	20.33	18.65
		RB1#24	1	1	18.78	20.54	18.54
		RB15#0	2	2	18.82	19.45	17.54
		RB15#10	2	2	18.54	19.73	17.57
		RB25#0	2	2	18.35	19.61	17.41

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
10M	QPSK	RB1#0	0	0	21.55	20.61	20.50
		RB1#25	0	0	20.16	21.30	19.94
		RB1#49	1	1	20.07	21.23	19.87
		RB25#0	1	1	19.99	19.73	19.19
		RB25#25	1	1	19.84	20.18	19.29
		RB50#0	1	1	19.76	19.98	19.14
	16-QAM	RB1#0	1	1	19.88	19.51	19.46
		RB1#25	1	1	18.37	20.10	18.74
		RB1#49	1	1	18.13	20.24	18.46
		RB15#0	2	2	19.64	19.75	18.79
		RB15#25	2	2	18.52	20.22	18.45
		RB25#0	2	2	18.11	19.42	17.64
15M	QPSK	RB1#0	0	0	21.01	20.51	21.00
		RB1#38	0	0	20.32	21.27	20.07
		RB1#74	1	1	19.95	20.85	19.39
		RB36#0	1	1	19.95	19.88	19.29
		RB36#39	1	1	19.85	20.21	19.38
		RB75#0	1	1	19.83	19.86	19.15
	16-QAM	RB1#0	1	1	19.92	19.07	19.93
		RB1#38	1	1	18.35	19.92	19.14
		RB1#74	2	2	19.04	19.76	18.54
		RB15#0	2	2	19.56	18.97	19.44
		RB15#39	2	2	18.39	20.09	18.81
		RB25#0	2	2	18.08	19.63	18.60
20M	QPSK	RB1#0	0	0	20.65	20.61	20.58
		RB1#50	0	0	20.79	**21.61**	21.03
		RB1#99	0	0	20.66	20.92	20.08
		RB50#0	1	1	19.93	20.47	19.67
		RB50#50	1	1	19.86	20.19	19.47
		RB100#0	1	1	19.76	19.96	19.11
	16-QAM	RB1#0	1	1	19.99	19.36	20.25
		RB1#50	1	1	18.59	20.78	19.23
		RB1#99	2	2	19.97	20.29	18.46
		RB15#0	2	2	19.26	18.94	19.88
		RB15#50	2	2	18.19	20.26	19.18
		RB25#0	2	2	18.16	19.48	19.06

LTE Band 5:

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	RB1#0	0	0	21.65	21.88	21.81
		RB1#3	0	0	21.73	21.77	21.71
		RB1#5	0	0	21.66	21.86	21.63
		RB3#0	1	1	21.82	21.79	21.57
		RB3#3	1	1	21.90	21.86	21.51
		RB6#0	1	1	20.89	20.94	20.49
	16-QAM	RB1#0	1	1	20.59	20.89	21.04
		RB1#3	1	1	20.81	20.93	20.96
		RB1#5	2	2	20.88	20.83	21.01
		RB3#0	2	2	21.09	21.11	20.99
		RB3#3	2	2	21.06	21.23	20.89
		RB6#0	2	2	20.22	20.13	19.65
3M	QPSK	RB1#0	0	0	21.46	21.47	21.73
		RB1#8	0	0	21.71	21.60	21.57
		RB1#14	0	0	21.46	21.56	21.40
		RB6#0	1	1	20.73	20.75	20.77
		RB6#9	1	1	20.79	20.70	20.58
		RB15#0	1	1	20.69	20.68	20.66
	16-QAM	RB1#0	1	1	20.57	20.67	21.17
		RB1#8	1	1	20.75	20.82	21.10
		RB1#14	1	1	20.56	20.63	20.86
		RB6#0	2	2	19.73	19.96	19.87
		RB6#9	2	2	19.75	19.86	19.79
		RB15#0	2	2	19.86	19.89	19.65
5M	QPSK	RB1#0	0	0	21.70	21.82	21.75
		RB1#13	0	0	21.70	21.83	21.81
		RB1#24	0	0	21.79	21.66	21.53
		RB15#0	1	1	20.85	20.82	20.71
		RB15#10	1	1	20.78	20.80	20.56
		RB25#0	1	1	20.72	20.68	20.72
	16-QAM	RB1#0	1	1	20.90	20.89	21.50
		RB1#13	1	1	20.85	21.01	21.40
		RB1#24	1	1	20.92	20.98	21.19
		RB15#0	2	2	20.01	20.08	19.93
		RB15#10	2	2	20.04	19.90	19.86
		RB25#0	2	2	19.88	19.86	19.83

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
10M	QPSK	RB1#0	0	0	21.68	21.95	**22.02**
		RB1#25	0	0	21.48	21.70	21.91
		RB1#49	1	1	21.54	21.75	21.60
		RB25#0	1	1	20.89	21.17	20.99
		RB25#25	1	1	20.70	20.95	20.85
		RB50#0	1	1	20.65	20.88	20.53
	16-QAM	RB1#0	1	1	20.60	20.82	21.23
		RB1#25	1	1	20.59	20.89	21.15
		RB1#49	1	1	20.73	21.11	20.95
		RB15#0	2	2	20.74	20.83	20.92
		RB15#25	2	2	20.75	20.95	20.71
		RB25#0	2	2	19.90	20.06	19.95

LTE Band 7:

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	RB1#0	0	0	22.54	22.71	21.3
		RB1#13	0	0	22.45	22.82	21.63
		RB1#24	0	0	22.49	**22.88**	21.88
		RB15#0	1	1	21.54	21.94	21
		RB15#10	1	1	21.56	22.04	21
		RB25#0	1	1	21.32	21.97	21.03
	16-QAM	RB1#0	1	1	20.55	22.53	21.12
		RB1#13	1	1	20.2	22.44	21
		RB1#24	1	1	20.37	22.78	21.16
		RB15#0	2	2	19.46	20.36	19.74
		RB15#10	2	2	19.5	21.03	20.15
		RB25#0	2	2	19.47	20.98	19.83
10M	QPSK	RB1#0	0	0	22.55	22.15	21.55
		RB1#25	0	0	22.14	22.6	21.42
		RB1#49	0	0	21.89	22.74	21.68
		RB25#0	1	1	21.31	21.71	21.58
		RB25#25	1	1	21.63	21.39	21.39
		RB50#0	1	1	21.16	21.21	21.03
	16-QAM	RB1#0	1	1	20.12	21.06	21.03
		RB1#25	1	1	19.93	22.04	21.28
		RB1#49	1	1	19.92	21.96	21.38
		RB15#0	2	2	20.38	21.66	20.51
		RB15#25	2	2	20.43	22.04	21.1
		RB25#0	2	2	19.42	21.09	20.2
15M	QPSK	RB1#0	0	0	21.44	21.87	21.41
		RB1#38	0	0	21.26	22.83	21.35
		RB1#74	0	0	21.75	22.7	21.22
		RB36#0	1	1	21.35	21.64	21.23
		RB36#39	1	1	21.3	21.55	21.17
		RB75#0	1	1	21.03	21.36	21.02
	16-QAM	RB1#0	1	1	20.17	20.8	20.8
		RB1#38	1	1	20.11	21.44	20.88
		RB1#74	1	1	19.85	21.25	20.81
		RB15#0	2	2	20.2	20.84	20.46
		RB15#39	2	2	20.28	21.57	20.55
		RB25#0	2	2	19.39	20.65	19.8

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
20M	QPSK	RB1#0	0	0	22.27	21.91	21.51
		RB1#50	0	0	22.64	22.71	21.86
		RB1#99	0	0	21.83	22.28	21.83
		RB50#0	1	1	21.24	21.42	21.59
		RB50#50	1	1	21.78	22.15	21.69
		RB100#0	1	1	21.09	22.17	21.02
	16-QAM	RB1#0	1	1	20.43	21.23	21.12
		RB1#50	1	1	20.03	22.71	21
		RB1#99	1	1	19.93	22.14	21.36
		RB15#0	2	2	19.94	20.73	20.67
		RB15#50	2	2	19.98	22.29	20.91
		RB25#0	2	2	19.22	21.04	19.71

LTE Band 66:

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	RB1#0	0	0	22.10	21.57	21.17
		RB1#3	0	0	21.87	21.66	20.95
		RB1#5	0	0	22.00	21.56	20.94
		RB3#0	1	1	22.10	21.64	21.01
		RB3#3	1	1	22.12	21.56	20.83
		RB6#0	1	1	21.19	20.67	19.86
	16-QAM	RB1#0	1	1	21.01	20.46	20.39
		RB1#3	1	1	20.92	20.46	20.24
		RB1#5	2	2	20.86	20.43	20.32
		RB3#0	2	2	21.26	20.79	20.19
		RB3#3	2	2	21.33	20.68	20.15
		RB6#0	2	2	20.45	19.91	19.06
3M	QPSK	RB1#0	0	0	**22.21**	21.57	21.08
		RB1#8	0	0	22.17	21.56	21.03
		RB1#14	0	0	22.03	21.28	20.86
		RB6#0	1	1	20.95	20.55	20.15
		RB6#9	1	1	20.84	20.44	20.01
		RB15#0	1	1	20.97	20.56	20.15
	16-QAM	RB1#0	1	1	21.35	20.42	20.18
		RB1#8	1	1	21.38	20.44	20.06
		RB1#14	1	1	21.09	20.31	19.81
		RB6#0	2	2	20.08	19.74	19.27
		RB6#9	2	2	20.02	19.69	19.10
		RB15#0	2	2	20.01	19.83	19.28
5M	QPSK	RB1#0	0	0	22.16	21.61	21.69
		RB1#13	0	0	21.87	21.65	21.40
		RB1#24	0	0	21.76	21.53	21.10
		RB15#0	1	1	20.99	20.65	20.21
		RB15#10	1	1	20.88	20.72	20.06
		RB25#0	1	1	20.87	20.62	20.20
	16-QAM	RB1#0	1	1	21.81	20.68	20.73
		RB1#13	1	1	21.44	20.64	20.40
		RB1#24	1	1	21.20	20.53	20.13
		RB15#0	2	2	20.05	19.99	19.29
		RB15#10	2	2	19.90	19.78	19.04
		RB25#0	2	2	19.90	19.77	19.26

Test Bandwidth	Test Modulation	Resource Block & RB offset	Target MPR	Meas MPR	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
10M	QPSK	RB1#0	0	0	22.01	21.68	21.08
		RB1#25	0	0	21.23	21.50	20.91
		RB1#49	1	1	21.05	21.44	20.60
		RB25#0	1	1	20.56	20.56	20.06
		RB25#25	1	1	20.40	20.37	19.90
		RB50#0	1	1	20.31	20.36	20.03
	16-QAM	RB1#0	1	1	21.03	21.12	20.00
		RB1#25	1	1	20.42	20.93	20.03
		RB1#49	1	1	20.28	20.75	19.53
		RB15#0	2	2	20.25	20.54	20.35
		RB15#25	2	2	20.14	20.43	19.91
		RB25#0	2	2	19.61	19.59	19.21
15M	QPSK	RB1#0	0	0	22.10	21.82	21.01
		RB1#38	0	0	21.41	21.44	21.24
		RB1#74	1	1	21.48	21.41	20.83
		RB36#0	1	1	20.56	20.60	20.42
		RB36#39	1	1	20.44	20.39	20.21
		RB75#0	1	1	20.36	20.51	20.19
	16-QAM	RB1#0	1	1	21.45	20.81	20.05
		RB1#38	1	1	20.73	20.54	20.31
		RB1#74	2	2	20.87	20.46	19.82
		RB15#0	2	2	20.26	20.67	20.40
		RB15#39	2	2	20.30	20.28	19.83
		RB25#0	2	2	19.59	19.76	19.48
20M	QPSK	RB1#0	0	0	21.83	21.85	21.41
		RB1#50	0	0	21.70	21.71	21.34
		RB1#99	0	0	21.64	21.83	21.26
		RB50#0	1	1	21.44	21.80	20.38
		RB50#50	1	1	20.85	21.46	20.46
		RB100#0	1	1	20.33	20.76	20.34
	16-QAM	RB1#0	1	1	21.19	21.50	20.47
		RB1#50	1	1	20.53	21.51	21.03
		RB1#99	2	2	21.03	20.97	20.58
		RB15#0	2	2	20.35	20.84	20.59
		RB15#50	2	2	20.50	20.30	20.27
		RB25#0	2	2	19.59	19.96	19.64

7. Standalone SAR test exclusion considerations

Antennas Location:

8. SAR MEASUREMENT RESULTS

This page summarizes the results ofthe performed dosimetric evaluation.

8.1 SAR Test Data

Environmental Conditions

Temperature:	21.9-22.8℃	22.2-23.1℃	22.4-23.2℃	21.5-22.9℃
Relative Humidity:	42%	44%	43%	45 %
ATM Pressure:	101.8kPa	102.1kPa	101.6kPa	101.4kPa
Test Date:	2025/03/29	2025/03/30	2025/03/31	2025/04/01

Testing was performed by Wen Chen, Aixlee Li, Ken Zong.

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	23.34	23.5	1.038	0.501	0.52	/
	1900	20	1RB	/	/	/	/	/	/
	1880	20	50%RB	22.48	23.5	1.265	0.446	0.56	1#
Body Back With Belt Clip (0mm)	1860	20	1RB	23.28	23.5	1.052	1.17	1.23	2#
	1880	20	1RB	23.34	23.5	1.038	1.13	1.17	/
	1900	20	1RB	22.54	23.1	1.138	0.959	1.09	/
	1860	20	50%RB	22.58	23.5	1.236	0.975	1.21	/
	1880	20	50%RB	22.48	23.5	1.265	0.83	1.05	/
	1900	20	50%RB	21.71	23.1	1.377	0.791	1.09	/
	1880	20	100%RB	21.76	23.5	1.493	0.775	1.16	/

The data above was performed on 2025/03/31.

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	21.95	22.1	1.035	0.631	0.65	3#
	844	10	1RB	/	/	/	/	/	/
	836.5	10	50%RB	21.17	22.1	1.239	0.498	0.62	/
Body Back With Belt Clip (0mm)	829	10	1RB	21.68	22.1	1.102	0.809	0.89	/
	836.5	10	1RB	21.95	22.1	1.035	0.823	0.85	/
	844	10	1RB	22.02	22.1	1.019	0.966	0.98	4#
	836.5	10	50%RB	21.17	22.1	1.239	0.627	0.78	/
	836.5	10	100%RB	20.88	22.1	1.324	0.633	0.84	/

The data above was performed on 2025/03/29.

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	22.71	23	1.069	0.594	0.63	5#
	2560	20	1RB	/	/	/	/	/	/
	2535	20	50%RB	22.15	23	1.216	0.504	0.61	/
Body Back With Belt Clip (0mm)	2510	20	1RB	22.64	23	1.086	1.07	1.16	/
	2535	20	1RB	22.71	23	1.069	1.09	1.17	6#
	2560	20	1RB	21.86	22	1.033	0.958	0.99	/
	2510	20	50%RB	21.78	23	1.324	0.737	0.98	/
	2535	20	50%RB	22.15	23	1.216	0.947	1.15	/
	2560	20	50%RB	21.69	22	1.074	0.772	0.83	/
	2535	20	100%RB	22.17	23	1.211	0.965	1.17	/

The data above was performed on 2025/04/01.

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	21.85	22.3	1.109	0.674	0.75	7#
	1770	20	1RB	/	/	/	/	/	/
	1745	20	50%RB	21.8	22.3	1.122	0.488	0.55	/
Body Back With Belt Clip (0mm)	1720	20	1RB	21.83	22.3	1.114	1.05	1.17	8#
	1745	20	1RB	21.85	22.3	1.109	1.01	1.12	/
	1770	20	1RB	21.41	21.8	1.094	0.925	1.01	/
	1745	20	50%RB	21.8	22.3	1.122	0.715	0.8	/
	1745	20	100%RB	20.76	22.3	1.426	0.644	0.92	

The data above was performed on 2025/03/30.

Note: The LTE Band4 is a subset of LTE Band 66, with the same modulation type, and the rated output power of LTE band 4 is not greater than LTE band 66, so LTE band 4 does not need to be tested.

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. KDB941225D05-SAR for higher order modulation is required only when the highest maximum output power for the configuration in the higher order modulation is > 0.5 dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg
4. KDB941225D05-For QPSK with 100% RB allocation, when the reported SAR measured for the Highest output power channel is <1.45 W/kg, tests for the remaining required test channels are optional.
5. KDB941225D05- For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg.

6. KDB941225D05- Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offset the upper edge, middle and lower edge of each required test channel.
7. KDB941225D05- other channel bandwidths SAR test is required when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is > 0.5 dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg.

9. 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.

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

The Highest Measured SAR Configuration in Each Frequency Band

Head(Face Up)

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

Body

SAR probe calibration point	Frequency Band	Freq.(MHz)	EUT Position	Meas. SAR (W/kg)		Largest toSmallestSARRatio
				Original	Repeated	
750 MHz	LTE Band 5	844	Body Back	0.966	0.952	1.01
1750 MHz	LTE Band 66&4	1720	Body Back	1.05	1.01	1.04
1900 MHz	LTE Band 2	1860	Body Back	1.17	1.16	1.01
2450 MHz	LTE Band 7	2535	Body Back	1.09	1.07	1.02
2600 MHz	LTE Band 7	2560	Body Back	0.958	0.934	1.03

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.

10. 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, holderperturbation verification is required for each antenna, using the highest SAR configuration among all applicable frequency bandsin the same exact device and holder positions used for head and body SAR measurements; i.e. same device/button locations in the holder

PerIEEE 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 distributionand $v_i = \infty$ degrees of freedom:

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

The Highest Measured SAR Configuration among allapplicable Frequency Band

Frequency Band	Freq.(MHz)	EUT Position	Meas. SAR (W/kg)		The Device holder perturbationuncerta inty
			With holder	Without holder	
LTE Band 2	1860	Body Back	1.17	1.13	3.5%

11. SAR SIMULTANEOUS TRANSMISSION DESCRIPTION

11.1 Simultaneous Transmission:

Note: There is no multiple transmitters for the product, so simultaneous transmission need not to evaluate.

12. SAR Plots

Plot 1#: LTE Band 2 50%RB Mid Face Up

DUT: Two Way Radio; Type: TS-K8S; Serial: 2ZCX-1

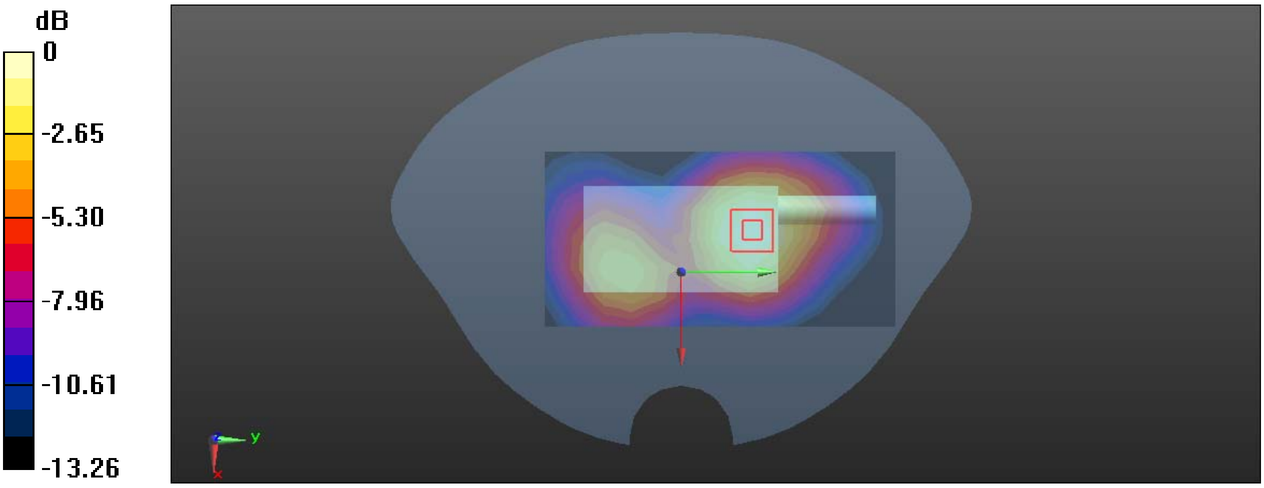
Communication System: UID 0, Generic FDD-LTE (0); Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.421 S/m; ε_r = 40.454; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3157; ConvF(5.15, 5.15, 5.15) @ 1880 MHz; Calibrated: 2024/11/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1354; Calibrated: 2024/12/3
- Phantom: Twin SAM; Type: Twin SAM V5.0; Serial: TP:1412
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.524 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.226 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 0.759 W/kg
SAR(1 g) = 0.446 W/kg; SAR(10 g) = 0.278 W/kg
Maximum value of SAR (measured) = 0.528 W/kg



0 dB = 0.528 W/kg = -2.77 dBW/kg

Plot 2#: LTE Band 2 1RB Low Body Back With Belt Clip

DUT: Two Way Radio; Type: TS-K8S; Serial: 2ZCX-1

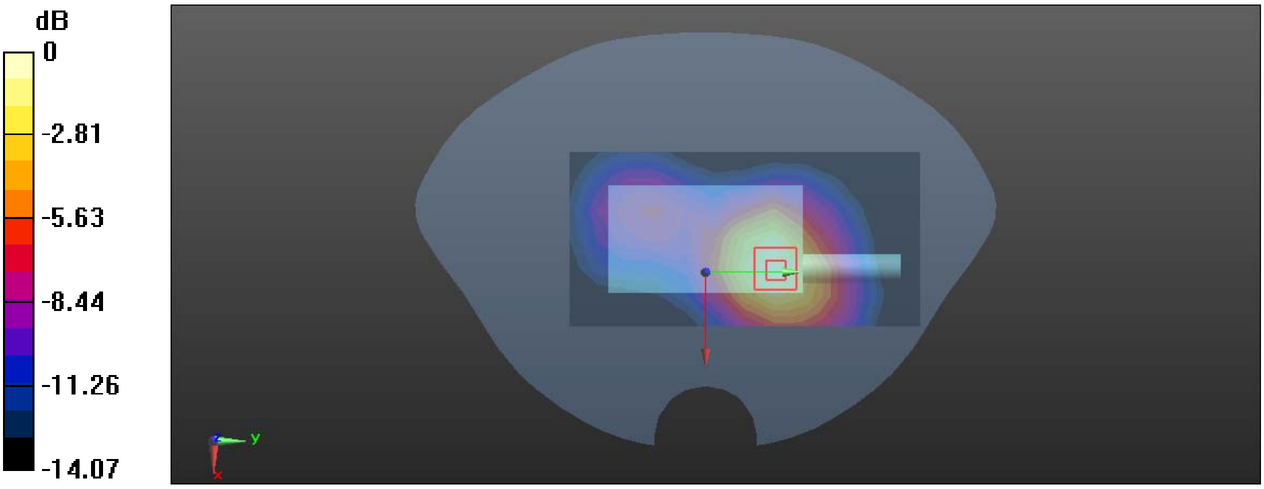
Communication System: UID 0, Generic FDD-LTE (0); Frequency: 1860 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1860 MHz; σ = 1.415 S/m; ε_r = 40.848; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3157; ConvF(5.15, 5.15, 5.15) @ 1860 MHz; Calibrated: 2024/11/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1354; Calibrated: 2024/12/3
- Phantom: Twin SAM; Type: Twin SAM V5.0; Serial: TP:1412
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.47 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.62 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 2.13 W/kg
SAR(1 g) = 1.17 W/kg; SAR(10 g) = 0.689 W/kg
Maximum value of SAR (measured) = 1.44 W/kg



0 dB = 1.44 W/kg = 1.58 dBW/kg

Plot 3#: LTE Band 5 1RB Mid Face Up

DUT: Two Way Radio; Type: TS-K8S; Serial: 2ZCX-1

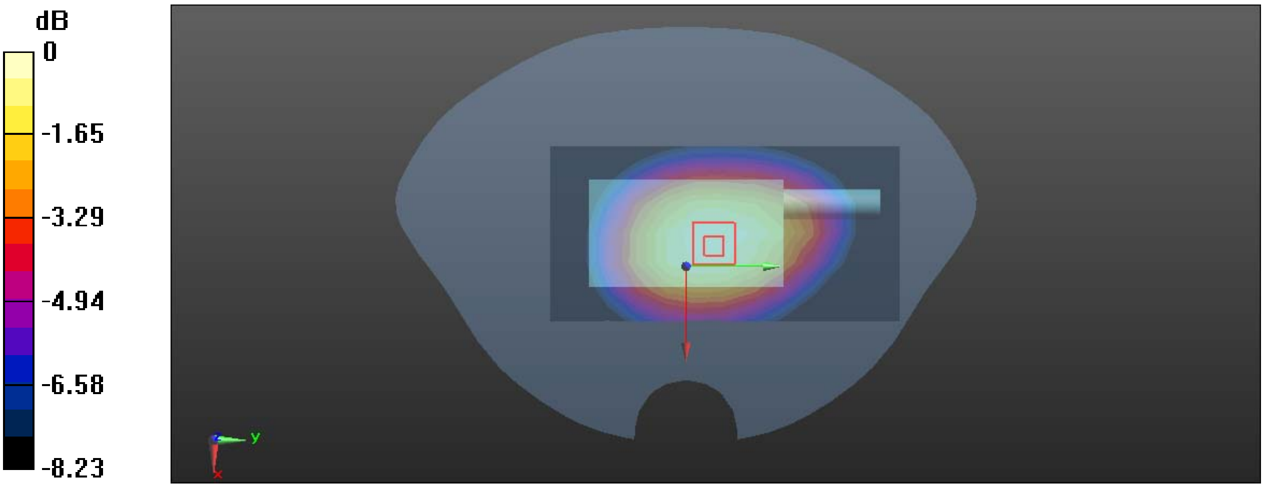
Communication System: UID 0, Generic FDD-LTE (0); Frequency: 836.5 MHz;Duty Cycle: 1:1
Medium parameters used: f = 836.5 MHz; σ = 0.929 S/m; ε_r = 42.426; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3157; ConvF(6.45, 6.45, 6.45) @ 836.5 MHz; Calibrated: 2024/11/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1354; Calibrated: 2024/12/3
- Phantom: Twin SAM; Type: Twin SAM V5.0; Serial: TP:1412
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.696 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.93 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.947 W/kg
SAR(1 g) = 0.631 W/kg; SAR(10 g) = 0.455 W/kg
Maximum value of SAR (measured) = 0.711 W/kg



0 dB = 0.711 W/kg = -1.48 dBW/kg

Plot 4#: LTE Band 5 1RB High Body Back With Belt Clip

DUT: Two Way Radio; Type: TS-K8S; Serial: 2ZCX-1

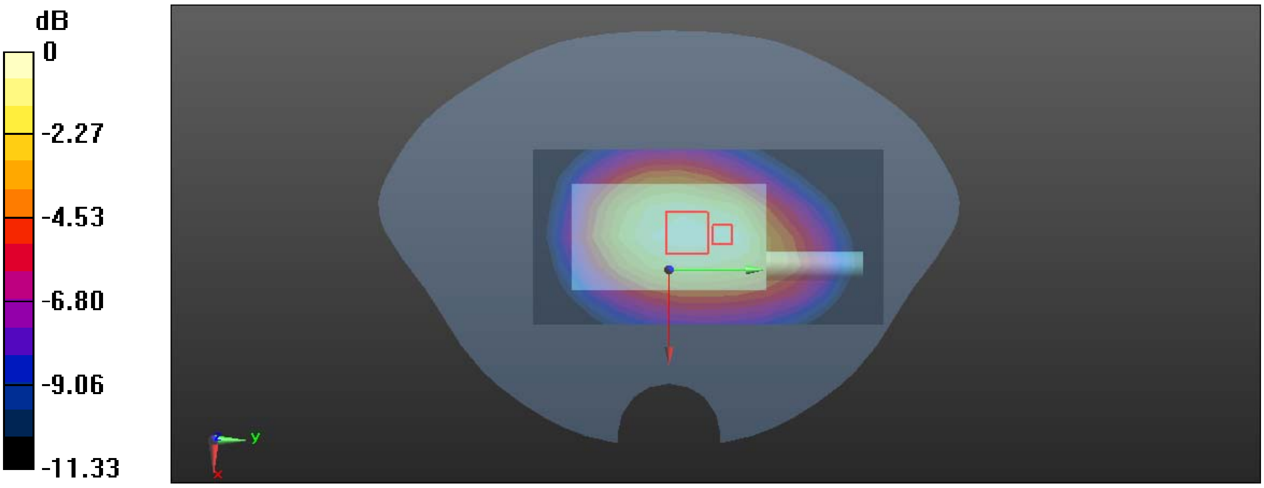
Communication System: UID 0, Generic FDD-LTE (0); Frequency: 844 MHz;Duty Cycle: 1:1
Medium parameters used: f = 844 MHz; σ = 0.934 S/m; ε_r = 42.315; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3157; ConvF(6.45, 6.45, 6.45) @ 844 MHz; Calibrated: 2024/11/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1354; Calibrated: 2024/12/3
- Phantom: Twin SAM; Type: Twin SAM V5.0; Serial: TP:1412
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.04 W/kg

Zoom Scan (6x8x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 34.20 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 1.67 W/kg
SAR(1 g) = 0.966 W/kg; SAR(10 g) = 0.680 W/kg
Maximum value of SAR (measured) = 1.13 W/kg



0 dB = 1.13 W/kg = 0.53 dBW/kg

Plot 5#: LTE Band 7 1RB Mid Face Up

DUT: Two Way Radio; Type: TS-K8S; Serial: 2ZCX-1

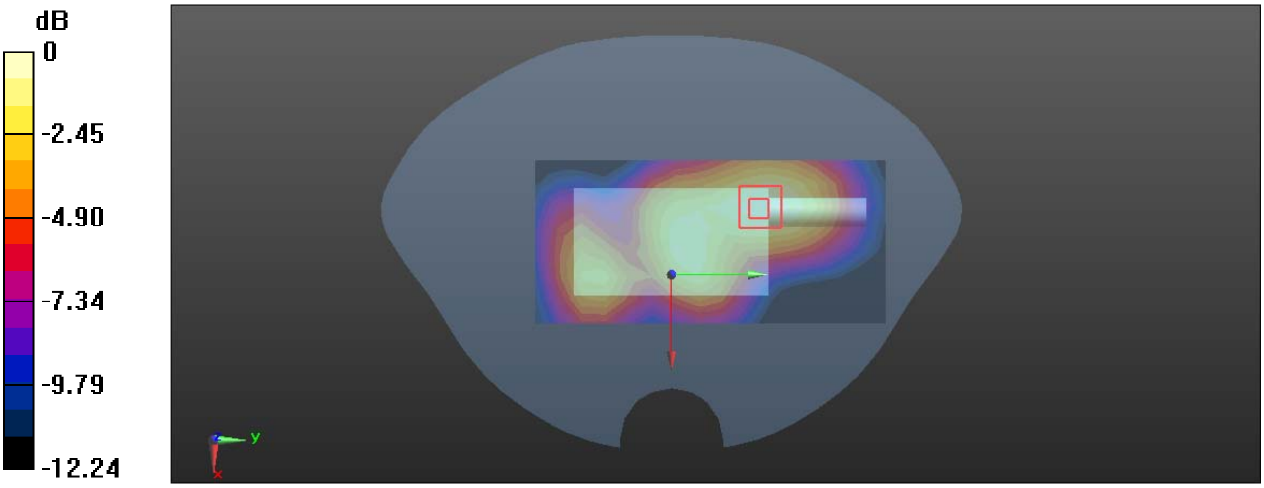
Communication System: UID 0, Generic FDD-LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2535 MHz; σ = 1.869 S/m; ε_r = 39.726; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3157; ConvF(4.75, 4.75, 4.75) @ 2535 MHz; Calibrated: 2024/11/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1354; Calibrated: 2024/12/3
- Phantom: Twin SAM; Type: Twin SAM V5.0; Serial: TP:1412
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Area Scan (8x16x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.684 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.71 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 1.15 W/kg
SAR(1 g) = 0.594 W/kg; SAR(10 g) = 0.352 W/kg
Maximum value of SAR (measured) = 0.708 W/kg



0 dB = 0.708 W/kg = -1.50 dBW/kg

Plot 6#: LTE Band 7 1RB Mid Body Back With Belt Clip

DUT: Two Way Radio; Type: TS-K8S; Serial: 2ZCX-1

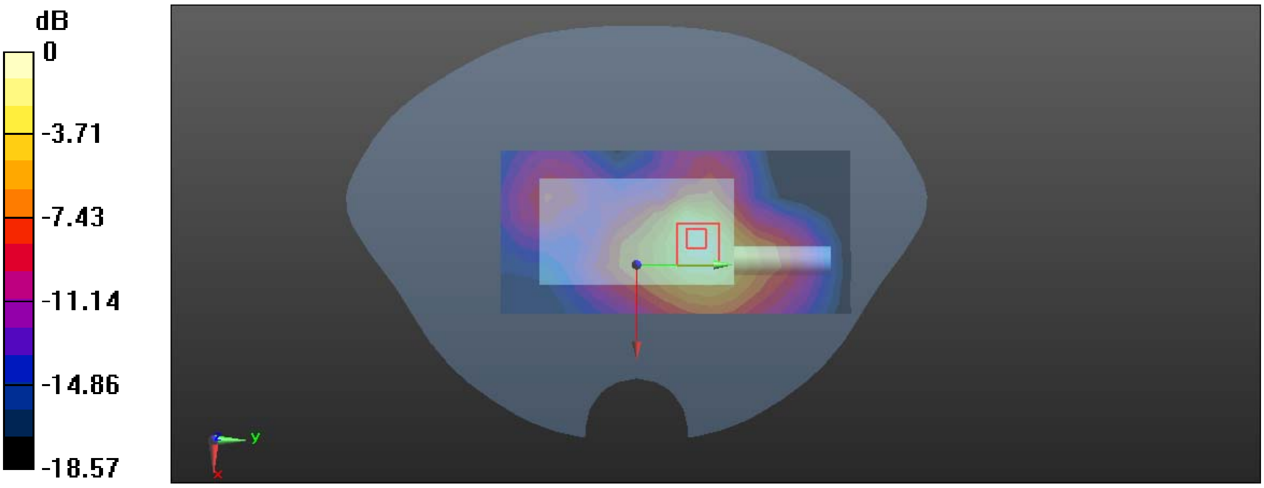
Communication System: UID 0, Generic FDD-LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2535 MHz; σ = 1.869 S/m; ε_r = 39.726; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3157; ConvF(4.75, 4.75, 4.75) @ 2535 MHz; Calibrated: 2024/11/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1354; Calibrated: 2024/12/3
- Phantom: Twin SAM; Type: Twin SAM V5.0; Serial: TP:1412
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Area Scan (8x16x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 1.19 W/kg

Zoom Scan (8x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.06 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 2.24 W/kg
SAR(1 g) = 1.09 W/kg; SAR(10 g) = 0.582 W/kg
Maximum value of SAR (measured) = 1.35 W/kg



0 dB = 1.35 W/kg = 1.30 dBW/kg

Plot 7#: LTE Band 66 1RB Mid Face Up

DUT: Two Way Radio; Type: TS-K8S; Serial: 2ZCX-1

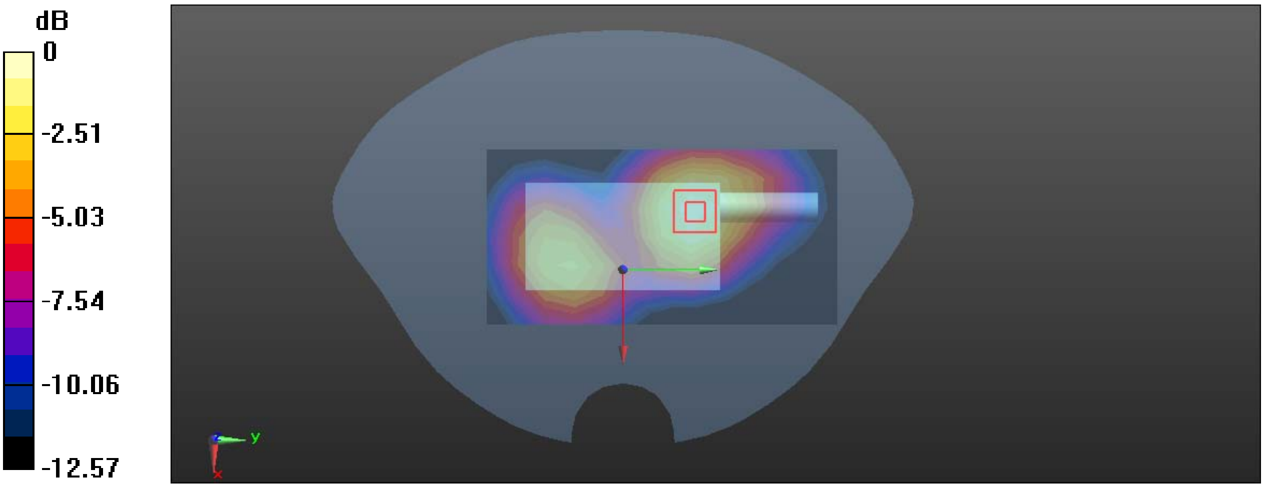
Communication System: UID 0, Generic FDD-LTE (0); Frequency: 1745 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1745 MHz; σ = 1.363 S/m; ε_r = 40.844; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3157; ConvF(5.41, 5.41, 5.41) @ 1745 MHz; Calibrated: 2024/11/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1354; Calibrated: 2024/12/3
- Phantom: Twin SAM; Type: Twin SAM V5.0; Serial: TP:1412
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.770 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.64 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 1.12 W/kg
SAR(1 g) = 0.674 W/kg; SAR(10 g) = 0.430 W/kg
Maximum value of SAR (measured) = 0.791 W/kg



0 dB = 0.791 W/kg = -1.02 dBW/kg

Plot 8#: LTE Band 66 1RB Low Body Back With Belt Clip

DUT: Two Way Radio; Type: TS-K8S; Serial: 2ZCX-1

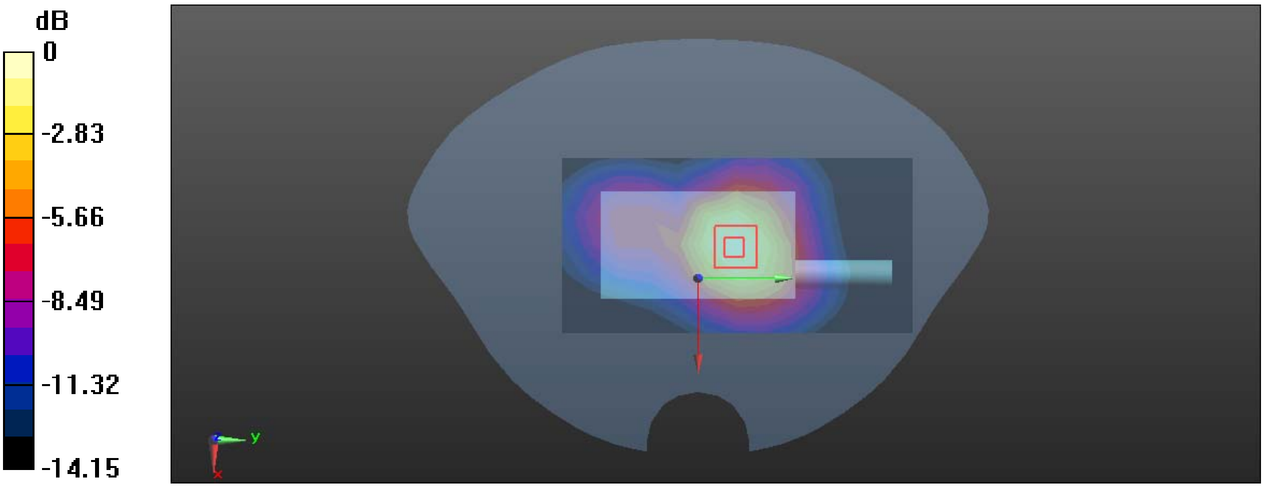
Communication System: UID 0, Generic FDD-LTE (0); Frequency: 1720 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1720 MHz; σ = 1.332 S/m; ε_r = 41.035; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3157; ConvF(5.41, 5.41, 5.41) @ 1720 MHz; Calibrated: 2024/11/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1354; Calibrated: 2024/12/3
- Phantom: Twin SAM; Type: Twin SAM V5.0; Serial: TP:1412
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Area Scan (7x13x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.28 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.54 V/m; Power Drift = 0.19 dB
Peak SAR (extrapolated) = 1.84 W/kg
SAR(1 g) = 1.05 W/kg; SAR(10 g) = 0.633 W/kg
Maximum value of SAR (measured) = 1.27 W/kg



0 dB = 1.27 W/kg = 1.04 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	6.55	N	1	1	1	6.3	6.3
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
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
Post-processing	2.0	R	√3	1	1	1.2	1.2
Test sample related							
Test sample positioning	2.8	N	1	1	1	2.8	2.8
Device holder uncertainty	3.5	N	1	1	1	3.5	3.5
Drift of output power	5.0	R	√3	1	1	2.9	2.9
Phantom and set-up							
Phantom uncertainty (shape and thickness tolerances)	4.0	R	√3	1	1	2.3	2.3
Liquid conductivity target)	5.0	R	√3	0.64	0.43	1.8	1.2
Liquid conductivity meas.)	2.5	N	1	0.64	0.43	1.6	1.1
Liquid permittivity target)	5.0	R	√3	0.6	0.49	1.7	1.4
Liquid permittivity meas.)	2.5	N	1	0.6	0.49	1.5	1.2
Combined standard uncertainty		RSS				12.2	12.0
Expanded uncertainty 95 % confidence interval)						24.1	23.7

APPENDIX B EUT TEST POSITION PHOTOS

Liquid depth ≥ 15cm

Phantom: Twin SAM; Type: Twin SAM V5.0; Serial: TP:1412

Face Up Setup Photo(25mm)

Body Back With Belt ClipSetup Photo (0mm)

Body Back With Belt ClipWithout holder Setup Photo (0mm)

APPENDIX C CALIBRATION CERTIFICATES

Please Refer to the Attachment.

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