SAR EVALUATION REPORT

For

Feitian Technologies Co., Ltd.

17th Floor, Tower B, Huizhi Mansion, No.9 Xueqing Road, Haidian District, Beijing, China.

FCC ID: ZD3FTF600

Report Type:	Product Name:
Original Report	Android POS Terminal

Report Number:	RKSA240906001-20B
Report Date:	2024-12-31
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REPORT REVISION HISTORY

Number of Revisions	Report No.	Version	Issue Date	Description
0	RKSA240906001-20B	R1V1	2024-12-31	Initial Release

EUT Information	
Applicant:	Feitian Technologies Co., Ltd.
Product Type	Protable
Exposure Category:	Population / Uncontrolled
Body-Worn Accessories:	None
Operation Mode :	GPRS/EGPRS WCDMA FDD-LTE/ TDD-LTE WLAN2.4G RLAN5G Bluetooth BLE NFC
Power Supply:	DC 3.8V from battery
Normal Operation:	Body Supported
Frequency Band:	GPRS/EGPRS 850: 824-849 MHz(TX), 869-894 MHz(RX) GPRS/EGPRS 1900: 1850-1910 MHz(TX), 1930-1990 MHz(RX) WCDMA Band II: 1850-1910 MHz(TX), 1930-1990 MHz(RX) WCDMA Band IV: 1710-1755 MHz(TX), 2110-2155 MHz(RX) WCDMA Band V: 824-849 MHz(TX), 869-894 MHz(RX) LTE Band 2: 1850-1910 MHz(TX), 1930-1990 MHz(RX) LTE Band 4: 1710-1755 MHz(TX), 2110-2155 MHz(RX) LTE Band 5: 824-849 MHz(TX), 869-894 MHz(RX) LTE Band 7: 2500-2570 MHz(TX), 2620-2690 MHz(RX) LTE Band 38: 2570-2620 MHz(TX), 2570-2620 MHz(RX) WLAN (2.4G): 2412 -2462 MHz (TX&RX) WLAN (5.2G): 5150-5250MHz(TX&RX) WLAN (5.3G):5250-5350MHz(TX&RX) WLAN (5.6G):5470-5725MHz(TX&RX) WLAN (5.8G) : 5725~5850 MHz(TX&RX) Bluetooth: 2402 MHz-2480 MHz(TX&RX) BLE(1 Mbp): 2402 MHz-2480 MHz(TX&RX) NFC:13.56MHz
Tested Model:	F600
Product name:	Android Payment PAD
Serial Number:	RKSA240906001-1
Test Date:	2024-10-15~2024-10-19

MODE	Max. SAR Level(s) Reported(W/kg)	Limit
GSM850	0.484 W/kg 1g Body SAR	1.6(W/kg)
PCS1900	0.636 W/kg 1g Body SAR	
WCDMA Band II	0.786 W/kg 1g Body SAR	
WCDMA Band IV	0.708 W/kg 1g Body SAR	
WCDMA Band V	0.351 W/kg 1g Body SAR	
LTE Band 2	0.639 W/kg 1g Body SAR	
LTE Band 4	0.759 W/kg 1g Body SAR	
LTE Band 5	0.325 W/kg 1g Body SAR	
LTE Band 7	1.121 W/kg 1g Body SAR	
LTE Band 38	0.739 W/kg 1g Body SAR	
2.4GHz WLAN	0.571 W/kg 1g Body SAR	
5.2GHz WLAN	0.541 W/kg 1g Body SAR	
5.3GHz WLAN	0.640 W/kg 1g Body SAR	
5.6GHz WLAN	0.618 W/kg 1g Body SAR	
5.8GHz WLAN	0.432 W/kg 1g Body SAR	
Bluetooth	0.022 W/kg 1g Body SAR	
Simultaneous	1.436 W/kg 1g Body SAR	

Applicable Standards

▲FCC 47 CFR part 2.1093
Radiofrequency 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 648474 D04 Handset SAR v01r03
KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
KDB 865664 D02 RF Exposure Reporting v01r02
KDB 941225 D01 3G SAR Procedures v03r01
KDB 941225 D05 SAR for LTE Devices v02r05
KDB 248227 D01 802.11 Wi-Fi SAR v02r02

Note: This wireless device has been shown to be capable of compliance for localized specific absorption rate (SAR) for General Population/Uncontrolled Exposure limits specified in **FCC 47 CFR part 2.1093** and has been tested in accordance with the measurement procedures specified in IEEE 1528-2013 and RF exposure KDB procedures.
The results and statements contained in this report pertain only to the device(s) evaluated.

REFERENCE, STANDARDS, AND GUIDELINES

FCC:

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

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

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 of individual who have no knowledge or control of their exposure.

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

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

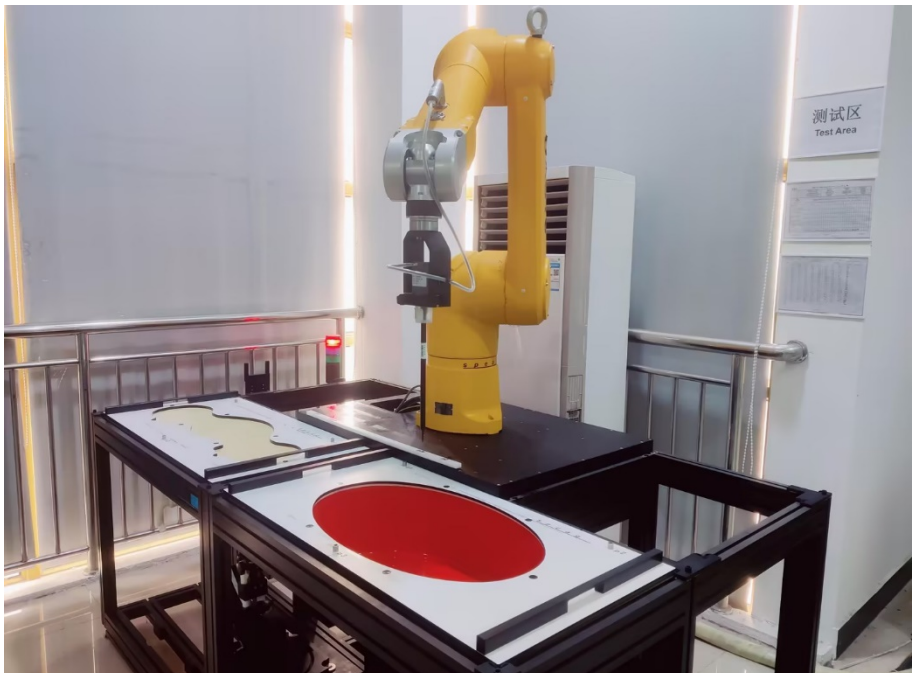
FACILITIES

The test site used by Bay Area Compliance Laboratories Corp. (Kunshan) to collect test data is located on the No.248 Chenghu Road, Kunshan, Jiangsu province, China.

Bay Area Compliance Laboratories Corp. (Kunshan) is accredited in accordance with ISO/IEC 17025:2017 by NVLAP (Lab code: 600338-0), and the lab has been recognized as the FCC accredited lab under the KDB 974614 D01, the FCC Designation No. : CN5055.

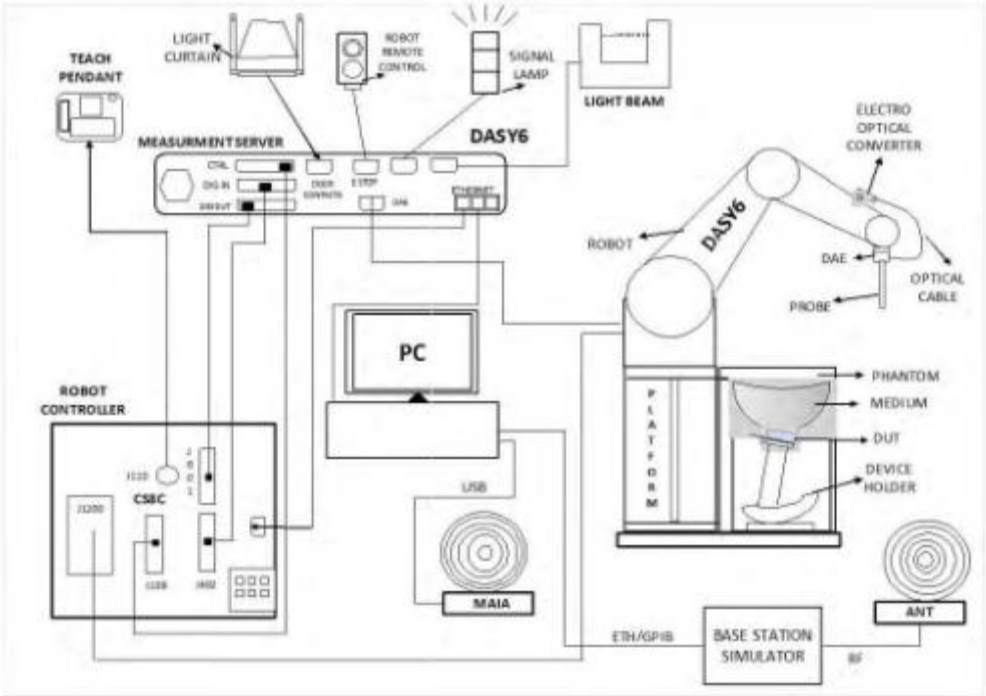
DESCRIPTION OF TEST SYSTEM

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.

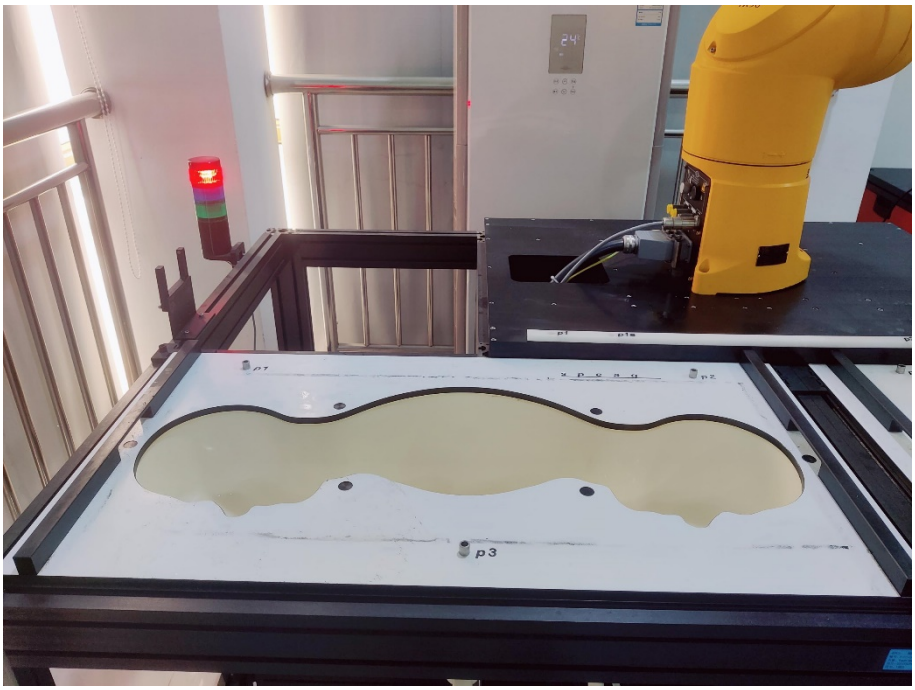
The mechanical probe mounting device includes two different sensor systems for frontal and sideways probe contacts. They are used for mechanical surface detection and probe collision detection.

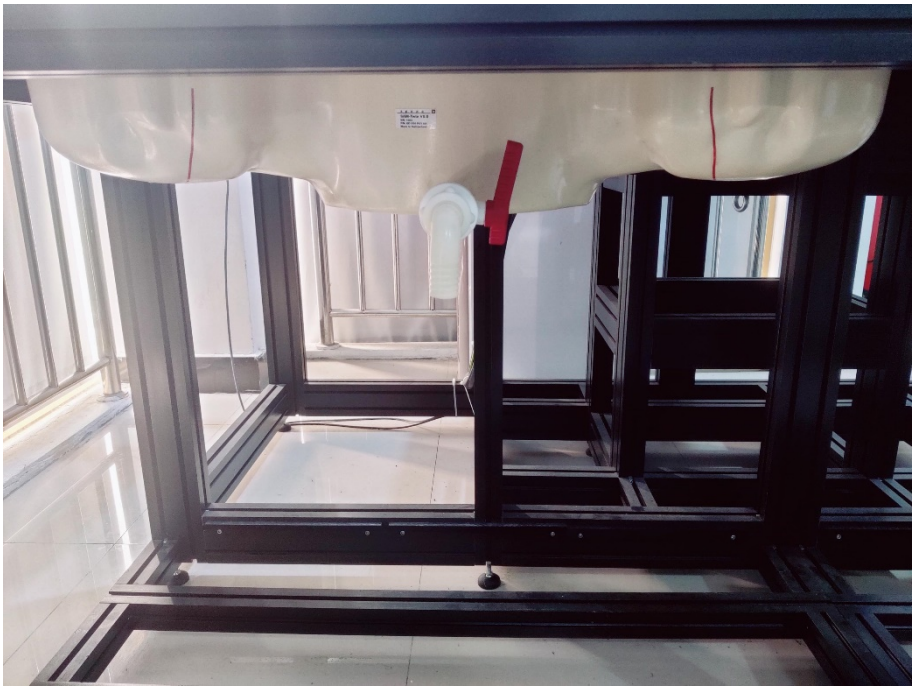
The input impedance of both the DAE4 as well as of the DAE3 box is 200MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

EX3DV4 E-Field Probes

Frequency	10 MHz to > 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in TSL (rotation around probe axis) ± 0.5 dB in TSL (rotation normal to probe axis)
Dynamic Range	10 μW/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 μW/g)
Dimensions	Overall length: 337 mm (Tip: 9 mm) Tip diameter: 2.5 mm (Body: 10 mm) Typical distance from probe tip to dipole centers: 1 mm
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields); the only probe that enables compliance testing for frequencies up to 6 GHz with precision of better 30%.
Compatibility	DASY3, DASY4, DASY52 SAR and higher, EASY4/MRI

SAM Twin Phantom

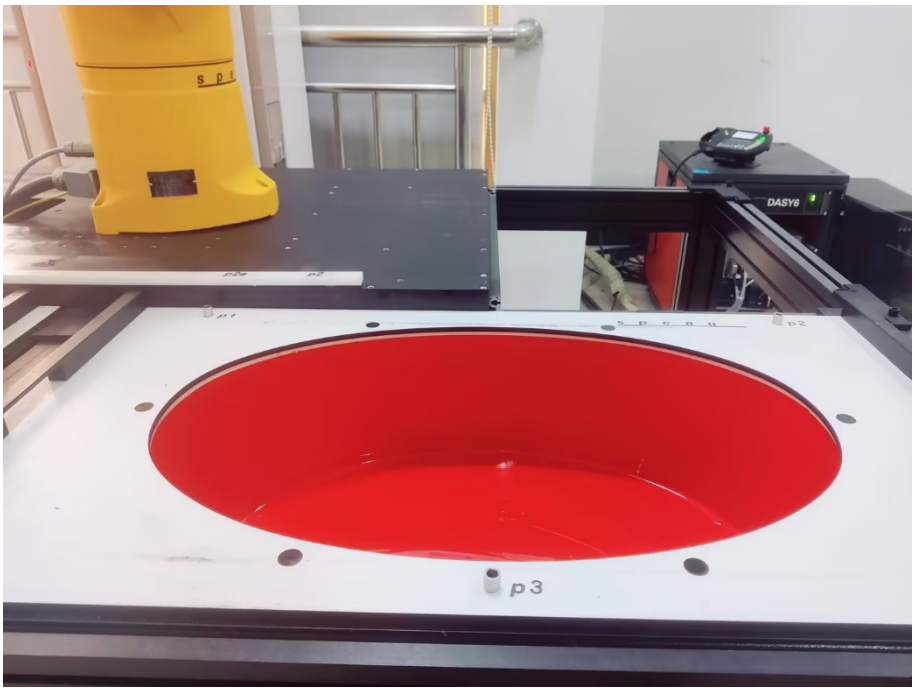




The SAM Twin Phantom (shown in front of DASY6) is a fiberglass shell phantom with shell thickness 2 mm, except in the ear region where the thickness is increased to 6 mm. The phantom has three measurement areas: 1) Left Head, 2) Right Head, and 3) Flat Section. For larger devices, the use of the ELI-Phantom (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 V5.2 software. 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 1528:2013 and the use of all known tissue simulating liquids. ELI has been optimized for performance and can be integrated into a SPEAG standard phantom table. A cover is provided to prevent evaporation of water and changes in liquid parameters. Reference markings on the phantom allow installation of the complete setup, including all predefined phantom positions and measurement grids, by teaching three points.

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 St aubli 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

Area Scans

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

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

Zoom Scan (Cube Scan Averaging)

The averaging zoom scan volume utilized in the DASY5 software is in the shape of a cube and the side dimension of a 1 g or 10 g mass is dependent on the density of the liquid representing the simulated tissue. A density of 1000 kg/m^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 10mm,with the side length of the 10g cube is 21.5mm.

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

The zoom scan integer steps can be user defined so as to reduce uncertainty, but normal practice for typical test applications (including FCC) utilize a physical step of 7 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 2 – Dielectric properties of the tissue-equivalent medium

Frequency MHz	Real part of the complex relative permittivity, ε_r'	Conductivity, σ S/m	Penetration depth (E-field), δ mm
4	55,0	0,75	293,0
13	55,0	0,75	165,5
30	55,0	0,75	112,8
150	52,3	0,76	62,0
300	45,3	0,87	46,1
450	43,5	0,87	43,0
750	41,9	0,89	39,8
835	41,5	0,90	39,0
900	41,5	0,97	36,2
1 450	40,5	1,20	28,6
1 800	40,0	1,40	24,3
1 900	40,0	1,40	24,3
1 950	40,0	1,40	24,3
2 000	40,0	1,40	24,3
2 100	39,8	1,49	22,8
2 450	39,2	1,80	18,7
2 600	39,0	1,96	17,2
3 000	38,5	2,40	14,0
3 500	37,9	2,91	11,4
4 000	37,4	3,43	10,0
4 500	36,8	3,94	9,7

Frequency MHz	Real part of the complex relative permittivity, ε_r'	Conductivity, σ S/m	Penetration depth (E-field), δ mm
5 000	*36,2*	*4,45*	1,5
5 200	*36,0*	*4,66*	8,4
5 400	*35,8*	*4,86*	8,1
5 600	*35,5*	*5,07*	7,5
5 800	35,3	5,27	7,3
6 000	*35,1*	*5,48*	7,0
6 500	*34,5*	*6,07*	6,7
7 000	*33,9*	*6,65*	6,4
7 500	*33,3*	*7,24*	6,1
8 000	*32,7*	*7,84*	5,9
8 500	*32,1*	*8,46*	5,3
9 000	*31,6*	*9,08*	4,8
9 500	*31,0*	*9,71*	4,4
10 000	*30,4*	*10,40*	4,0

NOTE For convenience, permittivity and conductivity values are linearly interpolated for frequencies that are not a part of the original data from Drossos et al. [2]. They are shown in italics in Table 2. The italicized values are linearly interpolated (below 5 800 MHz) or extrapolated (above 5 800 MHz) from the non-italicized values that are immediately above and below these values.

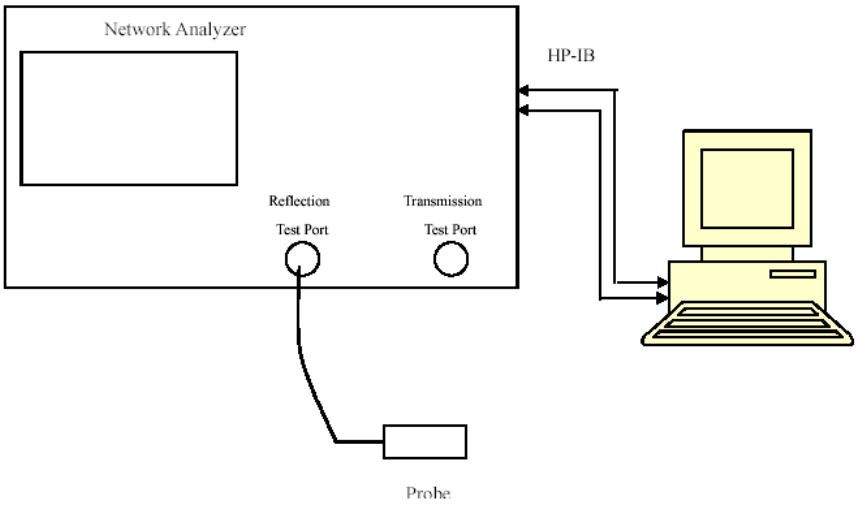
EQUIPMENT LIST AND CALIBRATION

Equipments List & Calibration Information

Equipment	Model	S/N	Calibration Date	Calibration Due Date
DASY5 Test Software	DASY52 52.10.2	N/A	N/A	N/A
DASY6 Measurement Server	DASY6 6.0.31	N/A	N/A	N/A
Data Acquisition Electronics	DAE4	527	2024/03/26	2025/03/25
E-Field Probe	EX3DV4	7557	2024/03/26	2025/03/25
Mounting Device	MD4HHTV5	SD 000 H01 KA	N/A	N/A
Twin-SAM Phantom	QD 000 P41 Ax	1963	N/A	N/A
Dipole, 835MHz	D835V2	445	2023/02/10	2026/02/09
Dipole,1750MHz	D1750V2	1140	2024/06/17	2027/06/16
Dipole,1900MHz	D1900V2	5d206	2024/06/15	2027/06/14
Dipole,2450MHz	D2450V2	970	2024/06/15	2027/06/14
Dipole,2600MHz	D2600V2	1162	2022/08/22	2025/08/21
Dipole,5GHz	D5GHzV2	1296	2022/08/17	2025/08/16
Simulated Tissue LiquidHead	HBBL600-6000V6	180611-3	Each Time	
Network Analyzer	E5071B	SG42400155	2024/04/23	2025/04/22
Dielectric Assessment Kit	DAK-3.5	SM DAK 300AB	N/A	N/A
Signal Generator	SMBV100A	261558	2024/04/25	2025/04/24
Power Amplifier	ZHL-5W-202-S+	416402204	N/A	N/A
Power Amplifier	ZVE-8G+	558401902	N/A	N/A
Directional Coupler	4242-10	3307	N/A	N/A
Attenuator	3dB	5402	N/A	N/A
Attenuator	10dB	AU 3842	N/A	N/A
Radio Communication Analyzer	MT8820C	6200930956	2024/04/24	2025/04/23
Hygrothermograph	HTC-1	N/A	2024/04/20	2025/04/19
Thermometer	UL-IL01	N/A	2024/04/20	2025/04/19
Power Meter	E4419B	MY41291878	2024/04/23	2025/04/22
Power Meter	E4419B	GB43312421	2024/04/23	2025/04/22

SAR MEASUREMENT SYSTEM VERIFICATION

Liquid Verification



Liquid Verification Setup Block Diagram

Liquid Verification Results

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		σ (S/m)	ε_r	σ (S/m)	ε_r	Δ σ	Δ ε_r	
835	Head	0.911	40.912	0.900	41.500	1.22	-1.42	±5
836.6	Head	0.913	40.890	0.901	41.500	1.33	-1.47	±5
836.5	Head	0.913	40.893	0.901	41.500	1.33	-1.46	±5

Liquid Verification above was performed on 2024/10/15.

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		σ (S/m)	ε_r	σ (S/m)	ε_r	Δ σ	Δ ε_r	
1750	Head	1.400	41.149	1.370	40.100	2.19	2.62	±5
1732.6	Head	1.382	41.226	1.377	40.065	0.36	2.90	±5
1732.5	Head	1.382	41.226	1.377	40.065	0.36	2.90	±5

Liquid Verification above was performed on 2024/10/16.

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		σ (S/m)	ε_r	σ (S/m)	ε_r	Δ σ	Δ ε_r	
1900	Head	1.412	38.197	1.400	40.000	0.86	-4.51	±5
1880	Head	1.392	38.280	1.400	40.000	-0.57	-4.30	±5

Liquid Verification above was performed on 2024/10/17.

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		σ (S/m)	ε_r	σ (S/m)	ε_r	Δ σ	Δ ε_r	
2450	Head	1.865	38.699	1.800	39.200	3.61	-1.28	±5
2437	Head	1.850	38.757	1.788	39.219	3.47	-1.18	±5
2535	Head	1.970	38.364	1.888	39.084	4.34	-1.84	±5
2510	Head	1.939	38.464	1.861	39.117	4.19	-1.67	±5
2441	Head	1.855	38.738	1.792	39.213	3.52	-1.21	±5

Liquid Verification above was performed on 2024/10/18

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		σ (S/m)	ε_r	σ (S/m)	ε_r	Δ σ	Δ ε_r	
2600	Head	2.026	37.558	1.960	39.000	3.37	-3.70	±5
2560	Head	1.978	37.722	1.916	39.051	3.24	-3.40	±5
2595	Head	2.021	37.578	1.955	39.006	3.38	-3.66	±5

Liquid Verification above was performed on 2024/10/18.

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		σ (S/m)	ε_r	σ (S/m)	ε_r	Δ σ	Δ ε_r	
5250	Head	4.749	36.483	4.710	35.900	0.83	1.62	±5
5200	Head	4.693	36.511	4.660	36.000	0.71	1.42	±5
5280	Head	4.765	36.412	4.740	35.920	0.53	1.37	±5

Liquid Verification above was performed on 2024/10/19.

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		σ (S/m)	ε_r	σ (S/m)	ε_r	Δ σ	Δ ε_r	
5600	Head	5.085	35.964	5.070	35.500	0.30	1.31	±5
5580	Head	5.068	36.027	5.070	35.500	-0.04	1.48	±5

Liquid Verification above was performed on 2024/10/19.

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		σ (S/m)	ε_r	σ (S/m)	ε_r	Δ σ	Δ ε_r	
5750	Head	5.252	35.747	5.220	35.400	0.61	0.98	±5
5785	Head	5.291	35.744	5.255	35.315	0.69	1.21	±5

Liquid Verification above was performed on 2024/10/19.

System Accuracy Verification

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

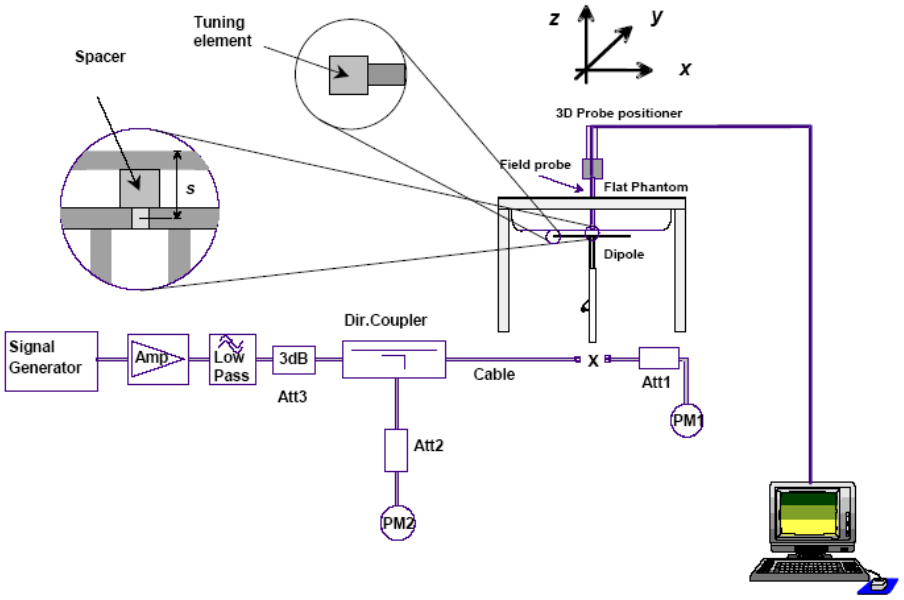
The spacing distance*s* in the **System Verification Setup Block Diagram** is given by the following:

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

b) s = 10 mm ± 0,2 mm for 1 000 MHz < f ≤ 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 (%)
2024/10/15	835MHz	Head	250	1g	2.40	9.6	9.53	0.73	±10
2024/10/16	1750MHz	Head	250	1g	9.62	38.48	36.00	6.89	±10
2024/10/17	1900MHz	Head	250	1g	10.50	42	39.20	7.14	±10
2024/10/18	2450MHz	Head	250	1g	12.80	51.2	53.10	-3.58	±10
2024/10/18	2600MHz	Head	250	1g	14.50	58	54.90	5.65	±10
2024/10/19	5250MHz	Head	100	1g	8.48	84.8	79.40	6.80	±10
2024/10/19	5600MHz	Head	100	1g	8.01	80.1	81.50	-1.72	±10
2024/10/19	5750MHz	Head	100	1g	7.18	71.8	79.00	-9.11	±10

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

SAR SYSTEM VALIDATION DATA

System Check_Head_835MHz

DUT: Dipole 835 MHz D835V2; Type: D835V2; Serial: D835V2 - SN:445

Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1

Medium parameters used: f = 835 MHz; σ = 0.911 S/m; ε_r = 40.912; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(9.88, 9.88, 9.88); Calibrated: 3/26/2024;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 3/26/2024
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437)

Pin=250mW/Area Scan (6x6x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 2.49 W/kg

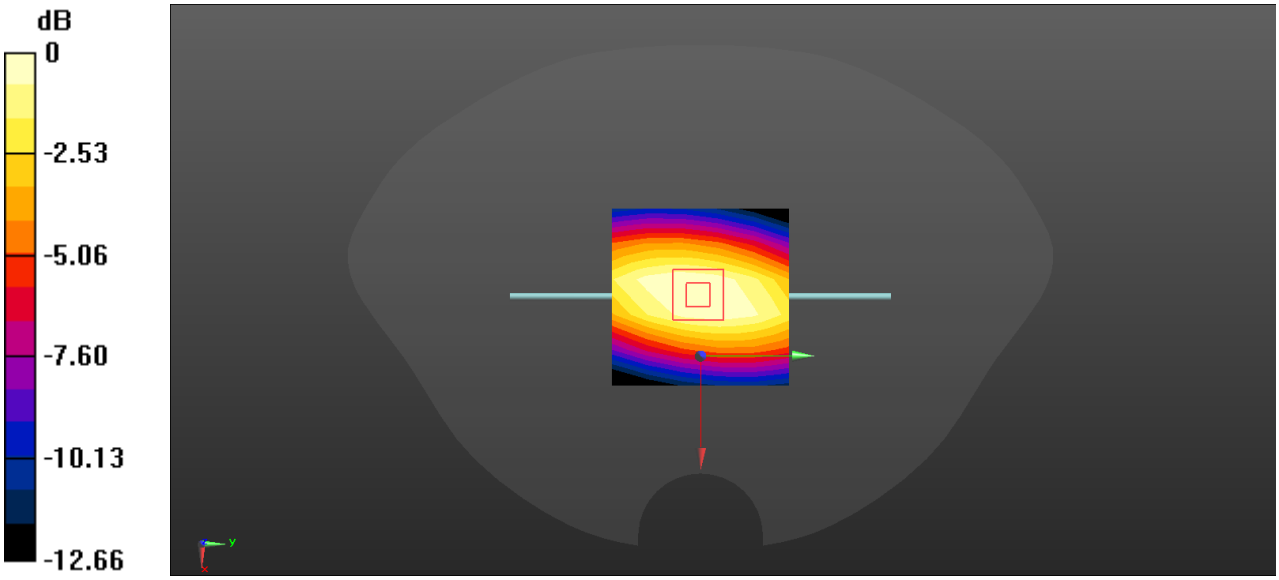
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 56.12 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 3.53 W/kg

SAR(1 g) = 2.4 W/kg; SAR(10 g) = 1.58 W/kg

Maximum value of SAR (measured) = 2.80 W/kg



0 dB = 2.80 W/kg = 4.47 dBW/kg

System Check_Head_1750MHz
DUT: Dipole 1750 MHz D1750V2; Type: D1750V2; Serial: D1750V2 - SN:1140

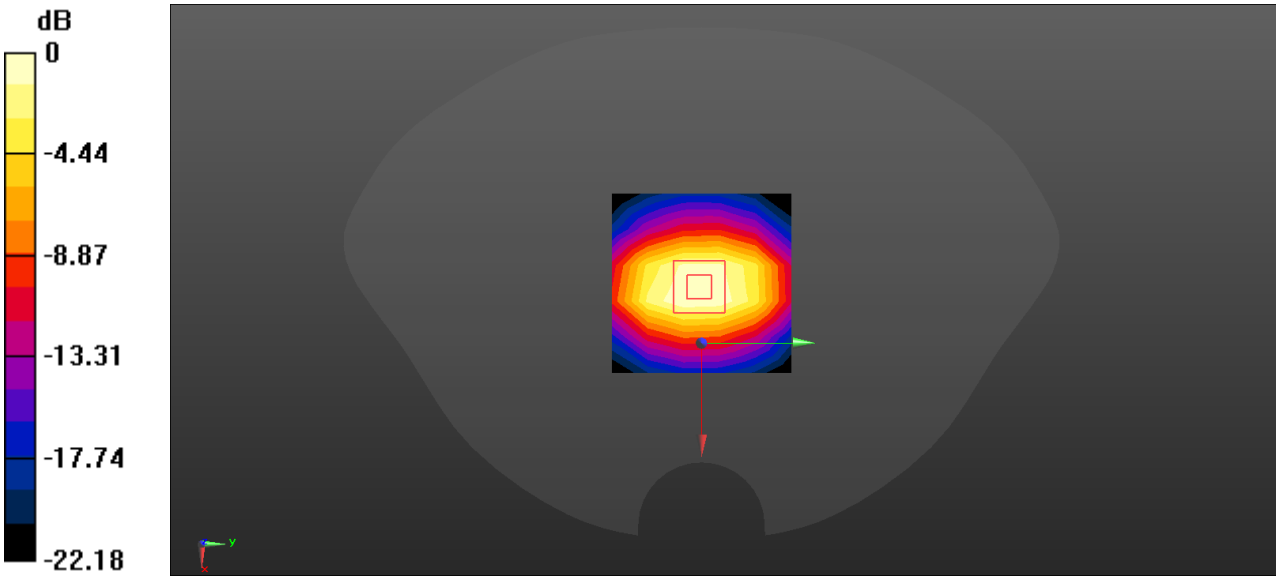
Communication System: UID 0, CW (0); Frequency: 1750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1750 MHz; σ = 1.4 S/m; ε_r = 41.149; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(8.28, 8.28, 8.28); Calibrated: 3/26/2024;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 3/26/2024
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437)

Pin=250mW/Area Scan (6x6x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 9.03 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 92.94 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 16.8 W/kg
SAR(1 g) = 9.62 W/kg; SAR(10 g) = 5.19 W/kg
Maximum value of SAR (measured) = 12.0 W/kg



0 dB = 12.0 W/kg = 10.79 dBW/kg

System Check_Head_1900MHz
DUT: Dipole 1900 MHz D1900V2; Type: D1900V2; Serial: D1900V2 - SN:5d206

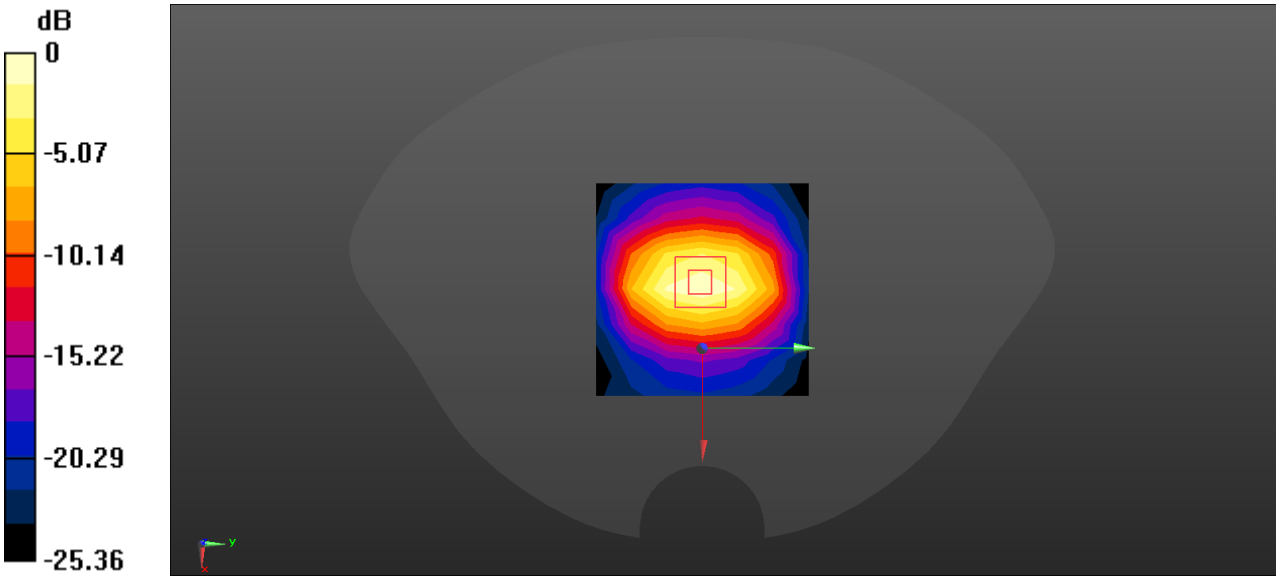
Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.412 S/m; ε_r = 38.197; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(7.92, 7.92, 7.92); Calibrated: 3/26/2024;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 3/26/2024
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437)

Pin=250mW/Area Scan (7x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 12.6 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 95.08 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 19.5 W/kg
SAR(1 g) = 10.5 W/kg; SAR(10 g) = 5.41 W/kg
Maximum value of SAR (measured) = 13.1 W/kg



0 dB = 13.1 W/kg = 11.17 dBW/kg

System Check_Head_2450MHz
DUT: Dipole 2450 MHz D2450V2; Type: D2450V2; Serial: D2450V2 - SN:970

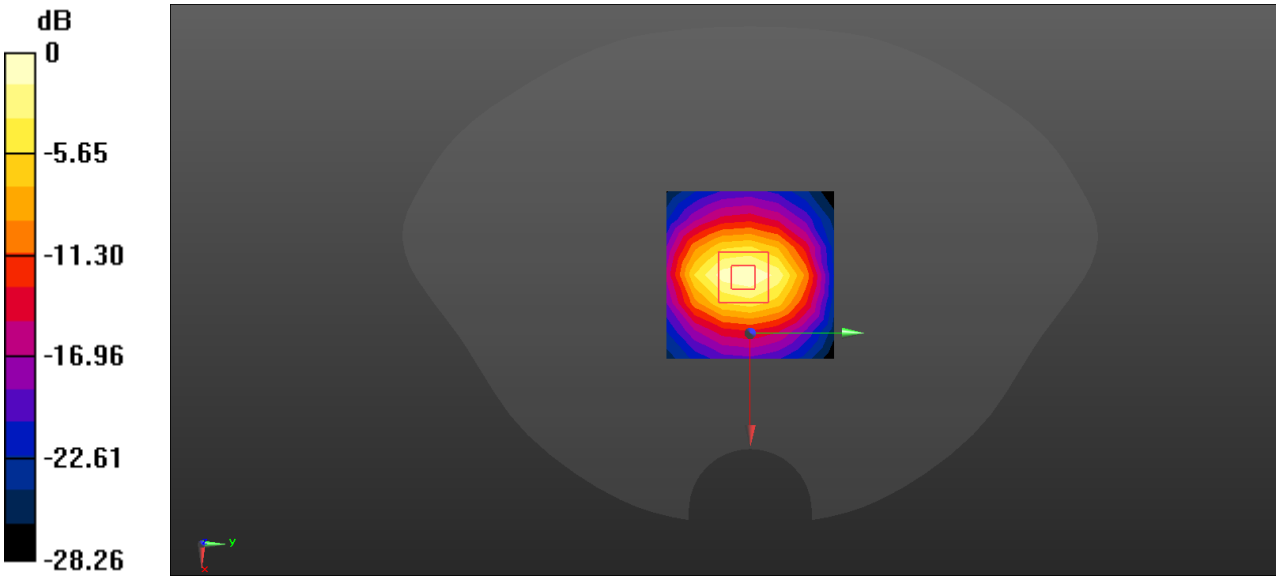
Communication System: UID 0, CW (0); Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.865 S/m; ε_r = 38.699; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(7.27, 7.27, 7.27); Calibrated: 3/26/2024;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 3/26/2024
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437)

Pin=250mW/Area Scan (7x7x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 16.5 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 94.79 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 25.8 W/kg
SAR(1 g) = 12.8 W/kg; SAR(10 g) = 5.98 W/kg
Maximum value of SAR (measured) = 16.8 W/kg



0 dB = 16.8 W/kg = 12.25 dBW/kg

System Check_Head_2600MHz
DUT: D2600V2-1162; Type: D2600V2; Serial: D2600V2 - SN:1162

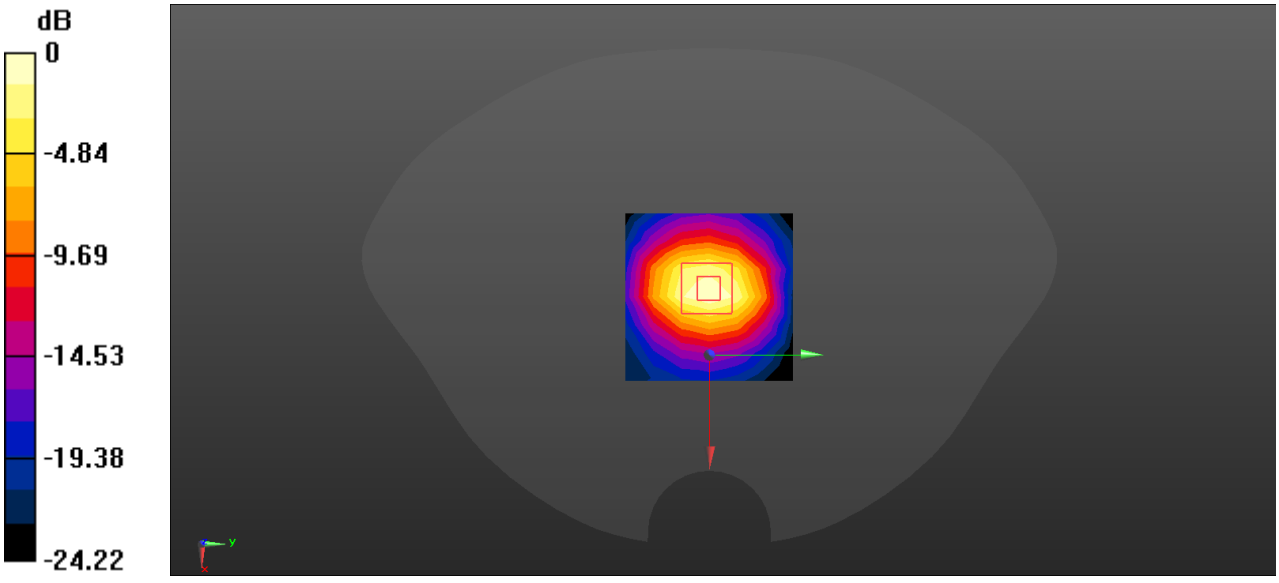
Communication System: UID 0, CW (0); Frequency: 2600 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2600 MHz; σ = 2.026 S/m; ε_r = 37.558; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(7.02, 7.02, 7.02); Calibrated: 3/26/2024;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 3/26/2024
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437)

Pin=250mW/Area Scan (7x7x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 21.2 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 107.6 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 29.3 W/kg
SAR(1 g) = 14.5 W/kg; SAR(10 g) = 6.78 W/kg
Maximum value of SAR (measured) = 24.0 W/kg



0 dB = 24.0 W/kg = 13.80 dBW/kg

System Check_Head_5250MHz
DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1296

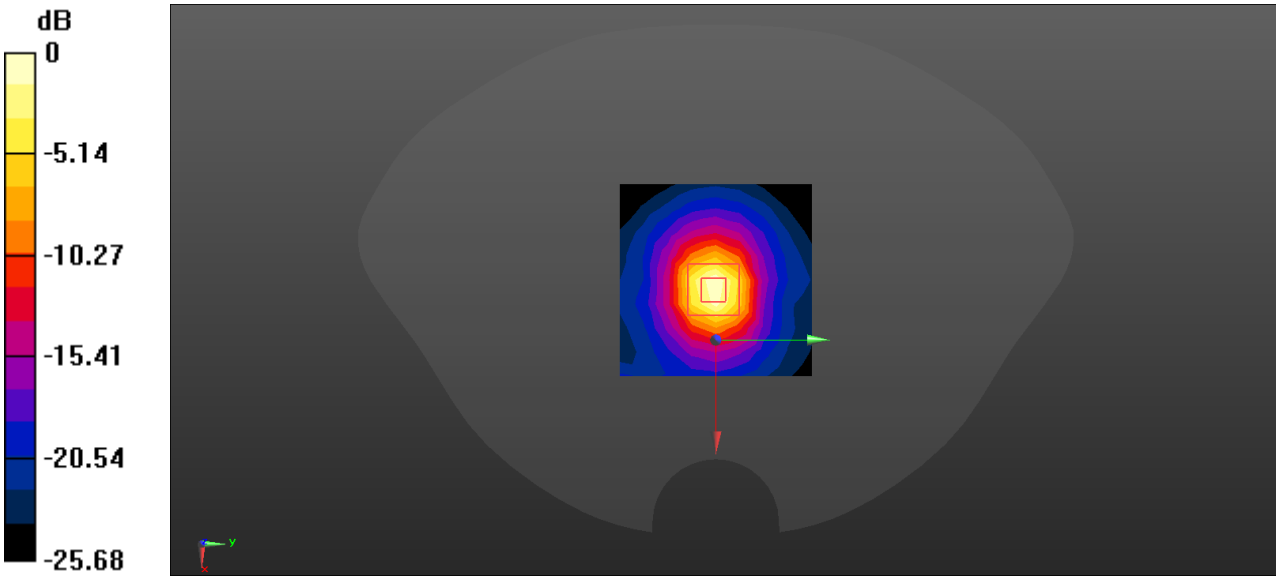
Communication System: UID 0, CW (0); Frequency: 5250 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5250 MHz; σ = 4.749 S/m; ε_r = 36.483; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(5.25, 5.25, 5.25); Calibrated: 3/26/2024;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 3/26/2024
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437)

Pin=100mW/Area Scan (9x9x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 16.3 W/kg

Pin=100mW/Zoom Scan (7x7x17)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 63.94 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 30.3 W/kg
SAR(1 g) = 8.48 W/kg; SAR(10 g) = 2.43 W/kg
Maximum value of SAR (measured) = 20.4 W/kg



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

System Check_Head_5600MHz
DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1296

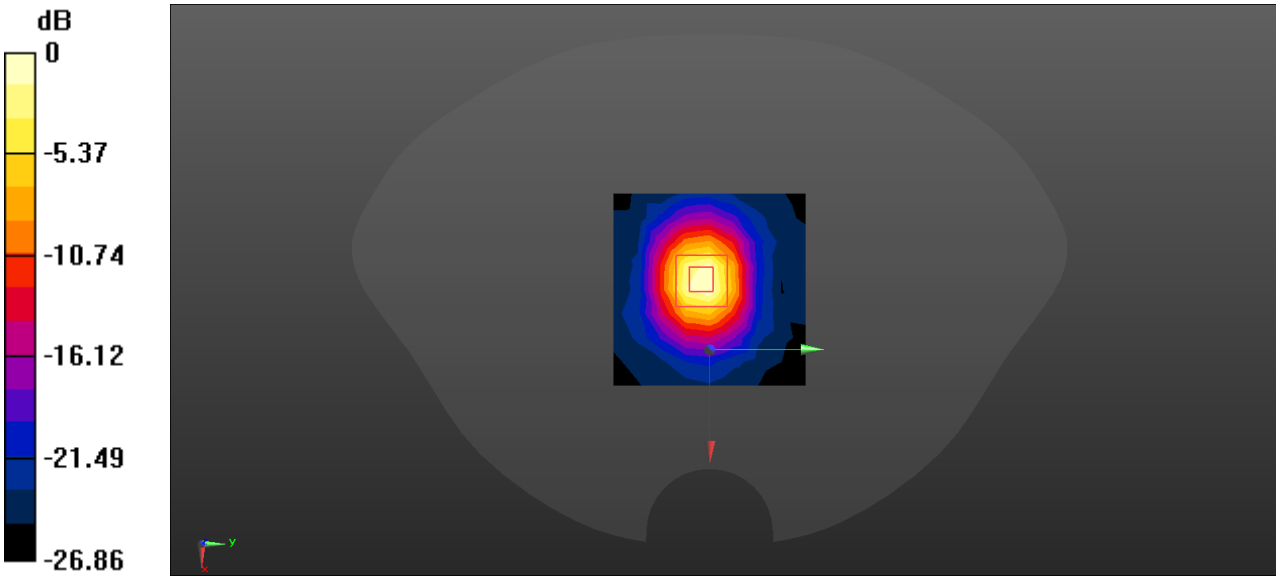
Communication System: UID 0, CW (0); Frequency: 5600 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5600 MHz; σ = 5.085 S/m; ε_r = 35.964; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(4.63, 4.63, 4.63); Calibrated: 3/26/2024;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 3/26/2024
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437)

Pin=100mW/Area Scan (9x9x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 9.32 W/kg

Pin=100mW/Zoom Scan (10x10x17)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 60.77 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 32.3 W/kg
SAR(1 g) = 8.01 W/kg; SAR(10 g) = 2.26 W/kg
Maximum value of SAR (measured) = 12.6 W/kg



0 dB =12.6 W/kg = 11.00 dBW/kg

System Check_Head_5750MHz
DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN:1296

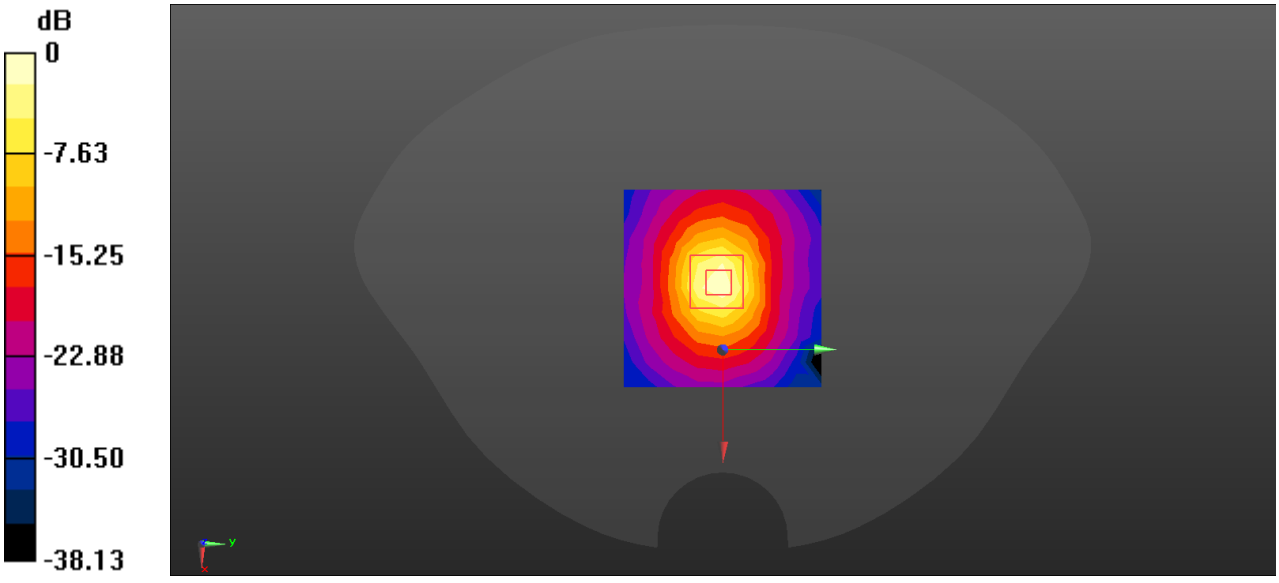
Communication System: UID 0, CW (0); Frequency: 5750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5750 MHz; σ = 5.252 S/m; ε_r = 35.747; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(4.78, 4.78, 4.78); Calibrated: 3/26/2024;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 3/26/2024
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437)

Pin=100mW/Area Scan (9x9x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 9.84 W/kg

Pin=100mW/Zoom Scan (10x10x17)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 63.31 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 30.7 W/kg
SAR(1 g) = 7.18 W/kg; SAR(10 g) = 2.01 W/kg
Maximum value of SAR (measured) = 11.3 W/kg



0 dB = 11.3 W/kg = 10.53 dBW/kg

EUT TEST STRATEGY AND METHODOLOGY

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.

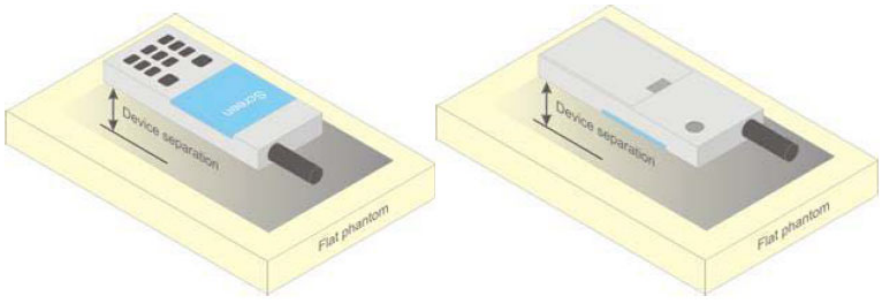


Figure 5 – Test positions for body-worn devices

Test Distance for SAR Evaluation

In this case the EUT (Equipment under Test) is set against from the phantom, the test distance is 0mm (Body supported).

SAR Evaluation Procedure

The evaluation was performed with the following procedure:

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

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

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

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

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

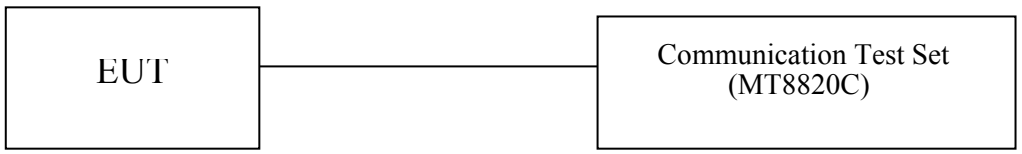
All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

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

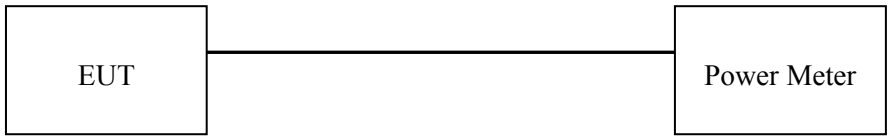
CONDUCTED OUTPUT POWER MEASUREMENT

Test Procedure

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



EGPRS&GPRS&WCDMA&LTE



WLAN&Bluetooth

Radio Configuration

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

GPRS/EGPRS

Function: Menu select > GSM Mobile Station > GSM 850/1900
Press Connection control to choose the different menus
Press RESET > choose all the reset all settings
Connection Press Signal Off to turn off the signal and change settings
Network Support > GSM + GPRS or GSM + EGSM
Main Service > Packet Data
Service selection > Test Mode A – Auto Slot Config. off
MS Signal Press Slot Config Bottom on the right twice to select and change the number of time slots and power setting
> Slot configuration > Uplink/Gamma
> 33 dBm for GPRS 850
> 30 dBm for GPRS 1900
> 27 dBm for EGPRS 850
> 26 dBm for EGPRS 1900
BS Signal Enter the same channel number for TCH channel (test channel) and BCCH channel
Frequency Offset > + 0 Hz
Mode > BCCH and TCH
BCCH Level > -85 dBm (May need to adjust if link is not stabe)
BCCH Channel > choose desire test channel [Enter the same channel number for TCH channel (test channel) and BCCH channel]

Channel Type > Off
P0 > 4 dB
Slot Config >Unchanged (if already set under MS signal)

TCH > choose desired test channel
Hopping > Off

Main Timeslot > 3
Network Coding Scheme > CS4 (GPRS) and MCS5 (EGPRS)
Bit Stream >2E9-1 PSR Bit Stream
AF/RF Enter appropriate offsets for Ext. Att. Output and Ext. Att. Input
Connection Press Signal on to turn on the signal and change settings

WCDMA Release 99

The following tests were conducted according to the test requirements outlines in section 5.2 of the 3GPP TS34.121-1 specification. The EUT has a nominal maximum output power of 24dBm (+1.7/-3.7).

WCDMA General Settings	Loopback Mode	Test Mode 1
	Rel99 RMC	12.2kbps RMC
	Power Control Algorithm	Algorithm2
	β_c/β_d	8/15

HSDPA

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

	Mode	HSDPA	HSDPA	HSDPA	HSDPA
	Subset	1	2	3	4
WCDMA General Settings	Loopback Mode	Test Mode 1			
	Rel99 RMC	12.2kbps RMC			
	HSDPA FRC	H-Set1			
	Power Control Algorithm	Algorithm2			
	β_c	2/15	12/15	15/15	15/15
	β_d	15/15	15/15	8/15	4/15
	β_d(SF)	64			
	β_c/β_d	2/15	12/15	15/8	15/4
	β_{hs}	4/15	24/15	30/15	30/15
	MPR(dB)	0	0	0.5	0.5
HSDPA Specific Settings	DACK	8			
	DNAK	8			
	DCQI	8			
	Ack-Nack repetition factor	3			
	CQI Feedback	4ms			
	CQI Repetition Factor	2			
	Ahs=βhs/ βc	30/15			

HSUPA

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

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

FDD-LTE

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

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

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

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

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

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

TDD-LTE

P TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations and Table 4.2-1 for Special subframe configurations.

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

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

Table 4.2-2: Uplink-downlink configurations.

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

Calculated Duty Cycle

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

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

Maximum Target Output Power

Full Power Target power

Max Target Power(dBm)			
Mode/Band	Channel		
	Low	Middle	High
GSM850 GPRS 1 TX	33.5	33.5	33.5
GSM850 GPRS 2 TX	32.0	32.0	32.0
GSM850 GPRS 3 TX	31.0	31.0	31.0
GSM850 GPRS 4 TX	29.5	29.5	29.5
GSM850 EDGE 1 TX	27.0	27.0	27.0
GSM850 EDGE 2 TX	26.0	26.0	26.0
GSM850 EDGE 3 TX	24.5	24.5	24.5
GSM850 EDGE 4 TX	24.0	24.0	24.0
PCS1900GPRS 1 TX	29.5	29.5	29.5
PCS1900GPRS 2 TX	28.5	28.5	28.5
PCS1900GPRS 3 TX	26.0	26.0	26.0
PCS1900GPRS 4 TX	25.0	25.0	25.0
PCS1900EDGE 1 TX	26.0	26.0	26.0
PCS1900EDGE 2 TX	25.5	25.5	25.5
PCS1900EDGE 3 TX	23.5	23.5	23.5
PCS1900EDGE 4 TX	22.5	22.5	22.5
WCDMA Band 2	22.9	22.9	22.9
WCDMA Band 4	23	23	23
WCDMA Band 5	23	23	23
LTE Band 2	22.5	22.5	22.5
LTE Band 4	22.5	22.5	22.5
LTE Band 5	22.5	22.5	22.5
LTE Band 7	22.5	22.5	22.5
LTE Band 38	23	23	23
2.4G WLAN(802.11b)	13	13	13
2.4G WLAN(802.11g)	12.5	12.5	12.5
2.4G WLAN(802.11n20)	12.5	12.5	12.5
2.4G WLAN(802.11n40)	12.8	12.8	12.8
5.2G WLAN(802.11a)	17.5	17.5	17.5
5.2G WLAN(802.11n20)	17	17	17
5.2G WLAN(802.11n40)	17.2	/	17.2
5.2G WLAN(802.11ac20)	17	17	17
5.2G WLAN(802.11ac40)	17.2	/	17.2

5.2G WLAN(802.11ac80)	/	17.2	/
5.3G WLAN(802.11a)	17	17	17
5.3G WLAN(802.11n20)	16.5	16.5	16.5
5.3G WLAN(802.11n40)	16.5	/	16.5
5.3G WLAN(802.11ac20)	16.5	16.5	16.5
5.3G WLAN(802.11ac40)	16.5	/	16.5
5.3G WLAN(802.11ac80)	/	16.5	/
5.8G WLAN(802.11a)	13	13	13
5.8G WLAN(802.11n20)	12.5	12.5	12.5
5.8G WLAN(802.11n40)	12.5	/	12.5
5.8G WLAN(802.11ac20)	12.5	12.5	12.5
5.8G WLAN(802.11ac40)	12.5	/	12.5
5.8G WLAN(802.11ac80)	/	12.5	/
Bluetooth	10	10	10
BLE（1M）	5.5	5.5	5.5

Full Power Target power

Max Target Power(dBm)				
Mode/Band	**Channel**			
	Low	**Middle**	**Low High**	**High**
5.6G WLAN(802.11a)	16.5	16.5	14.0	14.0
5.6G WLAN(802.11n20)	16.0	16.0	14.0	13.0
5.6G WLAN(802.11n40)	16.0	16.0	15.0	14.0
5.6G WLAN(802.11ac20)	16.0	16.0	14.0	13.0
5.6G WLAN(802.11ac40)	16.0	16.0	15.0	14.0
5.6G WLAN(802.11ac80)	15.0	16.0	14.0	/

Note：
Channels without Max Target Power are represented by /.

Test Results:

Maximum Output Power:

GPRS:

Mode	Channel No.	Frequency (MHz)	RF Output Power (dBm)			
			1 slot	2 slots	3 slots	4 slots
GSM850	128	824.2	32.78	31.36	30	28.47
	190	836.6	32.82	31.55	30.14	28.75
	251	848.8	33.01	31.69	30.35	29.2
PCS1900	512	1850.2	28.92	27.83	25.66	24.92
	661	1880	28.76	27.71	25.54	24.48
	810	1907.6	29.25	28.2	25.94	24.57

EGPRS:

Mode	Channel No.	Frequency (MHz)	RF Output Power (dBm)			
			1 slot	2 slots	3 slots	4 slots
GSM850	128	824.2	26.4	25.17	23.43	22.76
	190	836.6	26.62	25.32	24.16	23.14
	251	848.8	26.75	25.49	24.28	23.28
PCS1900	512	1850.2	25.21	25.02	22.84	22.22
	661	1880	25.26	24.66	22.85	21.79
	810	1907.6	25.65	24.47	23.23	21.78

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

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

The time based average power for GPRS

Band	Channel No.	Frequency (MHz)	Time based average Power (dBm)			
			1 slot	2 slots	3 slots	4 slots
GSM850	128	824.2	23.78	25.36	25.75	25.47
	190	836.6	23.82	25.55	25.89	25.75
	251	848.8	24.01	25.69	26.1	26.2
PCS1900	512	1850.2	19.92	21.83	21.41	21.92
	661	1880	19.76	21.71	21.29	21.48
	810	1907.6	20.25	22.20	21.69	21.57

The time based average power for EGPRS

Band	Channel No.	Frequency (MHz)	Time based average Power (dBm)			
			1 slot	2 slots	3 slots	4 slots
GSM850	128	824.2	17.4	19.17	19.18	19.76
	190	836.6	17.62	19.32	19.91	20.14
	251	848.8	17.75	19.49	20.03	20.28
PCS1900	512	1850.2	16.21	19.02	18.59	19.22
	661	1880	16.26	18.66	18.6	18.79
	810	1907.6	16.65	18.47	18.98	18.78

WCDMA Band 2

Test Condition	Test Mode	3GPP Sub Test	Averaged Mean Power(dBm)		
			Low Channel	Mid Channel	High Channel
Normal	Rel 99 RMC	1	22.22	22.36	22.51
	HSDPA	1	22.06	22.18	22.04
		2	21.86	21.96	22.12
		3	22.15	22.21	21.92
		4	22.08	22.13	22.36
	HSUPA	1	22.03	22.01	22.36
		2	21.98	22.08	21.9
		3	21.84	22.07	22.06
		4	21.91	22.14	22.29
		5	22.18	21.92	22.31

WCDMA Band 4

Test Condition	Test Mode	3GPP Sub Test	Averaged Mean Power(dBm)		
			Low Channel	Mid Channel	High Channel
Normal	Rel 99 RMC	1	22.11	22.52	22.67
	HSDPA	1	22.1	22.02	22.23
		2	21.94	22.05	22.27
		3	22.33	21.96	21.96
		4	22.01	21.99	21.85
	HSUPA	1	21.89	22.39	22.15
		2	22	22.34	22.04
		3	22.07	21.84	22.27
		4	21.95	22.15	22.15
		5	22.26	22.28	22.26

WCDMA Band 5

Test Condition	Test Mode	3GPP Sub Test	Averaged Mean Power(dBm)		
			Low Channel	Mid Channel	High Channel
Normal	Rel 99 RMC	1	22.44	22.38	22.34
	HSDPA	1	22.25	21.89	21.92
		2	22.29	22.17	22.4
		3	22.28	22.06	22.18
		4	22.04	22.14	22.14
	HSUPA	1	21.91	22.39	22.2
		2	22.39	22	22.2
		3	22.37	22.04	22.12
		4	22.38	22.3	21.9
		5	21.9	21.87	22.29

Note:
The default test configuration is to measure SAR with an established radio link between the EUT and a communication test set using a 12.2 kbps RMC (reference measurement Channel) Configured in Test Loop Model 1.

LTE Band 2

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	1#0	21.47	21.47	21.67
		1#3	21.95	21.3	21.09
		1#5	21.4	21.99	21.66
		3#0	21.77	21.65	21.27
		3#3	21.34	21.69	21.98
		6#0	22.06	21.43	21.81
	16-QAM	1#0	21.35	21.95	21.2
		1#3	21.78	21.52	21.98
		1#5	21.78	22.04	21.47
		3#0	21.73	21.64	21.83
		3#3	21.37	21.6	21.3
		6#0	21.61	21.95	21.71
3M	QPSK	1#0	22.11	21.94	21.3
		1#8	21.9	21.88	21.19
		1#14	21.85	21.98	21.53
		6#0	22.23	21.84	21.35
		6#9	21.32	22.03	21.46
		15#0	21.67	21.8	21.68
	16-QAM	1#0	22.19	22.02	21.21
		1#8	21.33	21.79	22
		1#14	21.94	21.24	21.12
		6#0	21.77	21.47	21.64
		6#9	22.19	22.03	21.65
		15#0	22.26	21.14	21.25

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	21.44	21.59	21.48
		1#13	21.32	21.15	21.26
		1#24	21.92	21.63	21.26
		15#0	21.66	21.97	21.72
		15#10	22.22	21.67	21.75
		25#0	21.96	21.55	21.35
	16-QAM	1#0	21.5	21.37	21.32
		1#13	22.12	21.47	21.17
		1#24	21.52	21.99	21.44
		15#0	22.16	21.39	21.06
		15#10	21.96	21.59	21.13
		25#0	21.58	21.72	21.49
10M	QPSK	1#0	21.69	22.04	21.82
		1#25	21.46	21.92	21.43
		1#49	21.76	21.62	21.36
		25#0	21.36	22.06	21.53
		25#25	22.23	21.15	21.69
		50#0	21.48	21.98	21.12
	16-QAM	1#0	22.15	21.97	21.11
		1#25	22.19	21.57	21.86
		1#49	21.62	21.95	21.06
		25#0	21.47	21.62	21.27
		25#25	21.58	21.91	21.35
		50#0	21.31	21.79	21.6

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15M	QPSK	1#0	21.72	21.93	21.34
		1#38	21.35	21.51	21.55
		1#74	21.33	21.8	22.02
		36#0	21.47	21.65	21.67
		36#39	21.64	21.84	21.46
		75#0	21.34	22.09	21.07
	16-QAM	1#0	21.4	21.99	21.19
		1#38	21.44	21.22	21.1
		1#74	22.22	21.63	21.34
		36#0	22.12	21.24	21.64
		36#39	21.91	21.54	21.41
		75#0	21.81	21.25	21.84
20M	QPSK	1#0	22.27	22.21	22.09
		1#50	22.04	21.8	21.98
		1#99	21.84	22.12	21.89
		50#0	22.07	22.01	21.97
		50#50	21.7	21.95	21.95
		100#0	22.14	21.88	22.01
	16-QAM	1#0	22.26	21.73	21.33
		1#50	21.75	21.62	21.73
		1#99	22.1	21.68	21.3
		50#0	21.36	21.23	21.63
		50#50	21.34	21.8	21.99
		100#0	21.82	21.49	21.24

LTE Band 4

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	1#0	22.24	21.22	21.96
		1#3	21.5	21.96	21.81
		1#5	22.17	21.62	21.66
		3#0	21.73	22.12	21.29
		3#3	21.95	21.46	21.48
		6#0	21.68	22.04	21.69
	16-QAM	1#0	21.71	21.76	21.98
		1#3	22.17	21.22	21.57
		1#5	21.44	22.04	21.53
		3#0	22.26	21.32	21.48
		3#3	21.4	21.86	21.23
		6#0	22.06	21.17	21.47
3M	QPSK	1#0	22.1	21.17	21.97
		1#8	21.76	21.94	21.4
		1#14	22.04	22.06	21.74
		6#0	21.62	21.68	21.8
		6#9	21.86	21.29	22.03
		15#0	22.29	21.27	21.96
	16-QAM	1#0	22.08	21.3	21.09
		1#8	21.87	21.24	21.73
		1#14	21.52	22.13	21.11
		6#0	21.49	21.19	21.52
		6#9	21.99	21.39	21.62
		15#0	21.82	21.68	21.65

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	22.04	21.86	21.64
		1#13	21.31	21.22	21.73
		1#24	21.89	21.34	21.3
		15#0	22.26	22.04	21.76
		15#10	21.71	21.65	21.1
		25#0	21.64	21.21	21.78
	16-QAM	1#0	22.2	21.97	21.45
		1#13	21.6	21.96	21.45
		1#24	21.45	21.45	21.64
		15#0	21.77	21.36	21.41
		15#10	21.37	21.43	21.65
		25#0	22.15	21.25	21.89
10M	QPSK	1#0	21.8	21.38	21.41
		1#25	22.01	21.87	21.34
		1#49	21.92	21.22	21.34
		25#0	22.26	21.37	21.86
		25#25	21.64	21.52	22.01
		50#0	22.01	21.66	21.77
	16-QAM	1#0	21.88	21.38	21.16
		1#25	21.83	21.83	21.54
		1#49	21.91	21.77	21.26
		25#0	21.41	21.66	21.1
		25#25	22.26	22.07	21.7
		50#0	21.67	21.87	21.78

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15M	QPSK	1#0	21.87	21.4	21.15
		1#38	22.14	21.4	21.41
		1#74	21.6	21.45	21.66
		36#0	21.62	21.57	21.07
		36#39	21.84	21.37	21.16
		75#0	21.58	21.35	21.27
	16-QAM	1#0	21.95	21.97	21.92
		1#38	21.41	21.51	22.06
		1#74	21.7	21.49	21.27
		36#0	21.67	22.07	22.05
		36#39	22.17	21.66	21.6
		75#0	22.07	22.14	21.19
20M	QPSK	1#0	22.32	22.22	21.99
		1#50	21.32	21.82	21.1
		1#99	21.85	21.76	21.78
		50#0	22.02	22.11	21.99
		50#50	21.93	21.95	21.88
		100#0	21.89	22.03	21.93
	16-QAM	1#0	21.96	21.41	21.71
		1#50	21.84	21.33	21.76
		1#99	21.54	21.29	21.28
		50#0	22.27	22.04	21.21
		50#50	21.48	21.27	21.72
		100#0	21.34	21.24	21.17

LTE Band 5

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	1#0	21.73	21.27	21.79
		1#3	21.52	21.48	21.35
		1#5	22.03	21.7	21.59
		3#0	21.65	21.46	21.84
		3#3	21.47	22.07	21.72
		6#0	21.46	21.78	21.59
	16-QAM	1#0	21.85	21.24	21.78
		1#3	21.62	21.88	21.99
		1#5	21.84	21.96	21.13
		3#0	21.59	21.45	21.52
		3#3	21.07	21.38	21.89
		6#0	21.24	21.53	21.85
3M	QPSK	1#0	21.78	21.59	21.19
		1#8	21.28	21.67	21.3
		1#14	21.53	21.8	21.16
		6#0	21.15	22.01	21.77
		6#9	21.44	21.93	21.07
		15#0	21.65	21.96	21.55
	16-QAM	1#0	21.11	21.73	21.21
		1#8	21.76	21.98	21.97
		1#14	21.24	22.06	21.74
		6#0	21.36	21.77	21.66
		6#9	21.24	21.76	21.11
		15#0	21.69	21.9	21.6

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	21.35	21.68	21.18
		1#13	21.82	21.91	21.73
		1#24	21.44	21.64	21.05
		15#0	21.65	21.49	21.28
		15#10	21.05	21.74	21.18
		25#0	21.17	22.1	21.71
	16-QAM	1#0	21.11	21.42	21.62
		1#13	21.62	21.98	21.36
		1#24	21.23	21.28	21.4
		15#0	21.19	21.59	21.98
		15#10	21.63	21.99	21.16
		25#0	21.48	22.06	21.56
10M	QPSK	1#0	21.97	22.13	21.99
		1#25	21.4	21.89	21.25
		1#49	21.69	21.54	21.67
		25#0	21.86	21.85	21.76
		25#25	21.65	21.65	21.88
		50#0	22.03	21.89	21.75
	16-QAM	1#0	21.24	21.17	21.84
		1#25	21.61	22.03	21.54
		1#49	22.01	21.74	21.6
		25#0	21.95	21.16	21.82
		25#25	22.01	22.09	21.24
		50#0	21.47	21.37	21.87

LTE Band 7

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	21.1	21.96	21.96
		1#13	21.25	21.21	21.25
		1#24	21.19	21.25	21.08
		15#0	21.76	21.44	21.7
		15#10	21.27	21.32	21.47
		25#0	21.3	21.53	21.84
	16-QAM	1#0	21.06	21.17	21.42
		1#13	21.52	21.7	21.72
		1#24	21.55	21.54	21.33
		15#0	21.92	21.3	21.9
		15#10	21.95	21.58	21.81
		25#0	21.42	21.95	21.1
10M	QPSK	1#0	21.73	21.55	21.18
		1#25	21.13	21.77	21.58
		1#49	21.71	21.57	21.97
		25#0	21.32	21.39	21.25
		25#25	21.27	21.35	21.06
		50#0	21.08	21.91	21.27
	16-QAM	1#0	21.81	21.56	21.08
		1#25	21.76	21.82	21.17
		1#49	21.36	21.2	21.7
		25#0	21.18	21.37	21.37
		25#25	21.28	21.18	21.65
		50#0	21.12	21.94	21.13

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15M	QPSK	1#0	21.59	21.74	21.07
		1#38	21.79	21.39	21.39
		1#74	21.1	21.76	21.6
		36#0	21.8	21.69	21.86
		36#39	21.36	21.4	21.59
		75#0	21.81	21.19	22.05
	16-QAM	1#0	21.59	21.51	21.17
		1#38	21.7	21.2	21.98
		1#74	21.72	21.93	21.57
		36#0	21.48	21.56	21.91
		36#39	21.67	21.72	21.37
		75#0	21.52	21.85	21.91
20M	QPSK	1#0	22.06	21.91	21.95
		1#50	21.33	21.6	21.06
		1#99	21.38	21.76	22.02
		50#0	21.87	21.79	21.81
		50#50	21.99	21.64	21.26
		100#0	21.94	21.77	21.87
	16-QAM	1#0	21.91	21.52	21.31
		1#50	21.92	21.92	21.33
		1#99	21.99	21.35	21.82
		50#0	21.24	21.19	21.64
		50#50	21.54	21.75	21.69
		100#0	21.42	21.77	21.95

LTE Band 38

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	22.49	22.27	22.4
		1#13	22.36	22.4	22.53
		1#24	22.44	22.41	22.54
		15#0	22.23	22.5	22.49
		15#10	22.44	22.45	22.25
		25#0	22.25	22.34	22.47
	16-QAM	1#0	22.33	22.23	22.47
		1#13	22.43	22.5	22.53
		1#24	22.3	22.56	22.33
		15#0	22.37	22.34	22.49
		15#10	22.57	22.42	22.29
		25#0	22.57	22.49	22.55
10M	QPSK	1#0	22.26	22.36	22.41
		1#25	22.44	22.39	22.27
		1#49	22.32	22.35	22.41
		25#0	22.48	22.39	22.26
		25#25	22.36	22.52	22.45
		50#0	22.43	22.22	22.35
	16-QAM	1#0	22.38	22.37	22.51
		1#25	22.57	22.49	22.23
		1#49	22.51	22.38	22.33
		25#0	22.53	22.43	22.36
		25#25	22.51	22.34	22.32
		50#0	22.26	22.34	22.22

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15M	QPSK	1#0	22.5	22.27	22.44
		1#38	22.23	22.58	22.3
		1#74	22.3	22.44	22.41
		36#0	22.44	22.27	22.41
		36#39	22.49	22.45	22.23
		75#0	22.36	22.43	22.31
	16-QAM	1#0	22.37	22.24	22.58
		1#38	22.34	22.21	22.43
		1#74	22.41	22.48	22.34
		36#0	22.23	22.47	22.55
		36#39	22.46	22.27	22.48
		75#0	22.5	22.26	22.46
20M	QPSK	1#0	22.22	22.23	22.6
		1#50	22.28	22.48	22.52
		1#99	22.43	22.33	22.45
		50#0	22.36	22.33	22.34
		50#50	22.27	22.26	22.33
		100#0	22.46	22.32	22.38
	16-QAM	1#0	22.53	22.28	22.52
		1#50	22.58	22.42	22.36
		1#99	22.46	22.41	22.27
		50#0	22.44	22.51	22.38
		50#50	22.24	22.52	22.36
		100#0	22.51	22.56	22.58

WLAN 2.4G:

Mode	Channel frequency (MHz)	Data Rate	Conducted Average Output Power(dBm)
802.11b	2412	1Mbps	11.675
	2437		12.746
	2462		11.31
802.11g	2412	6Mbps	11.221
	2437		12.315
	2462		10.979
802.11n HT20	2412	MCS0	11.049
	2437		12.138
	2462		10.79
802.11n HT40	2422	MCS0	12.003
	2437		12.71
	2452		12.093

Note:
2.4G wifi duty cycle is 97.85%. Refer to the report for details RKSA240906001-00D

WLAN 5.2G:

Test mode	Band	Frequency (MHz)	Average Conducted Output Power (dBm)
802.11a	5150-5250 MHz	5180	16.53
		5200	16.83
		5240	17.09
802.11ac20	5150-5250 MHz	5180	16.33
		5200	16.67
		5240	16.88
802.11n-HT20	5150-5250 MHz	5180	16.24
		5200	16.54
		5240	16.73
802.11ac40	5150-5250 MHz	5190	17.06
		5230	17.04
802.11n-HT40	5150-5250 MHz	5190	17.01
		5230	16.98
802.11ac80	5150-5250 MHz	5210	17.04

Note:
5.2G wifi duty cycle is 97.10%. Refer to the report for details RKSA240906001-00F

WLAN 5.3G:

Test mode	Band	Frequency (MHz)	Average Conducted Output Power (dBm)
802.11a	5250-5350 MHz	5260	16.67
		5280	16.29
		5320	15.55
802.11ac20	5250-5350 MHz	5260	16.45
		5280	16.09
		5320	15.35
802.11n-HT20	5250-5350 MHz	5260	16.34
		5280	16.01
		5320	15.21
802.11ac40	5250-5350 MHz	5270	16.44
		5310	16.24
802.11n-HT40	5250-5350 MHz	5270	16.24
		5310	16.11
802.11ac80	5250-5350 MHz	5290	16.21

Note:
5.3G wifi duty cycle is 97.47%. Refer to the report for details RKSA240906001-00F

WLAN 5.6G:

Test mode	Band	Frequency (MHz)	Average Conducted Output Power (dBm)
802.11a	5470-5725 MHz	5500	16.03
		5580	15.77
		5700	13.16
		5720	12.8
802.11ac20	5470-5725 MHz	5500	15.86
		5580	15.56
		5700	13
		5720	12.65
802.11n-HT20	5470-5725 MHz	5500	15.68
		5580	15.41
		5700	12.85
		5720	12.54
802.11ac40	5470-5725 MHz	5510	15.9
		5550	15.89
		5670	14.83
		5710	13.62
802.11n-HT40	5470-5725 MHz	5510	15.81
		5550	15.78
		5670	14.79
		5710	13.52
802.11ac80	5470-5725 MHz	5530	14.36
		5610	15.46
		5690	13.49

Note:
5.6G wifi duty cycle is 97.29%. Refer to the report for details RKSA240906001-00F

WLAN 5.8G:

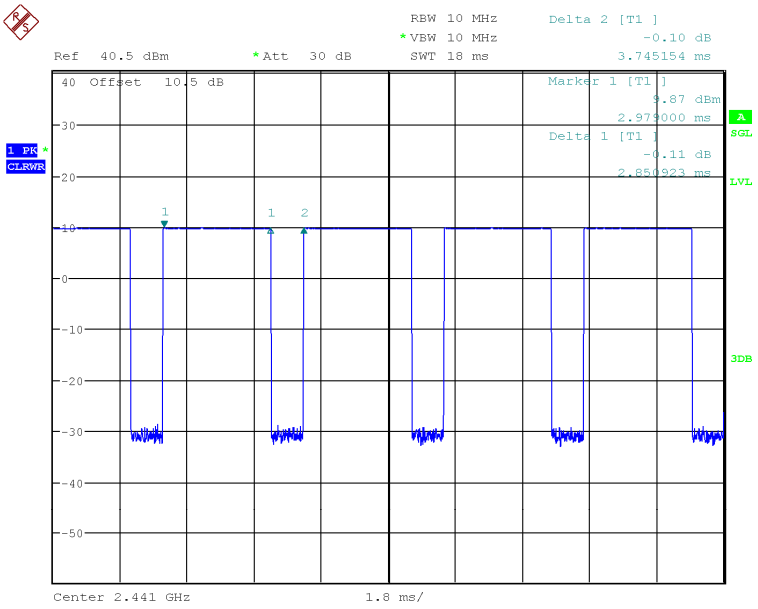
Test mode	Band	Frequency (MHz)	Average Conducted Output Power (dBm)
802.11a	5725-5850 MHz	5745	12.36
		5785	11.98
		5825	11.89
802.11ac20	5725-5850 MHz	5745	12.17
		5785	11.8
		5825	11.72
802.11n-HT20	5725-5850 MHz	5745	12.07
		5785	11.69
		5825	11.68
802.11ac40	5725-5850 MHz	5755	12.35
		5795	12.25
802.11n-HT40	5725-5850 MHz	5755	12.28
		5795	12.12
802.11ac80	5725-5850 MHz	5775	12.14

Note:
5.8G wifi duty cycle is 97.47%. Refer to the report for details RKSA240906001-00F

Bluetooth:

Mode	Max ConductedPeak OutputPower (dBm)		
	Low	Middle	High
BDR(GFSK)	9.92	9.88	8.54
EDR(π/4-DQPSK)	9.08	9.16	8.06
EDR(8-DPSK)	9.53	9.57	8.31

Note:
Bluetooth duty cycle is 76.12%,as shown in the following figure



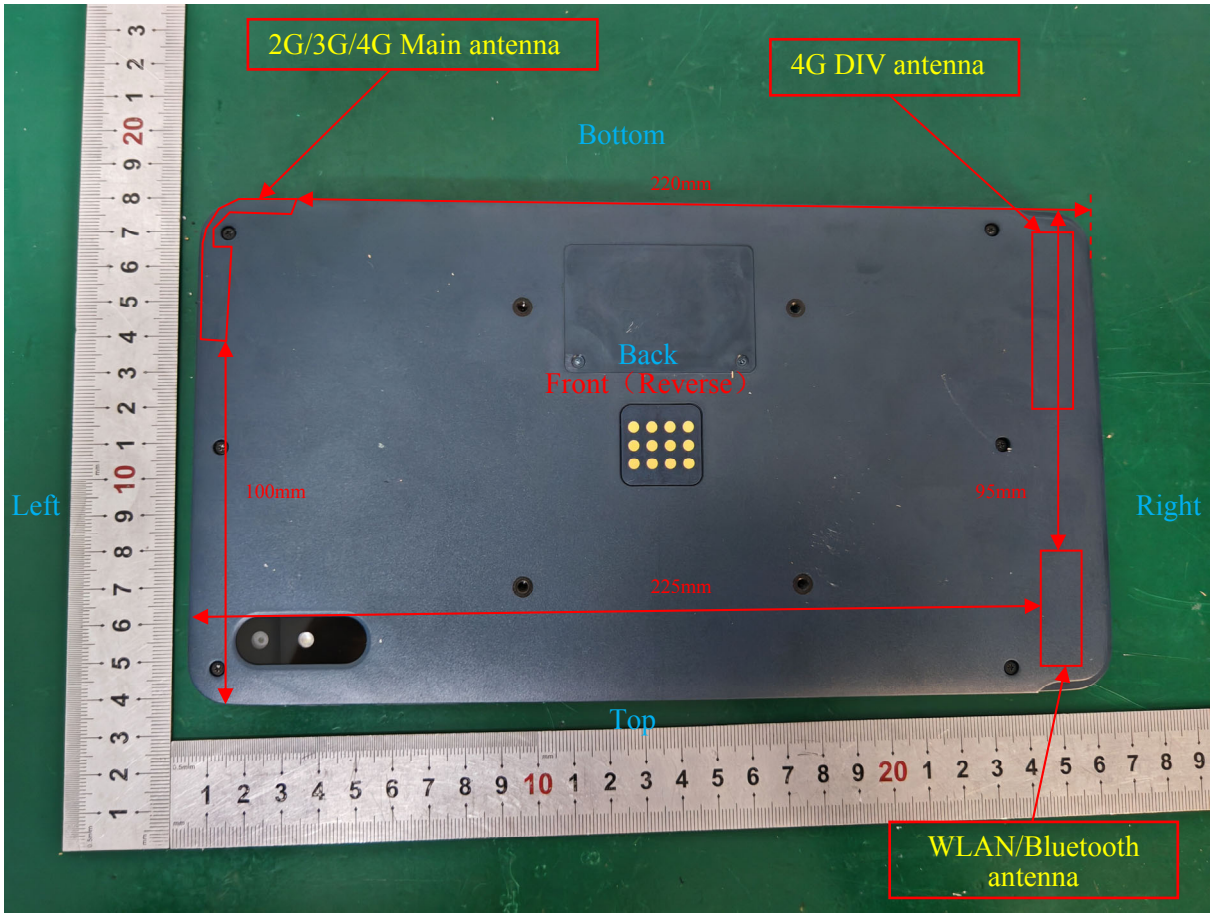
ProjectNo.:RKSA240906001 Tester:Neil Zhou
Date: 26.DEC.2024 09:26:11

Mode	Max ConductedPeak OutputPower (dBm)		
	Low	Middle	High
BLE（1M）	5.08	5.48	4.91

Standalone SAR test exclusion considerations

Antennas Location:

F600



Antenna Distance To Edge

	Antenna Distance To Edge(mm)					
Antenna	**Back**	**Front**	**Left**	**Right**	**Top**	**Bottom**
WWAN Main	<5	<5	<5	220	100	<5
WIFI/BT	<5	<5	225	<5	<5	95

Note: The Main antenna has transmitting and receiving functions, while the DIV antenna only has receiving functions

Standalone SAR Test Exclusion Considerations

Mode	Frequency (MHz)	Output Power (dBm)	Output Power (mW)	Distance (mm)	Calculated value	Threshold (1-g)	SAR Test Exclusion
WLAN 2.4G	2462	13	19.95	0	6.26	3	No
WLAN 5.2G	5240	17.5	56.23	0	25.75	3	No
WLAN 5.3G	5320	17	50.12	0	23.12	3	No
WLAN 5.6G	5720	16.5	44.67	0	21.37	3	No
WLAN 5.8G	5825	13	19.95	0	9.63	3	No
Bluetooth	2480	10	10.00	0	3.15	3	No
BLE	2480	5.5	3.55	0	1.12	3	YES

NOTE:
The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤7.5 for 10-g extremity SAR, where
1. f(GHz) is the RF channel transmit frequency in GHz.
2. Power and distance are rounded to the nearest mW and mm before calculation.
3. The result is rounded to one decimal place for comparison.
4. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test Exclusion.

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

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

1) For test separation distances > 50 mm and < 200 mm, the power threshold at the corresponding test separation distance at 100 MHz in step b) is multiplied by [1 + log(100/f(MHz))]

2) For test separation distances ≤ 50 mm, the power threshold determined by the equation in c) 1) for 50 mm and 100 MHz is multiplied by ½

3) SAR measurement procedures are not established below 100 MHz

Measurement Result:

For NFC, the power of EUT: E-Field@3m is 79.04 dBuV/m =-16.16dBm (0.024mW)

Note: E[dB μ V/m] = EIRP[dBm] + 95.2 for d = 3 m.

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

=[474*(1 + log(100/f(MHz)))]/2

= 443mW

>0.024 mW

Conclusion:
The NFC SAR evaluation can be exempted.

Note:
For NFC,please refer to report RKSA240906001-00A

Standalone SAR test exclusion considerations

Mode	Frequency (MHz)	Pavg (dBm)	Pavg (mW)	Test Exclusion Distance(mm)
GSM 850	848.8	29.5	891.25	178.73
GSM 1900	1909.8	28.5	707.95	109.94
WCDMA 2	1907.6	22.9	194.98	58.64
WCDMA 4	1752.6	23	199.53	58.63
WCDMA 5	846.6	23	199.53	56.47
LTE Band 2	1900	22.5	177.83	56.9
LTE Band 4	1745	22.5	177.83	56.43
LTE Band 5	844	22.5	177.83	52.58
LTE Band 7	2560	22.5	177.83	58.4
LTE Band 38	2610	23	199.53	60.67
WLAN 2.4G	2462	13	19.95	10.44
WLAN 5.2G	5240	17.5	56.23	42.91
WLAN 5.3G	5320	17	50.12	38.53
WLAN 5.6G	5720	16.5	44.67	35.61
WLAN 5.8G	5825	13	19.95	16.05
Bluetooth	2480	10	10.00	5.25

SAR test exclusion for the EUT edge considerations Result

Mode	Back	Front	Left	Right	Top	Bottom
GSM 850	**Required**	**Required**	**Required**	Exclusion	**Required**	**Required**
GSM 1900	**Required**	**Required**	**Required**	Exclusion	**Required**	**Required**
WCDMA 2	**Required**	**Required**	**Required**	Exclusion	Exclusion	**Required**
WCDMA 4	**Required**	**Required**	**Required**	Exclusion	Exclusion	**Required**
WCDMA 5	**Required**	**Required**	**Required**	Exclusion	Exclusion	**Required**
LTE Band 2	**Required**	**Required**	**Required**	Exclusion	Exclusion	**Required**
LTE Band 4	**Required**	**Required**	**Required**	Exclusion	Exclusion	**Required**
LTE Band 5	**Required**	**Required**	**Required**	Exclusion	Exclusion	**Required**
LTE Band 7	**Required**	**Required**	**Required**	Exclusion	Exclusion	**Required**
LTE Band 38	**Required**	**Required**	**Required**	Exclusion	Exclusion	**Required**
WLAN 2.4G	**Required**	**Required**	Exclusion	**Required**	**Required**	Exclusion
WLAN 5.2G	**Required**	**Required**	Exclusion	**Required**	**Required**	Exclusion
WLAN 5.3G	**Required**	**Required**	Exclusion	**Required**	**Required**	Exclusion
WLAN 5.6G	**Required**	**Required**	Exclusion	**Required**	**Required**	Exclusion
WLAN 5.8G	**Required**	**Required**	Exclusion	**Required**	**Required**	Exclusion
Bluetooth	**Required**	**Required**	Exclusion	**Required**	**Required**	Exclusion

Distance< 50mm(To Edges)

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] ·
[√f(GHz)] ≤ 3.0 for 1-g SAR and ≤7.5 for 10-g extremity SAR, where
1. f(GHz) is the RF channel transmit frequency in GHz.
2. Power and distance are rounded to the nearest mW and mm before calculation.
3. The result is rounded to one decimal place for comparison.
4. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test Exclusion.
5. The Time based average Power is used for calculation

Distance> 50mm(To Edges)

At 100 MHz to 6 GHz and for *test separation distances* > 50 mm, the SAR test exclusion threshold is determined according to the following:

a) [Power allowed at numeric threshold for 50 mm in step 1) + (test separation distance - 50 mm)·(f(MHz)/150)] mW, at 100 MHz to 1500 MHz

b) [Power allowed at numeric threshold for 50 mm in step 1) + (test separation distance - 50 mm)·10] mW at > 1500 MHz and ≤ 6 GHz.

SAR MEASUREMENT RESULTS

This page summarizes the results of the performed dosimetric evaluation.

SAR Test Data

Environmental Conditions

Temperature:	22.1-23.2 ℃	22.3-23.4 ℃	22.5-23.3 ℃
Relative Humidity:	52 %	51 %	53 %
Test Date:	2024/10/15	2024/10/16	2024/10/17
Temperature:	22.1-23.4 ℃	22.3-23.2 ℃	/
Relative Humidity:	49 %	52 %	/
Test Date:	2024/10/18	2024/10/19	/

Testing was performed by Allen

GSM850:

Band	EUT Position	Freq. (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	Scaled Factor	Meas. (W/Kg)	Scaled SAR (W/Kg)	Limit (W/Kg)	Plot
GSM850	Front(0mm)	836.6	GPRS 4 Tx slots	28.75	29.5	1.189	**0.407**	**0.484**	1.6	**1#**
GSM850	Back (0mm)	836.6	GPRS 4 Tx slots	28.75	29.5	1.189	0.290	0.345	1.6	/
GSM850	Left(0mm)	836.6	GPRS 4 Tx slots	28.75	29.5	1.189	0.320	0.380	1.6	/
GSM850	Right (0mm)	836.6	GPRS 4 Tx slots	/	/	/	/	/	1.6	/
GSM850	Top(0mm)	836.6	GPRS 4 Tx slots	28.75	29.5	1.189	0.008	0.009	1.6	/
GSM850	Bottom(0mm)	836.6	GPRS 4 Tx slots	28.75	29.5	1.189	0.393	0.467	1.6	/

PCS1900:

Band	EUT Position	Freq. (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	Scaled Factor	Meas. (W/Kg)	Scaled SAR (W/Kg)	Limit (W/Kg)	Plot
PCS1900	Front(0mm)	1880	GPRS 2 Tx slots	27.71	28.5	1.199	0.381	0.457	1.6	/
PCS1900	Back (0mm)	1880	GPRS 2 Tx slots	27.71	28.5	1.199	0.184	0.221	1.6	/
PCS1900	Left(0mm)	1880	GPRS 2 Tx slots	27.71	28.5	1.199	0.325	0.390	1.6	/
PCS1900	Right (0mm)	1880	GPRS 2 Tx slots	/	/	/	/	/	1.6	/
PCS1900	Top(0mm)	1880	GPRS 2 Tx slots	27.71	28.5	1.199	0.002	0.002	1.6	/
PCS1900	Bottom(0mm)	1880	GPRS 2 Tx slots	27.71	28.5	1.199	**0.530**	**0.636**	1.6	**2#**

Note:

1. When the SAR value is less than half of the limit, testing for other channels are optional.
2. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.
3. When the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel must be used.

WCDMA Band 2:

Band	EUT Position	Freq. (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	Scaled Factor	Meas. (W/Kg)	Scaled SAR (W/Kg)	Limit (W/Kg)	Plot
WCDMA Band 2	Front(0mm)	1880	RMC	22.36	22.9	1.132	0.515	0.583	1.6	/
WCDMA Band 2	Back (0mm)	1880	RMC	22.36	22.9	1.132	0.294	0.333	1.6	/
WCDMA Band 2	Left(0mm)	1880	RMC	22.36	22.9	1.132	0.440	0.498	1.6	/
WCDMA Band 2	Right (0mm)	1880	RMC	/	/	/	/	/	1.6	/
WCDMA Band 2	Top(0mm)	1880	RMC	/	/	/	/	/	1.6	/
WCDMA Band 2	Bottom(0mm)	1880	RMC	22.36	22.9	1.132	**0.694**	**0.786**	1.6	**3#**

WCDMA Band 4

Band	EUT Position	Freq. (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	Scaled Factor	Meas. (W/Kg)	Scaled SAR (W/Kg)	Limit (W/Kg)	Plot
WCDMA Band 4	Front(0mm)	1732.6	RMC	22.52	23	1.117	0.594	0.663	1.6	/
WCDMA Band 4	Back (0mm)	1732.6	RMC	22.52	23	1.117	0.610	0.681	1.6	/
WCDMA Band 4	Left(0mm)	1732.6	RMC	22.52	23	1.117	0.406	0.453	1.6	/
WCDMA Band 4	Right (0mm)	1732.6	RMC	/	/	/	/	/	1.6	/
WCDMA Band 4	Top(0mm)	1732.6	RMC	/	/	/	/	/	1.6	/
WCDMA Band 4	Bottom(0mm)	1732.6	RMC	22.52	23	1.117	**0.634**	**0.708**	1.6	**4#**

WCDMA Band 5

Band	EUT Position	Freq. (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	Scaled Factor	Meas. (W/Kg)	Scaled SAR (W/Kg)	Limit (W/Kg)	Plot
WCDMA Band 5	Front(0mm)	836.6	RMC	22.38	23	1.153	**0.304**	**0.351**	1.6	**5#**
WCDMA Band 5	Back (0mm)	836.6	RMC	22.38	23	1.153	0.238	0.275	1.6	/
WCDMA Band 5	Left(0mm)	836.6	RMC	22.38	23	1.153	0.240	0.277	1.6	/
WCDMA Band 5	Right (0mm)	836.6	RMC	/	/	/	/	/	1.6	/
WCDMA Band 5	Top(0mm)	836.6	RMC	/	/	/	/	/	1.6	/
WCDMA Band 5	Bottom(0mm)	836.6	RMC	22.38	23	1.153	0.280	0.323	1.6	/

Note:

1. When the SAR value is less than half of the limit, testing for other channels are optional.
2. The EUT transmit and receive through the same antenna while testing SAR.
3. The default test configuration is to measure SAR with an established radio link between the EUT and a communication test set using a 12.2 kbps RMC (reference measurement Channel) Configured in Test Loop Model.
4. KDB 941225 D01-Body SAR is not required for HSUPA/HSDPA when the maximum average output of each RF channel is less than ¼ dB higher than measured 12.2kbps RMC or the maximum SAR for 12.2kbps RMC is < 75% of SAR limit.
5. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.

LTE FDD Band 2:

EUT Position	Freq. (MHz)	Modulation Type	Bandwidth (MHz)	RB	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	Scaled Factor	Meas. (W/Kg)	Scaled SAR (W/Kg)	Limit (W/Kg)	Plot
Front(0mm)	1880	QPSK	20	1RB	22.21	22.5	1.069	0.389	0.416	1.6	/
Front(0mm)	1880	QPSK	20	50%RB	22.01	22.5	1.119	0.319	0.357	1.6	/
Back(0mm)	1880	QPSK	20	1RB	22.21	22.5	1.069	0.269	0.288	1.6	/
Back(0mm)	1880	QPSK	20	50%RB	22.01	22.5	1.119	0.272	0.304	1.6	/
Left(0mm)	1880	QPSK	20	1RB	22.21	22.5	1.069	0.378	0.404	1.6	/
Left(0mm)	1880	QPSK	20	50%RB	22.01	22.5	1.119	0.313	0.350	1.6	/
Right (0mm)	1880	QPSK	20	1RB	/	/	/	/	/	1.6	/
Right (0mm)	1880	QPSK	20	50%RB	/	/	/	/	/	1.6	/
Top(0mm)	1880	QPSK	20	1RB	/	/	/	/	/	1.6	/
Top(0mm)	1880	QPSK	20	50%RB	/	/	/	/	/	1.6	/
Bottom(0mm)	1880	QPSK	20	1RB	22.21	22.5	1.069	**0.598**	**0.639**	1.6	**6#**
Bottom(0mm)	1880	QPSK	20	50%RB	22.01	22.5	1.119	0.501	0.561	1.6	/

LTE FDD Band 4:

EUT Position	Freq. (MHz)	Modulation Type	Bandwidth (MHz)	RB	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	Scaled Factor	Meas. (W/Kg)	Scaled SAR (W/Kg)	Limit (W/Kg)	Plot
Front(0mm)	1732.5	QPSK	20	1RB	22.22	22.5	1.067	0.425	0.453	1.6	/
Front(0mm)	1732.5	QPSK	20	50%RB	22.11	22.5	1.094	0.426	0.466	1.6	/
Back(0mm)	1732.5	QPSK	20	1RB	22.22	22.5	1.067	**0.712**	**0.759**	1.6	**7#**
Back(0mm)	1732.5	QPSK	20	50%RB	22.11	22.5	1.094	0.558	0.610	1.6	/
Left(0mm)	1732.5	QPSK	20	1RB	22.22	22.5	1.067	0.379	0.404	1.6	/
Left(0mm)	1732.5	QPSK	20	50%RB	22.11	22.5	1.094	0.295	0.323	1.6	/
Right (0mm)	1732.5	QPSK	20	1RB	/	/	/	/	/	1.6	/
Right (0mm)	1732.5	QPSK	20	50%RB	/	/	/	/	/	1.6	/
Top(0mm)	1732.5	QPSK	20	1RB	/	/	/	/	/	1.6	/
Top(0mm)	1732.5	QPSK	20	50%RB	/	/	/	/	/	1.6	/
Bottom(0mm)	1732.5	QPSK	20	1RB	22.22	22.5	1.067	0.567	0.605	1.6	/
Bottom(0mm)	1732.5	QPSK	20	50%RB	22.11	22.5	1.094	0.449	0.491	1.6	/

LTE FDD Band 5:

EUT Position	Freq. (MHz)	Modulation Type	Bandwidth (MHz)	RB	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	Scaled Factor	Meas. (W/Kg)	Scaled SAR (W/Kg)	Limit (W/Kg)	Plot
Front(0mm)	836.5	QPSK	10	1RB	22.13	22.5	1.089	**0.298**	**0.325**	1.6	**8#**
Front(0mm)	836.5	QPSK	10	50%RB	21.85	22.5	1.161	0.229	0.266	1.6	/
Back(0mm)	836.5	QPSK	10	1RB	22.13	22.5	1.089	0.235	0.256	1.6	/
Back(0mm)	836.5	QPSK	10	50%RB	21.85	22.5	1.161	0.180	0.209	1.6	/
Left(0mm)	836.5	QPSK	10	1RB	22.13	22.5	1.089	0.223	0.243	1.6	/
Left(0mm)	836.5	QPSK	10	50%RB	21.85	22.5	1.161	0.174	0.202	1.6	/
Right (0mm)	836.5	QPSK	10	1RB	/	/	/	/	/	1.6	/
Right (0mm)	836.5	QPSK	10	50%RB	/	/	/	/	/	1.6	/
Top(0mm)	836.5	QPSK	10	1RB	/	/	/	/	/	1.6	/
Top(0mm)	836.5	QPSK	10	50%RB	/	/	/	/	/	1.6	/
Bottom(0mm)	836.5	QPSK	10	1RB	22.13	22.5	1.089	0.199	0.217	1.6	/
Bottom(0mm)	836.5	QPSK	10	50%RB	21.85	22.5	1.161	0.205	0.238	1.6	/

LTE FDD Band 7:

EUT Position	Freq. (MHz)	Modulation Type	Bandwidth (MHz)	RB	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	Scaled Factor	Meas. (W/Kg)	Scaled SAR (W/Kg)	Limit (W/Kg)	Plot
Front(0mm)	2535	QPSK	20	1RB	21.91	22.5	1.146	0.734	0.841	1.6	/
Front(0mm)	2535	QPSK	20	50%RB	21.79	22.5	1.178	0.578	0.681	1.6	/
Back(0mm)	2535	QPSK	20	1RB	21.91	22.5	1.146	0.695	0.796	1.6	/
Back(0mm)	2535	QPSK	20	50%RB	21.79	22.5	1.178	0.549	0.647	1.6	/
Left(0mm)	2535	QPSK	20	1RB	21.91	22.5	1.146	0.387	0.443	1.6	/
Left(0mm)	2535	QPSK	20	50%RB	21.79	22.5	1.178	0.302	0.356	1.6	/
Right (0mm)	2535	QPSK	20	1RB	/	/	/	/	/	1.6	/
Right (0mm)	2535	QPSK	20	50%RB	/	/	/	/	/	1.6	/
Top(0mm)	2535	QPSK	20	1RB	/	/	/	/	/	1.6	/
Top(0mm)	2535	QPSK	20	50%RB	/	/	/	/	/	1.6	/
Bottom(0mm)	2535	QPSK	20	1RB	21.91	22.5	1.146	**0.979**	**1.121**	1.6	**9#**
Bottom(0mm)	2510	QPSK	20	1RB	22.06	22.5	1.107	0.825	0.913	1.6	/
Bottom(0mm)	2560	QPSK	20	1RB	21.95	22.5	1.135	0.858	0.974	1.6	/
Bottom(0mm)	2535	QPSK	20	50%RB	21.79	22.5	1.178	0.760	0.895	1.6	/
Bottom(0mm)	2510	QPSK	20	50%RB	21.87	22.5	1.156	0.731	0.845	1.6	/
Bottom(0mm)	2560	QPSK	20	50%RB	21.81	22.5	1.172	0.714	0.837	1.6	/
Bottom(0mm)	2535	QPSK	20	100%RB	21.77	22.5	1.183	0.742	0.878	1.6	/

LTE TDD Band 38:

EUT Position	Freq. (MHz)	Modulation Type	Bandwidth (MHz)	RB	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	Scaled Factor	Meas. (W/Kg)	Scaled SAR (W/Kg)	Limit (W/Kg)	Plot
Front(0mm)	2595	QPSK	20	1RB	22.23	23	1.194	0.383	0.457	1.6	/
Front(0mm)	2595	QPSK	20	50%RB	22.33	23	1.167	0.316	0.369	1.6	/
Back(0mm)	2595	QPSK	20	1RB	22.23	23	1.194	0.412	0.492	1.6	/
Back(0mm)	2595	QPSK	20	50%RB	22.33	23	1.167	0.303	0.354	1.6	/
Left(0mm)	2595	QPSK	20	1RB	22.23	23	1.194	0.201	0.240	1.6	/
Left(0mm)	2595	QPSK	20	50%RB	22.33	23	1.167	0.172	0.201	1.6	/
Right (0mm)	2595	QPSK	20	1RB	/	/	/	/	/	1.6	/
Right (0mm)	2595	QPSK	20	50%RB	/	/	/	/	/	1.6	/
Top(0mm)	2595	QPSK	20	1RB	/	/	/	/	/	1.6	/
Top(0mm)	2595	QPSK	20	50%RB	/	/	/	/	/	1.6	/
Bottom(0mm)	2595	QPSK	20	1RB	22.23	23	1.194	**0.619**	**0.739**	1.6	**10#**
Bottom(0mm)	2595	QPSK	20	50%RB	22.33	23	1.167	0.497	0.580	1.6	/

Note:

1. When the SAR value is less than half of the limit, testing for other channels are optional.
2. Worst case SAR for 50% RB allocation is selected to be tested.
3. 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.
4. 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 > ½ 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.

WLAN 2.4G:

Band	EUT Position	Freq. (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	Scaled Factor	Duct cycle Factor	Meas. (W/Kg)	Scaled SAR (W/Kg)	Limit (W/Kg)	Plot
WLAN2.4G	Front(0mm)	2437	802.11b 1Mbps	12.746	13	1.060	1.022	0.160	0.173	1.6	/
WLAN2.4G	Back (0mm)	2437	802.11b 1Mbps	12.746	13	1.060	1.022	**0.527**	**0.571**	1.6	**11#**
WLAN2.4G	Left(0mm)	2437	802.11b 1Mbps	/	/	/	/	/	/	1.6	/
WLAN2.4G	Right (0mm)	2437	802.11b 1Mbps	12.746	13	1.060	1.022	0.073	0.079	1.6	/
WLAN2.4G	Top(0mm)	2437	802.11b 1Mbps	12.746	13	1.060	1.022	0.090	0.097	1.6	/
WLAN2.4G	Bottom(0mm)	2437	802.11b 1Mbps	/	/	/	/	/	/	1.6	/

Note:
1. For 802.11b 1Mbps mode power is the largest mode of 802.11b/g/n, 802.11b 1Mbps mode is selected to test.

WLAN 5.2G:

Band	EUT Position	Freq. (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	Scaled Factor	Duct cycle Factor	Meas. (W/Kg)	Scaled SAR (W/Kg)	Limit (W/Kg)	Plot
WLAN5.2G	Front(0mm)	5200	802.11a 6Mbps	16.83	17.5	1.167	1.030	0.164	0.197	1.6	/
WLAN5.2G	Back (0mm)	5200	802.11a 6Mbps	16.83	17.5	1.167	1.030	**0.450**	**0.541**	1.6	**12#**
WLAN5.2G	Left(0mm)	5200	802.11a 6Mbps	/	/	/	/	/	/	1.6	/
WLAN5.2G	Right (0mm)	5200	802.11a 6Mbps	16.83	17.5	1.167	1.030	0.060	0.072	1.6	/
WLAN5.2G	Top(0mm)	5200	802.11a 6Mbps	16.83	17.5	1.167	1.030	0.056	0.067	1.6	/
WLAN5.2G	Bottom(0mm)	5200	802.11a 6Mbps	/	/	/	/	/	/	1.6	/

Note:
1. For 802.11a 6Mbps mode power is the largest mode of 802.11a/ac/n, 802.11a 6Mbps mode is selected to test.

WLAN 5.3G:

Band	EUT Position	Freq. (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	Scaled Factor	Duct cycle Factor	Meas. (W/Kg)	Scaled SAR (W/Kg)	Limit (W/Kg)	Plot
WLAN5.3G	Front(0mm)	5280	802.11a 6Mbps	16.29	17	1.178	1.026	0.199	0.240	1.6	/
WLAN5.3G	Back (0mm)	5280	802.11a 6Mbps	16.29	17	1.178	1.026	**0.530**	**0.640**	1.6	**13#**
WLAN5.3G	Left(0mm)	5280	802.11a 6Mbps	/	/	/	/	/	/	1.6	/
WLAN5.3G	Right (0mm)	5280	802.11a 6Mbps	16.29	17	1.178	1.026	0.079	0.095	1.6	/
WLAN5.3G	Top(0mm)	5280	802.11a 6Mbps	16.29	17	1.178	1.026	0.071	0.086	1.6	/
WLAN5.3G	Bottom(0mm)	5280	802.11a 6Mbps	/	/	/	/	/	/	1.6	/

Note:
1. For 802.11a 6Mbps mode power is the largest mode of 802.11a/ac/n, 802.11a 6Mbps mode is selected to test.

WLAN 5.6G:

Band	EUT Position	Freq. (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	Scaled Factor	Duct cycle Factor	Meas. (W/Kg)	Scaled SAR (W/Kg)	Limit (W/Kg)	Plot
WLAN5.6G	Front(0mm)	5580	802.11a 6Mbps	15.77	16.5	1.183	1.028	0.225	0.274	1.6	/
WLAN5.6G	Back (0mm)	5580	802.11a 6Mbps	15.77	16.5	1.183	1.028	**0.508**	**0.618**	1.6	**14#**
WLAN5.6G	Left(0mm)	5580	802.11a 6Mbps	/	/	/	/	/	/	1.6	/
WLAN5.6G	Right (0mm)	5580	802.11a 6Mbps	15.77	16.5	1.183	1.028	0.118	0.144	1.6	/
WLAN5.6G	Top(0mm)	5580	802.11a 6Mbps	15.77	16.5	1.183	1.028	0.104	0.126	1.6	/
WLAN5.6G	Bottom(0mm)	5580	802.11a 6Mbps	/	/	/	/	/	/	1.6	/

Note:

1. For 802.11a 6Mbps mode power is the largest mode of 802.11a/ac/n, 802.11a 6Mbps mode is selected to test.

WLAN 5.8G:

Band	EUT Position	Freq. (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	Scaled Factor	Duct cycle Factor	Meas. (W/Kg)	Scaled SAR (W/Kg)	Limit (W/Kg)	Plot
WLAN5.8G	Front(0mm)	5785	802.11a 6Mbps	11.98	13	1.265	1.026	0.106	0.138	1.6	/
WLAN5.8G	Back (0mm)	5785	802.11a 6Mbps	11.98	13	1.265	1.026	**0.333**	**0.432**	1.6	**15#**
WLAN5.8G	Left(0mm)	5785	802.11a 6Mbps	/	/	/	/	/	/	1.6	/
WLAN5.8G	Right (0mm)	5785	802.11a 6Mbps	11.98	13	1.265	1.026	0.056	0.072	1.6	/
WLAN5.8G	Top(0mm)	5785	802.11a 6Mbps	11.98	13	1.265	1.026	0.048	0.063	1.6	/
WLAN5.8G	Bottom(0mm)	5785	802.11a 6Mbps	/	/	/	/	/	/	1.6	/

Note:

1. For 802.11a 6Mbps mode power is the largest mode of 802.11a/ac/n, 802.11a 6Mbps mode is selected to test.

Bluetooth:

Band	EUT Position	Freq. (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	Scaled Factor	Duct cycle Factor	Meas. (W/Kg)	Scaled SAR (W/Kg)	Limit (W/Kg)	Plot
Bluetooth	Front(0mm)	2441	DH5 1Mbps	9.88	10.00	1.028	1.314	0.010	0.014	1.6	/
Bluetooth	Back (0mm)	2441	DH5 1Mbps	9.88	10.00	1.028	1.314	**0.016**	**0.022**	1.6	**16#**
Bluetooth	Left(0mm)	2441	DH5 1Mbps	/	/	/	/	/	/	1.6	/
Bluetooth	Right (0mm)	2441	DH5 1Mbps	9.88	10.00	1.028	1.314	0.002	0.003	1.6	/
Bluetooth	Top(0mm)	2441	DH5 1Mbps	9.88	10.00	1.028	1.314	0.002	0.003	1.6	/
Bluetooth	Bottom(0mm)	2441	DH5 1Mbps	/	/	/	/	/	/	1.6	/

Note:

1. When the SAR Value is less than half of the limit, testing for other channels are optional.
2. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.
3. When the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel must be used.
4. According to IEC62209-1, If the correction ΔSAR is within ± 5%, the measured SAR results should not be corrected.
5. For BDR DH5 1Mbps mode power is the largest mode of EDR/BDR, BDR DH5 1Mbps mode is selected to test.

In accordance with published RF Exposure KDB procedure 865664 D01 SAR measurement 100 MHz to 6 GHz v01. These additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results

1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.
2) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).
4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

The Highest Measured SAR Configuration in Each Frequency Band

Body

SAR probe calibration point	Frequency Band	Freq.(MHz)	EUT Position	Meas. SAR (W/kg)		Largest to Smallest SAR Ratio
				Original	Repeated	
2450MHz (2400~2550MHz)	LTE FDD Band 7	2535	Body Bottom	0.979	0.965	1.015

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 SIMULTANEOUS TRANSMISSION DESCRIPTION

Simultaneous Transmission:

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

Simultaneous Transmission Consideration Detail

Transmitter Combination	Position	Max SAR(W/kg)		∑SAR< 1.6W/kg
		SAR1(WWAN)	SAR2(WLAN)	
WWAN+ 2.4GWLAN	Body Front	0.841	0.173	1.014
	Body Back	0.796	0.571	1.367
	Body Left	0.498	/	0.498
	Body Right	/	0.079	0.079
	Body Top	0.009	0.097	0.106
	Body Bottom	1.121	/	1.121

Transmitter Combination	Position	Max SAR(W/kg)		∑SAR< 1.6W/kg
		SAR1(WWAN)	SAR2(WLAN)	
WWAN+5GWLAN	Body Front	0.841	0.274	1.115
	Body Back	0.796	0.640	1.436
	Body Left	0.498	/	0.498
	Body Right	/	0.144	0.144
	Body Top	0.009	0.126	0.135
	Body Bottom	1.121	/	1.121

Transmitter Combination	Position	Max SAR(W/kg)		∑SAR< 1.6W/kg
		SAR1(WWAN)	SAR2(WLAN)	
WWAN+Bluetooth	Body Front	0.841	0.014	0.855
	Body Back	0.796	0.022	0.818
	Body Left	0.498	/	0.498
	Body Right	/	0.003	0.003
	Body Top	0.009	0.003	0.012
	Body Bottom	1.121	/	1.121

Conclusion:

Sum of SAR: **1.6 W/kg** therefore simultaneous transmission SAR result is **Compliance**.

APPENDIX A SAR PLOTS OF SAR MEASUREMENT

1#_GSM850_GPRS 4 Tx slots_Front_0mm_Ch190

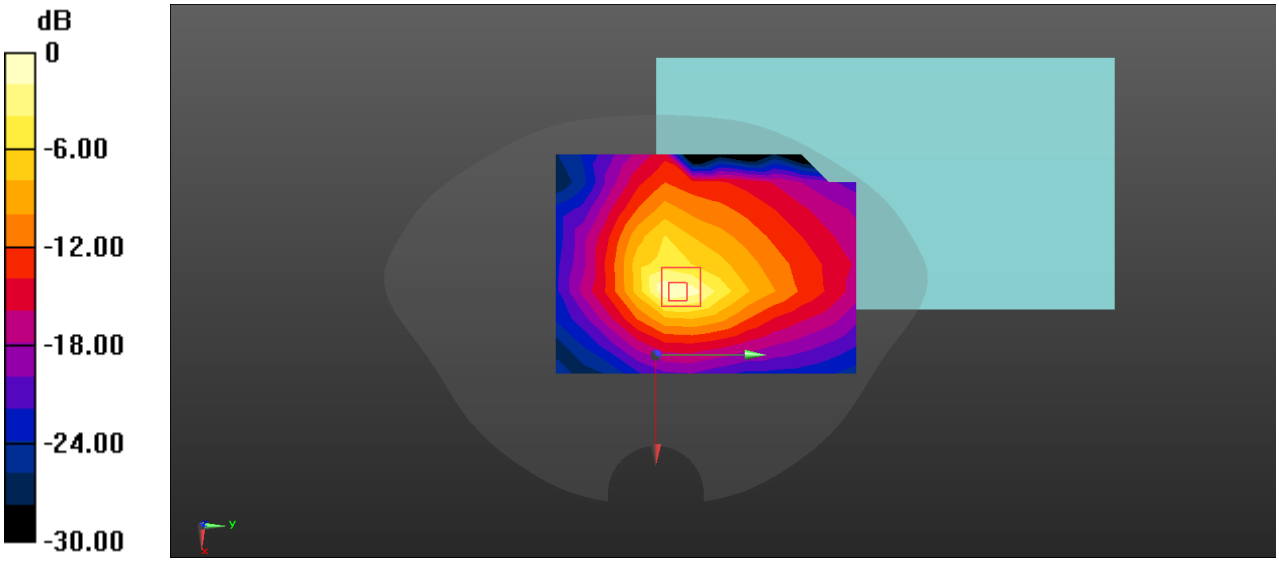
Communication System: UID 0, GSM850 (0); Frequency: 836.6 MHz;Duty Cycle: 1:2
Medium parameters used: f = 836.6 MHz; σ = 0.913 S/m; ε_r = 40.89; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(9.88, 9.88, 9.88); Calibrated: 3/26/2024;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 3/26/2024
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437)

Area Scan (9x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.840 W/kg

Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.72 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 1.02 W/kg
SAR(1 g) = 0.407 W/kg; SAR(10 g) = 0.217 W/kg
Maximum value of SAR (measured) = 0.722 W/kg



0 dB = 0.840 W/kg = -0.76 dBW/kg

2#_GSM1900_GPRS 2 Tx slots_Bottom_0mm_Ch661

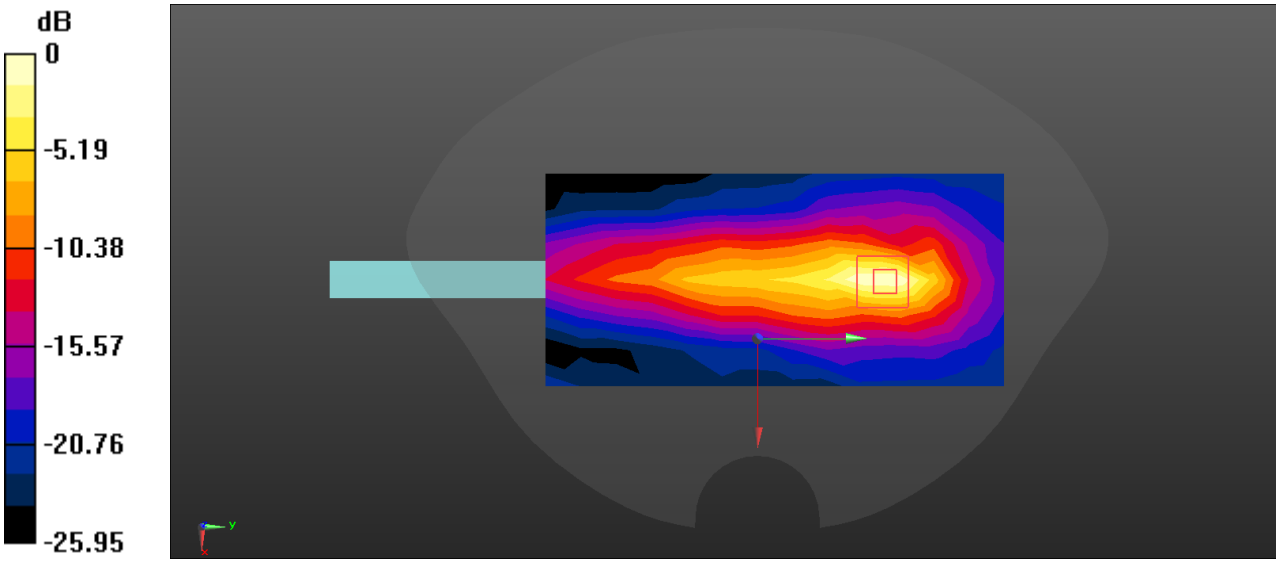
Communication System: UID 0, GSM 1900 (0); Frequency: 1880 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1880 MHz; σ = 1.392 S/m; ε_r = 38.28; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(7.92, 7.92, 7.92); Calibrated: 3/26/2024;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 3/26/2024
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437)

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.749 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.94 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 1.02 W/kg
SAR(1 g) = 0.530 W/kg; SAR(10 g) = 0.256 W/kg
Maximum value of SAR (measured) = 0.835 W/kg



0 dB = 0.835 W/kg = -0.78 dBW/kg

3#_WCDMA II_RMC 12.2Kbps_Bottom_0mm_Ch9400

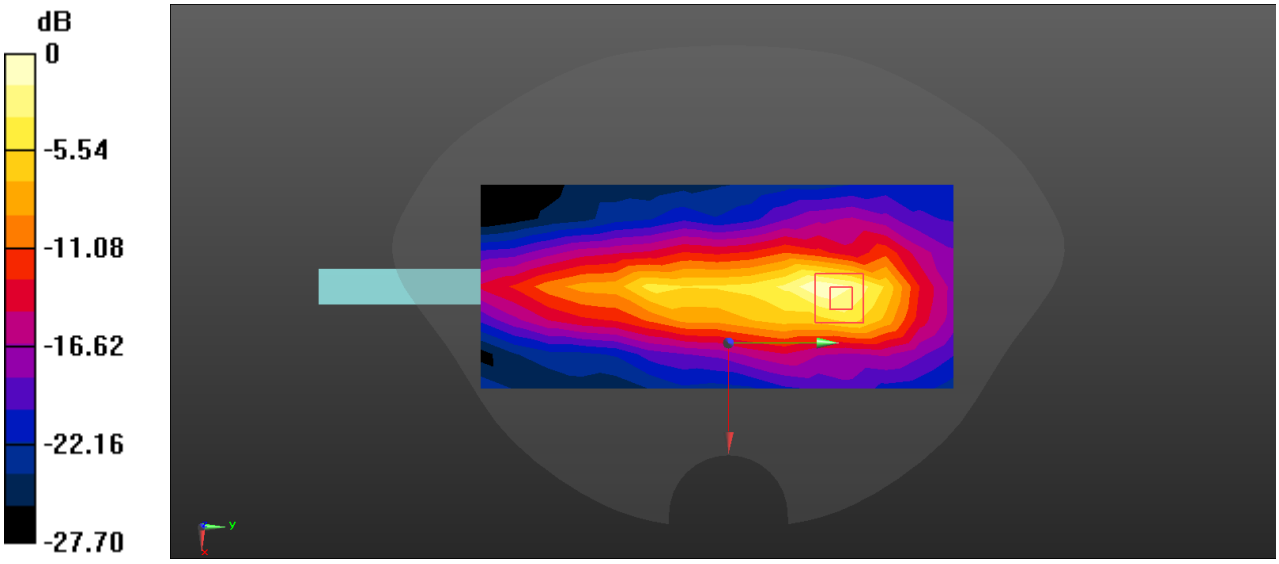
Communication System: UID 0, WCDMA 3G (0); Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.392 S/m; ε_r = 38.28; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(7.92, 7.92, 7.92); Calibrated: 3/26/2024;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 3/26/2024
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437)

Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.783 W/kg

Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.51 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 1.34 W/kg
SAR(1 g) = 0.694 W/kg; SAR(10 g) = 0.333 W/kg
Maximum value of SAR (measured) = 1.10 W/kg



0 dB = 1.10 W/kg = 0.41 dBW/kg

4#_WCDMA IV_RMC 12.2Kbps_Bottom_0mm_Ch1413

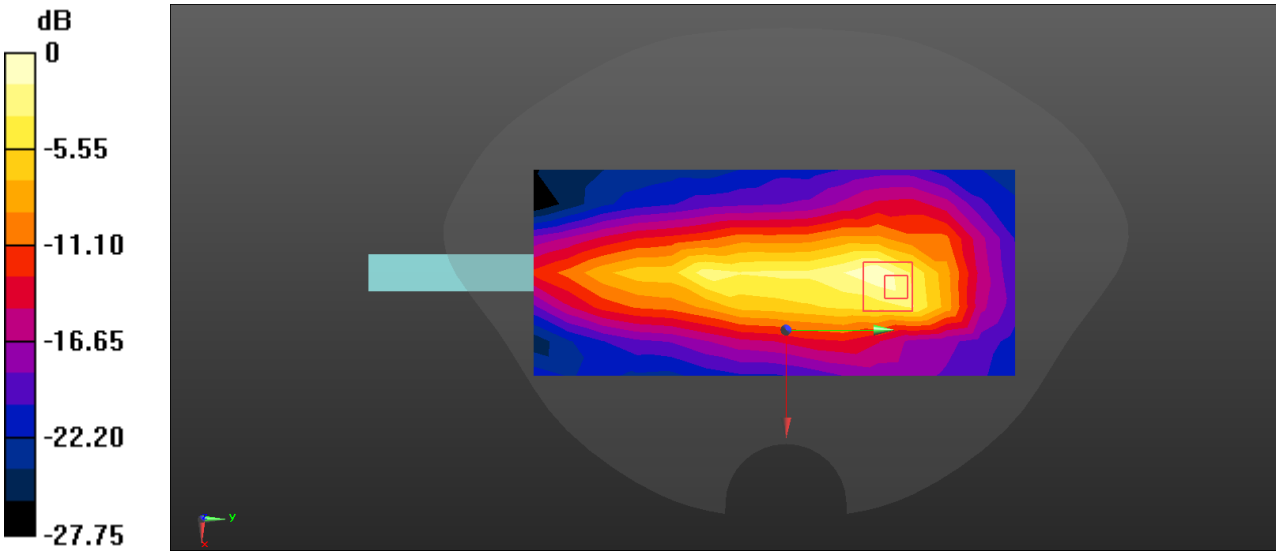
Communication System: UID 0, WCDMA 3G (0); Frequency: 1732.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1732.6 MHz; σ = 1.382 S/m; ε_r = 41.226; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(8.28, 8.28, 8.28); Calibrated: 3/26/2024;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 3/26/2024
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437)

Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.746 W/kg

Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.38 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 1.18 W/kg
SAR(1 g) = 0.634 W/kg; SAR(10 g) = 0.329 W/kg
Maximum value of SAR (measured) = 0.983 W/kg



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

5#_WCDMA V_RMC 12.2Kbps_Front_0mm_Ch4183

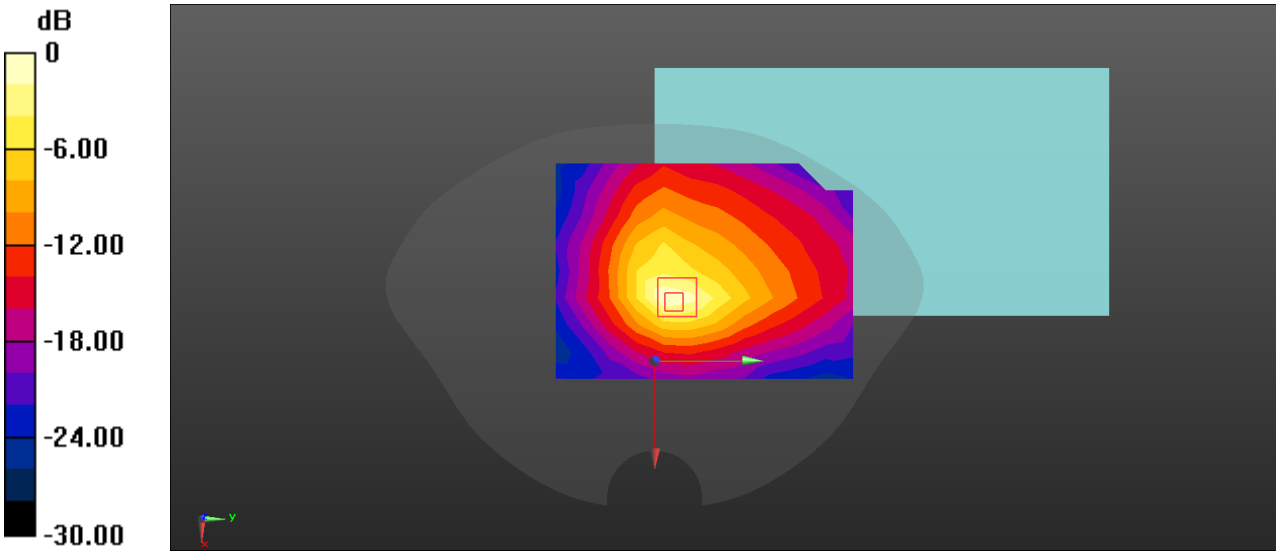
Communication System: UID 0, WCDMA 3G (0); Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 836.6 MHz; σ = 0.913 S/m; ε_r = 40.89; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(9.88, 9.88, 9.88); Calibrated: 3/26/2024;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 3/26/2024
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437)

Area Scan (9x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.565 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.42 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 0.780 W/kg
SAR(1 g) = 0.304 W/kg; SAR(10 g) = 0.163 W/kg
Maximum value of SAR (measured) = 0.505 W/kg



0 dB = 0.565 W/kg = -2.48 dBW/kg

6#_LTE Band 2_20M_QPSK_1RB_0offset_Bottom_0mm_Ch18900

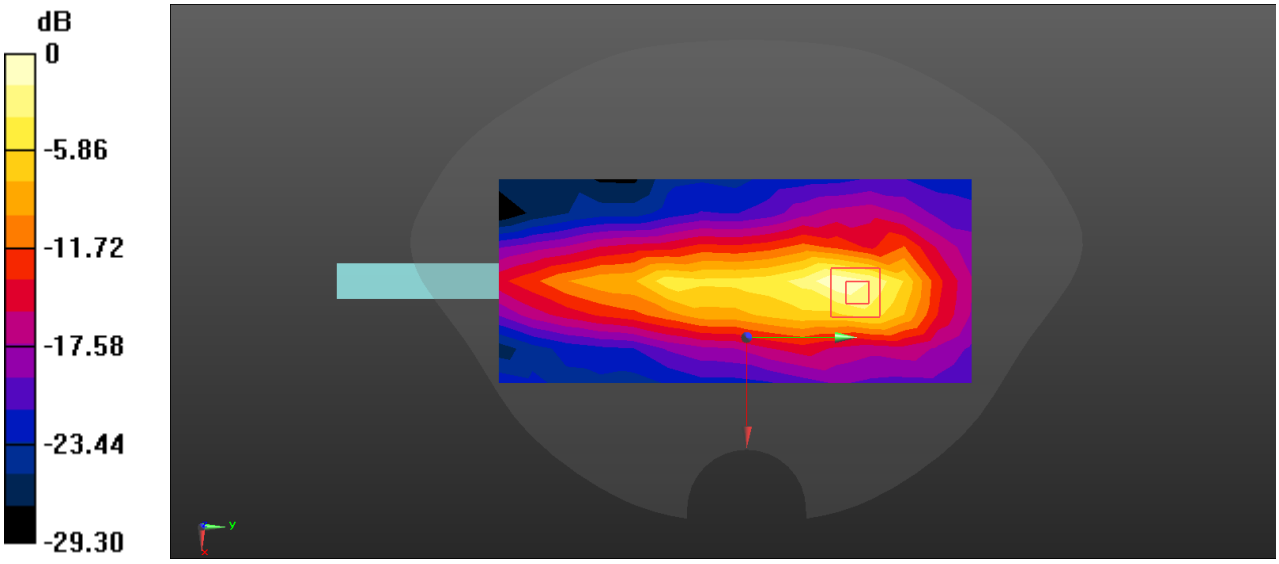
Communication System: UID 0, FDD LTE 4G (0); Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.392 S/m; ε_r = 38.28; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(7.92, 7.92, 7.92); Calibrated: 3/26/2024;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 3/26/2024
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437)

Area Scan (7x15x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.695 W/kg

Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.77 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 1.17 W/kg
SAR(1 g) = 0.598 W/kg; SAR(10 g) = 0.288 W/kg
Maximum value of SAR (measured) = 0.958 W/kg



0 dB = 0.958 W/kg = -0.19 dBW/kg

7#_LTE Band 4_20M_QPSK_1RB_0offset_Back_0mm_Ch20175

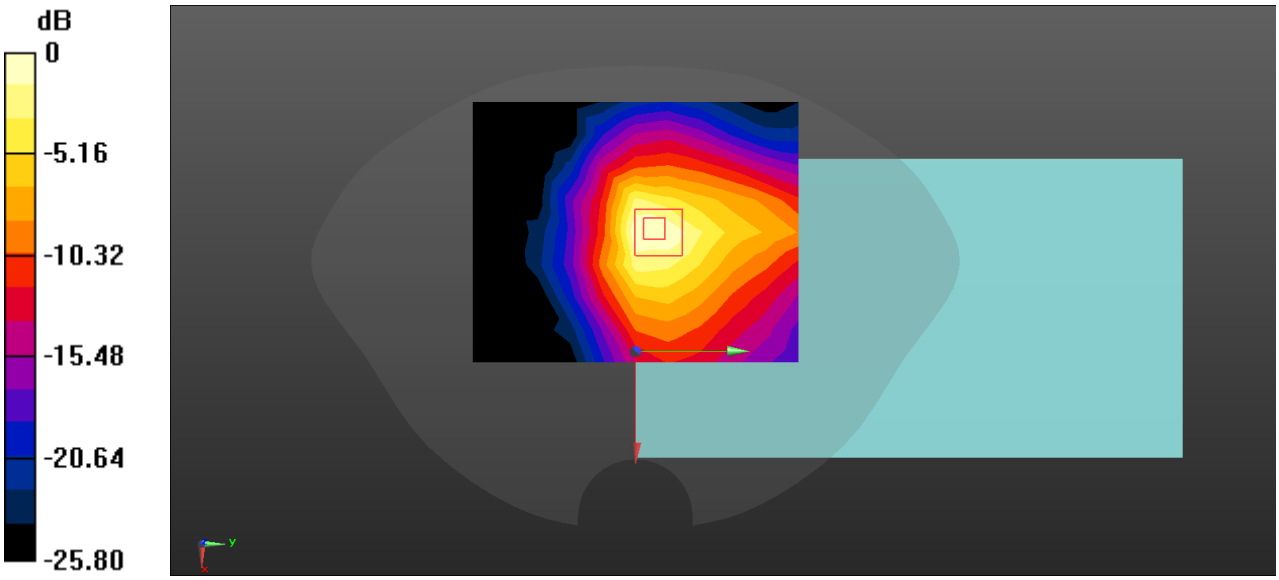
Communication System: UID 0, FDD LTE 4G (0); Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1732.5 MHz; σ = 1.382 S/m; ε_r = 41.226; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(8.28, 8.28, 8.28); Calibrated: 3/26/2024;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 3/26/2024
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437)

Area Scan (9x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.671 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.32 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 1.18 W/kg
SAR(1 g) = 0.712 W/kg; SAR(10 g) = 0.397 W/kg
Maximum value of SAR (measured) = 1.02 W/kg



0 dB = 1.02 W/kg = 0.09 dBW/kg

8#_LTE Band 5_10M_QPSK_1RB_0offset_Front_0mm_Ch20525

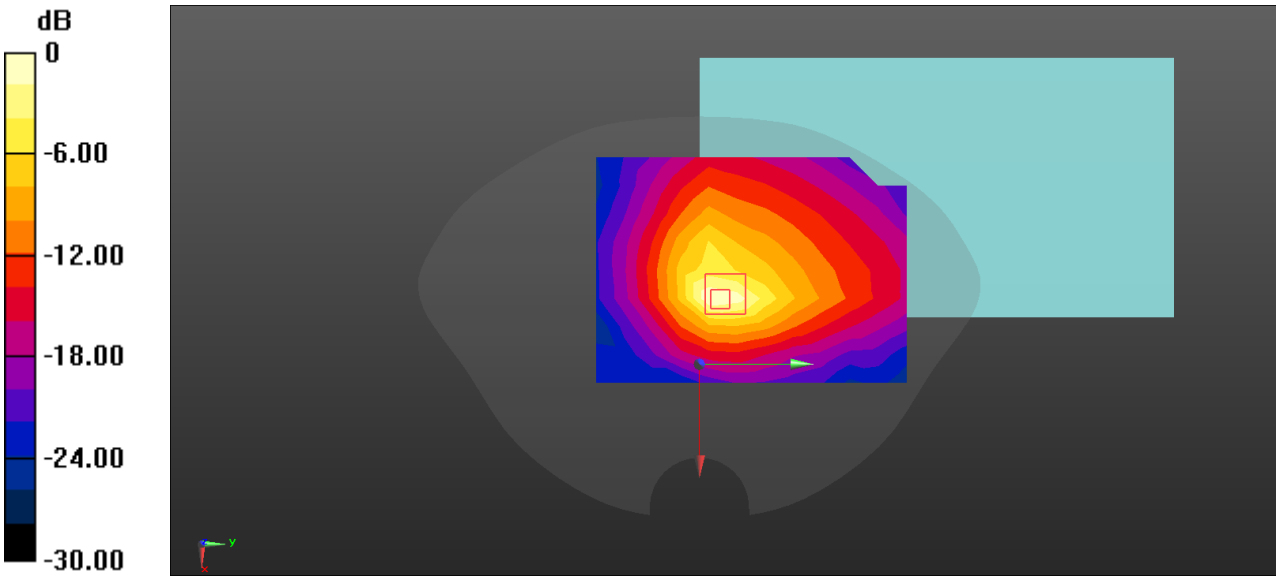
Communication System: UID 0, FDD LTE 4G (0); Frequency: 836.5 MHz;Duty Cycle: 1:1
Medium parameters used: f = 836.5 MHz; σ = 0.913 S/m; ε_r = 40.893; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(9.88, 9.88, 9.88); Calibrated: 3/26/2024;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 3/26/2024
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437)

Area Scan (9x12x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.638 W/kg

Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.46 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.768 W/kg
SAR(1 g) = 0.298 W/kg; SAR(10 g) = 0.157 W/kg
Maximum value of SAR (measured) = 0.538 W/kg



0 dB = 0.638 W/kg = -1.95 dBW/kg

9#_LTE Band 7_20M_QPSK_1RB_0offset_Bottom_0mm_Ch21100

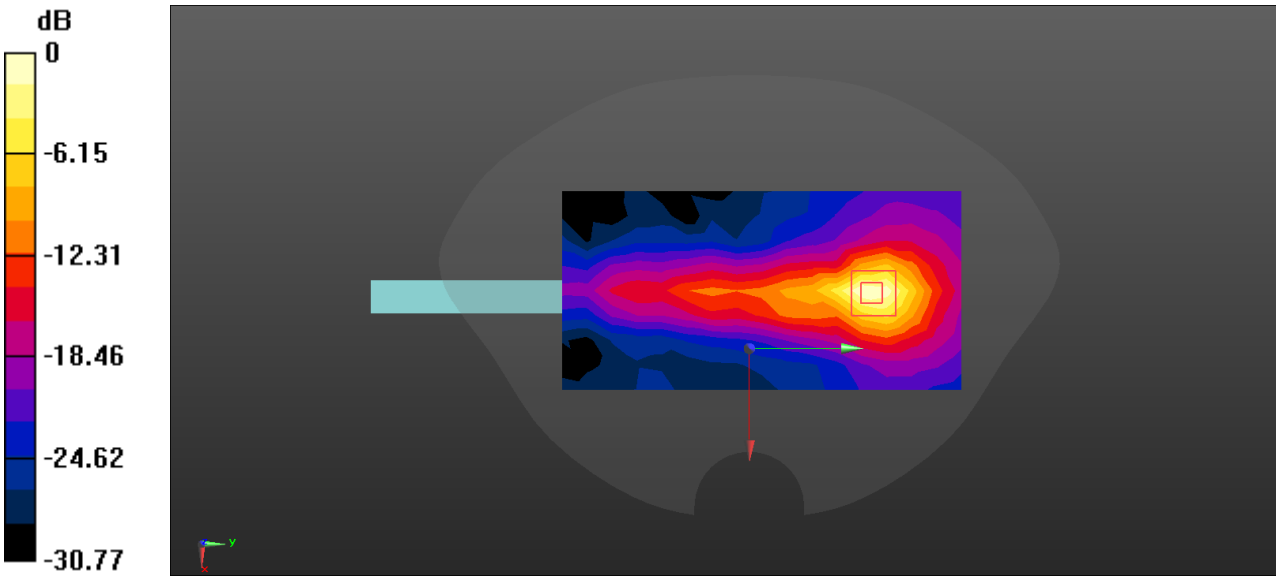
Communication System: UID 0, FDD LTE 4G (0); Frequency: 2535 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2535 MHz; σ = 1.97 S/m; ε_r = 38.364; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(7.27, 7.27, 7.27); Calibrated: 3/26/2024;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 3/26/2024
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437)

Area Scan (9x17x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 1.43 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.232 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 1.90 W/kg
SAR(1 g) = 0.979 W/kg; SAR(10 g) = 0.450 W/kg
Maximum value of SAR (measured) = 1.61 W/kg



0 dB = 1.61 W/kg = 2.07 dBW/kg

10#_LTE Band 38_20M_QPSK_1RB_0offset_Bottom_0mm_Ch38000

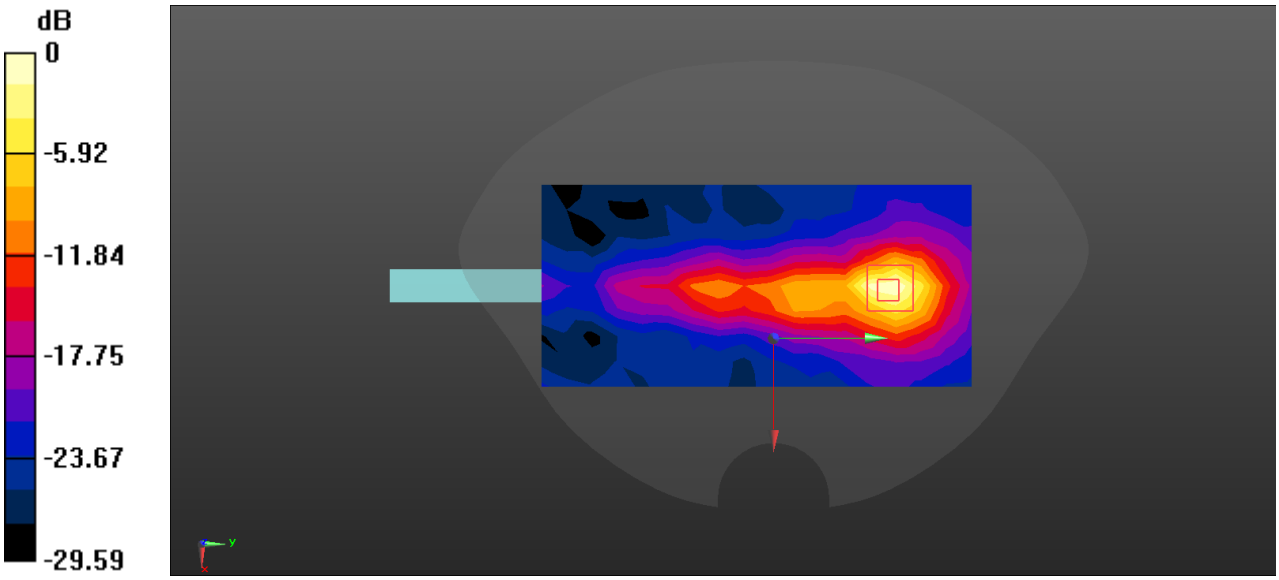
Communication System: UID 0, TDD LTE 4G (0); Frequency: 2595 MHz;Duty Cycle: 1:1.58
Medium parameters used: f = 2595 MHz; σ = 2.021 S/m; ε_r = 37.578; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(7.02, 7.02, 7.02); Calibrated: 3/26/2024;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 3/26/2024
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437)

Area Scan (9x18x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.889 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.811 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 1.23 W/kg
SAR(1 g) = 0.619 W/kg; SAR(10 g) = 0.275 W/kg
Maximum value of SAR (measured) = 1.01 W/kg



0 dB = 1.01 W/kg = 0.04 dBW/kg

11#_WLAN 2.4GHz_802.11b 1Mbps_Back_0mm_Ch6

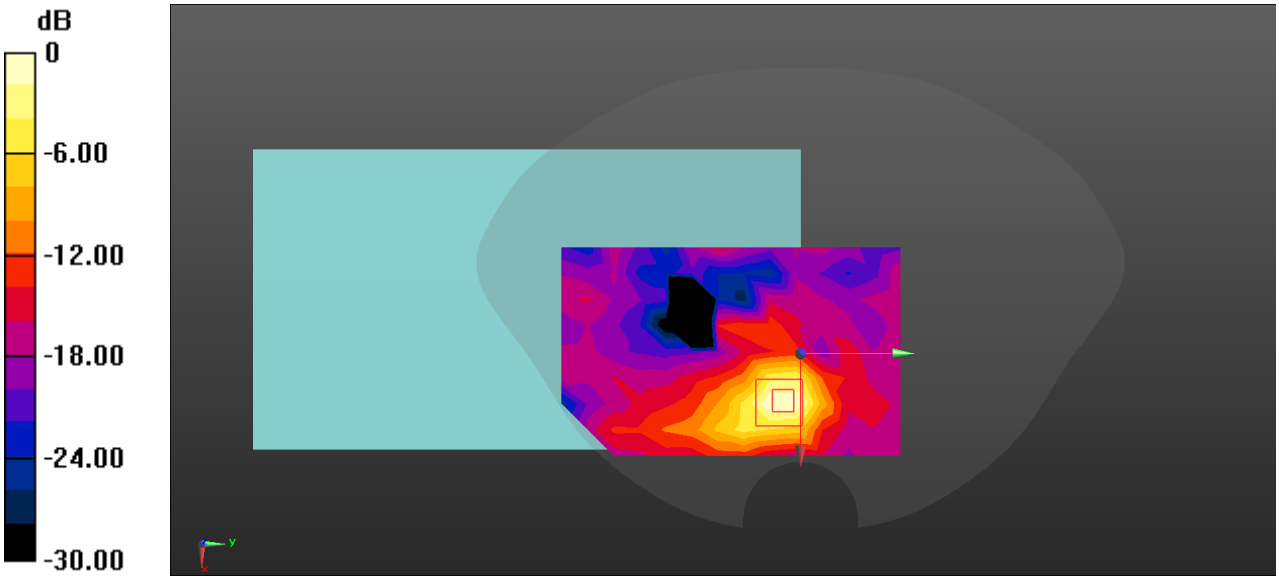
Communication System: UID 0, WIFI2.4G (0); Frequency: 2437 MHz;Duty Cycle: 1:1.022
Medium parameters used: f = 2437 MHz; σ = 1.85 S/m; ε_r = 38.757; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(7.27, 7.27, 7.27); Calibrated: 3/26/2024;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 3/26/2024
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437)

Area Scan (10x14x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.612 W/kg

Zoom Scan (7x8x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.888 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.943 W/kg
SAR(1 g) = 0.527 W/kg; SAR(10 g) = 0.241 W/kg
Maximum value of SAR (measured) = 0.808 W/kg



0 dB = 0.808 W/kg = -0.93 dBW/kg

12#_WLAN 5.2GHz_802.11a 6Mbps_Back_0mm_Ch40

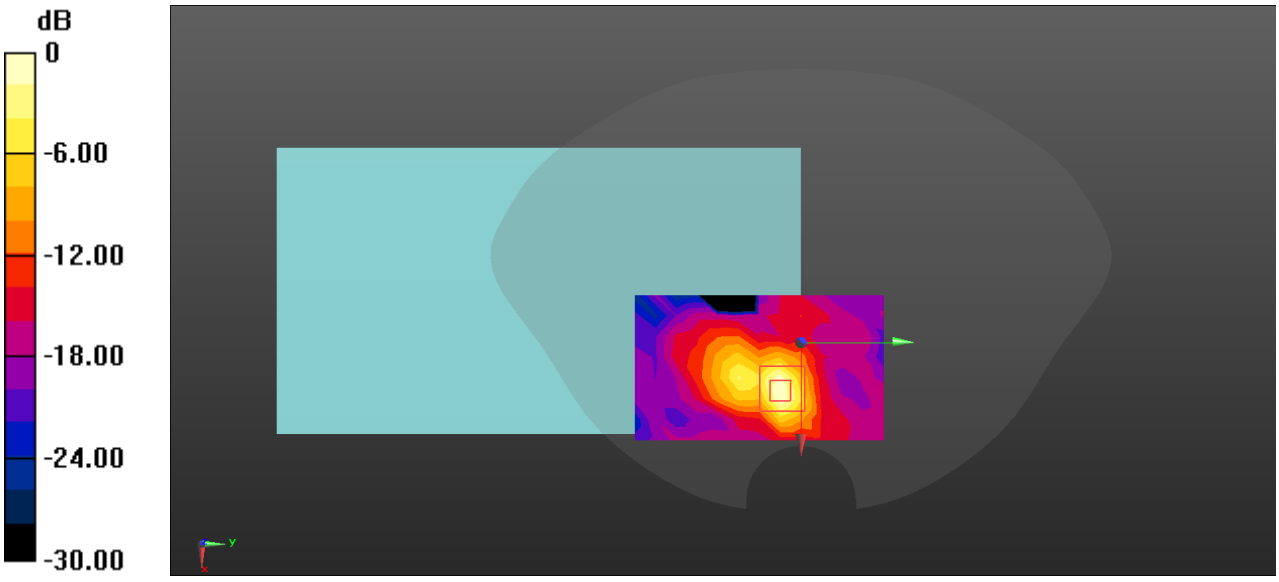
Communication System: UID 0, WIFI 5G (0); Frequency: 5200 MHz;Duty Cycle: 1:1.030
Medium parameters used: f = 5200 MHz; σ = 4.693 S/m; ε_r = 36.511; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(5.25, 5.25, 5.25); Calibrated: 3/26/2024;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 3/26/2024
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437)

Area Scan (8x13x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.757 W/kg

Zoom Scan (9x9x17)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 2.531 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.996 W/kg
SAR(1 g) = 0.450 W/kg; SAR(10 g) = 0.158 W/kg
Maximum value of SAR (measured) = 0.820 W/kg



0 dB = 0.820 W/kg = -0.86 dBW/kg

13#_WLAN 5.3GHz_802.11a 6Mbps_Back_0mm_Ch56

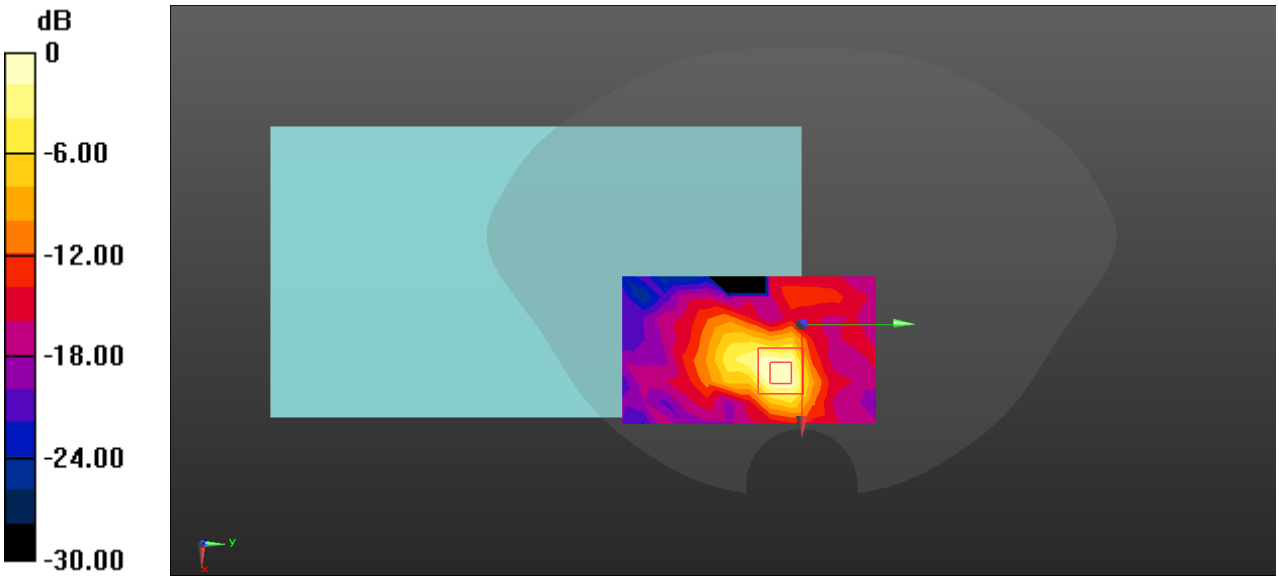
Communication System: UID 0, WIFI 5G (0); Frequency: 5280 MHz;Duty Cycle: 1:1.026
Medium parameters used: f = 5280 MHz; σ = 4.765 S/m; ε_r = 36.412; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(5.25, 5.25, 5.25); Calibrated: 3/26/2024;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 3/26/2024
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437)

Area Scan (8x13x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.660 W/kg

Zoom Scan (9x9x17)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 2.534 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 1.19 W/kg
SAR(1 g) = 0.530 W/kg; SAR(10 g) = 0.182 W/kg
Maximum value of SAR (measured) = 0.969 W/kg



0 dB = 0.969 W/kg = -0.14 dBW/kg

14#_WLAN 5.6GHz_802.11a 6Mbps_Back_0mm_Ch116

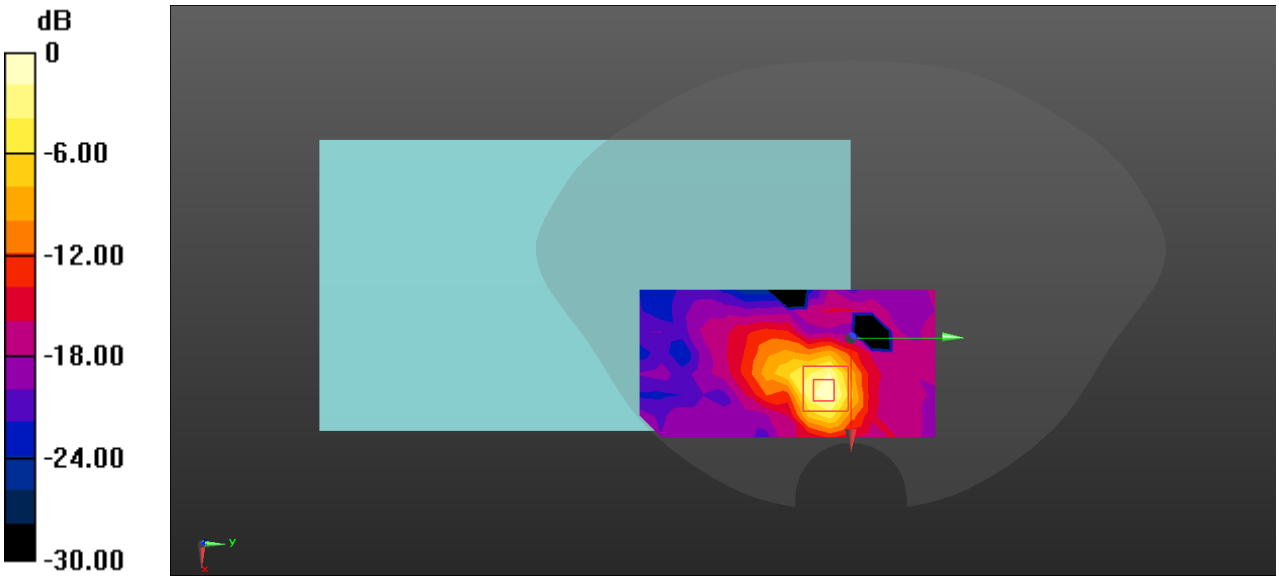
Communication System: UID 0, WIFI 5G (0); Frequency: 5580 MHz;Duty Cycle: 1:1.028
Medium parameters used: f = 5580 MHz; σ = 5.068 S/m; ε_r = 36.027; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(4.63, 4.63, 4.63); Calibrated: 3/26/2024;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 3/26/2024
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437)

Area Scan (8x15x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.836 W/kg

Zoom Scan (7x7x17)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 1.916 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 1.11 W/kg
SAR(1 g) = 0.508 W/kg; SAR(10 g) = 0.180 W/kg
Maximum value of SAR (measured) = 0.925 W/kg



0 dB = 0.925 W/kg = -0.34 dBW/kg

15#_WLAN 5.8GHz_802.11a 6Mbps_Back_0mm_Ch157

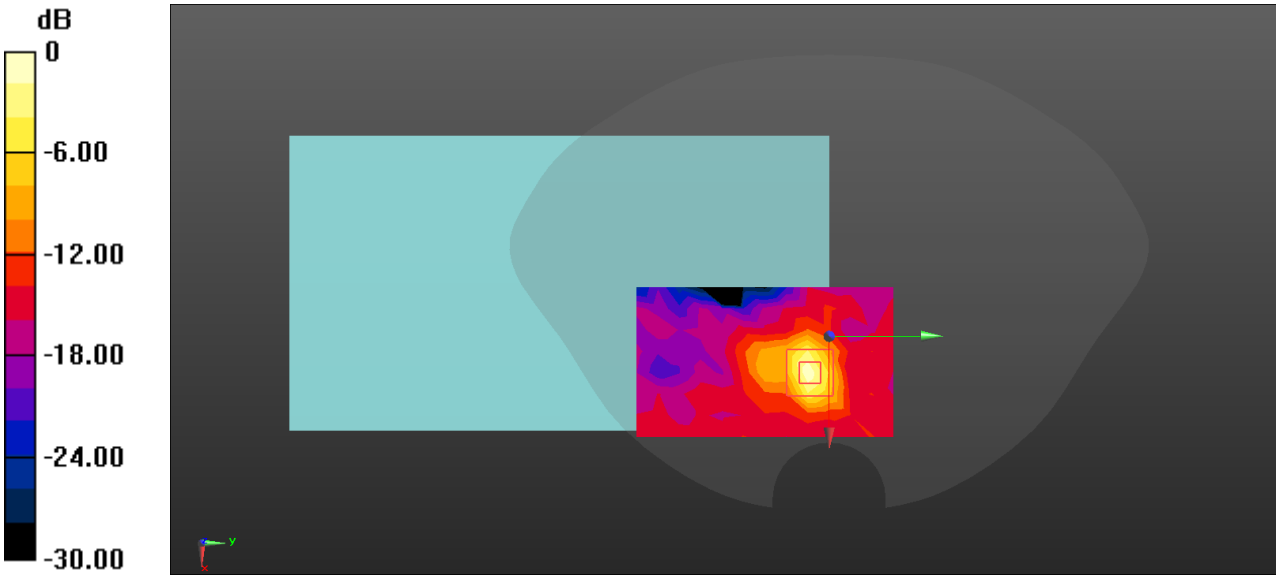
Communication System: UID 0, WIFI 5G (0); Frequency: 5785 MHz;Duty Cycle: 1:1.026
Medium parameters used: f = 5785 MHz; σ = 5.291 S/m; ε_r = 35.744; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(4.78, 4.78, 4.78); Calibrated: 3/26/2024;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 3/26/2024
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437)

Area Scan (8x13x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.678 W/kg

Zoom Scan (7x7x17)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 2.133 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.838 W/kg
SAR(1 g) = 0.333 W/kg; SAR(10 g) = 0.108 W/kg
Maximum value of SAR (measured) = 0.667 W/kg



0 dB = 0.678 W/kg = -1.69 dBW/kg

16#_Bluetooth_DH5 1Mbps_Back_0mm_Ch39

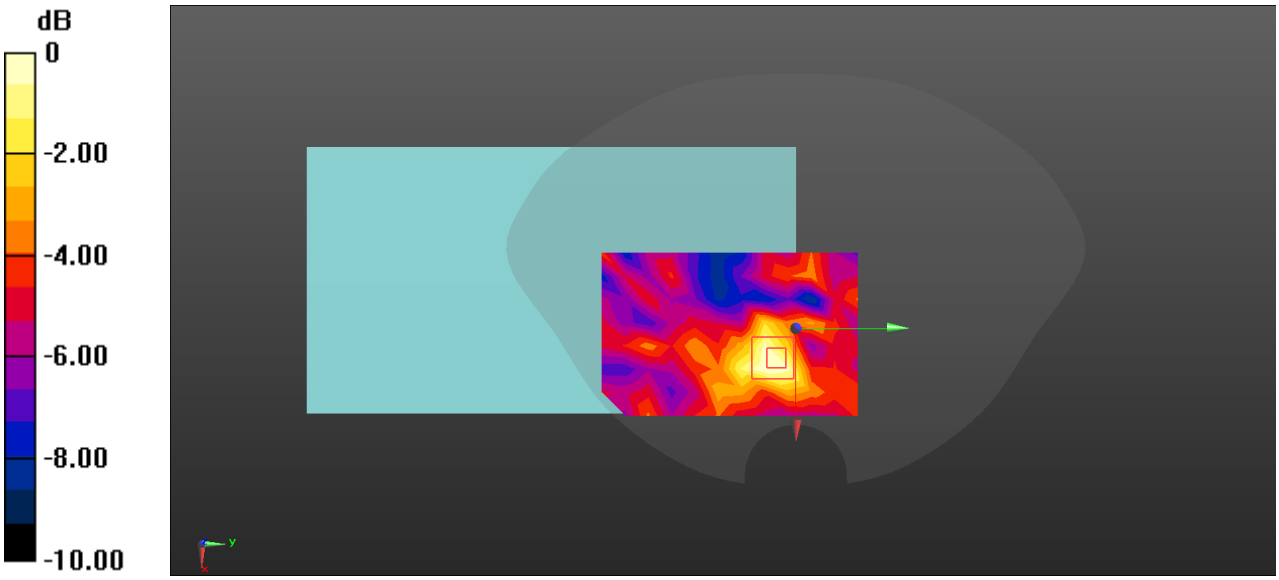
Communication System: UID 0, Bluetooth (0); Frequency: 2441 MHz;Duty Cycle: 1:1.314
Medium parameters used: f = 2441 MHz; σ = 1.855 S/m; ε_r = 38.738; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(7.27, 7.27, 7.27); Calibrated: 3/26/2024;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn527; Calibrated: 3/26/2024
- Phantom: Twin-SAM; Type: QD 000 P41 Ax; Serial: 1963
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7437)

Area Scan (8x12x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.0154 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.982 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.0240 W/kg
SAR(1 g) = 0.016 W/kg; SAR(10 g) = 0.00976 W/kg
Maximum value of SAR (measured) = 0.0212 W/kg



0 dB = 0.0212 W/kg = -16.74 dBW/kg

APPENDIX B MEASUREMENT UNCERTAINTY

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

Measurement uncertainty evaluation for IEEE 1528:2013 SAR test

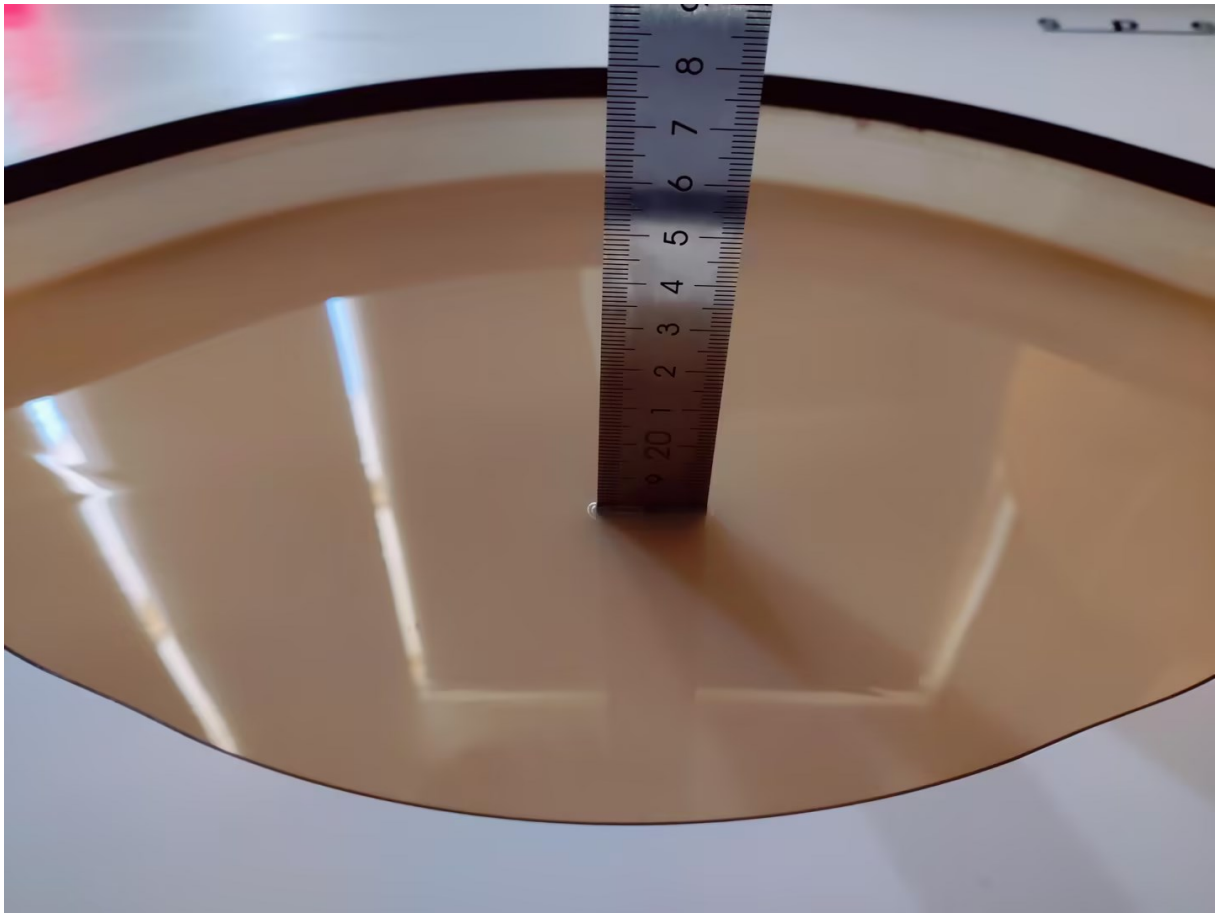
Source of uncertainty	Tolerance/ uncertainty ± %	Probability distribution	Divisor	ci (1 g)	ci (10 g)	Standard uncertainty ± %, (1 g)	Standard uncertainty ± %, (10 g)
Measurement system							
Probe calibration	6.55	N	1	1	1	6.6	6.6
Axial Isotropy	4.7	R	√3	1	1	2.7	2.7
Hemispherical Isotropy	9.6	R	√3	0	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 ambient conditions – 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	6.3	N	1	1	1	6.3	6.3
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)						24.3	23.9

Measurement uncertainty evaluation for IEC 62209-2:2010 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	6.6	6.6
Axial Isotropy	4.7	R	√3	1	1	2.7	2.7
Hemispherical Isotropy	9.6	R	√3	0	0	0.0	0.0
Linearity	4.7	R	√3	1	1	2.7	2.7
Modulation Response	0.0	R	√3	1	1	0.0	0.0
Detection limits	1.0	R	√3	1	1	0.6	0.6
Boundary effect	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 ambient conditions – 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							
Device holder Uncertainty	6.3	N	1	1	1	6.3	6.3
Test sample positioning	2.8	N	1	1	1	2.8	2.8
Power scaling	4.5	R	√3	1	1	2.6	2.6
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
Algorithm for correcting SAR for deviations in permittivity and conductivity	1.9	N	1	1	0.84	1.1	0.9
Liquid conductivity (meas.)	2.5	N	1	0.64	0.43	1.6	1.1
Liquid permittivity (meas.)	2.5	N	1	0.6	0.49	1.5	1.2
Temp. unc. - Conductivity	1.7	R	√3	0.78	0.71	0.8	0.7
Temp. unc. - Permittivity	0.3	R	√3	0.23	0.26	0.0	0.0
Combined standard uncertainty		RSS				12.2	12.1
Expanded uncertainty 95 % confidence interval)						24.5	24.2

APPENDIX C EUT TEST POSITION PHOTOS

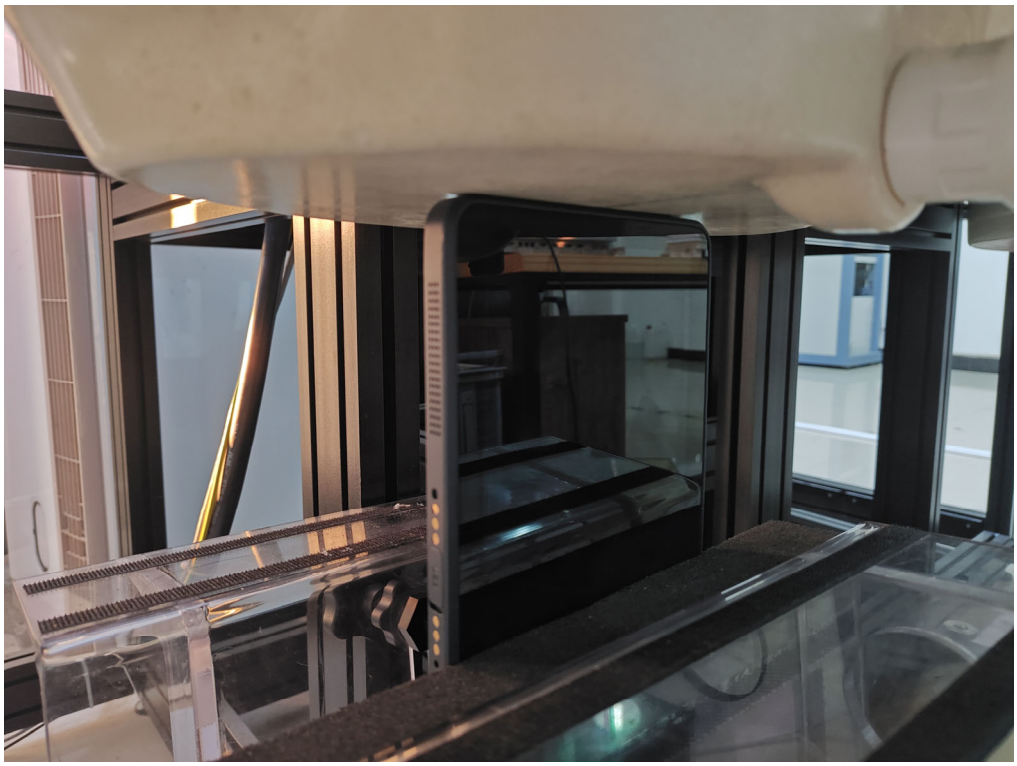
Liquid depth ≥ 15cm



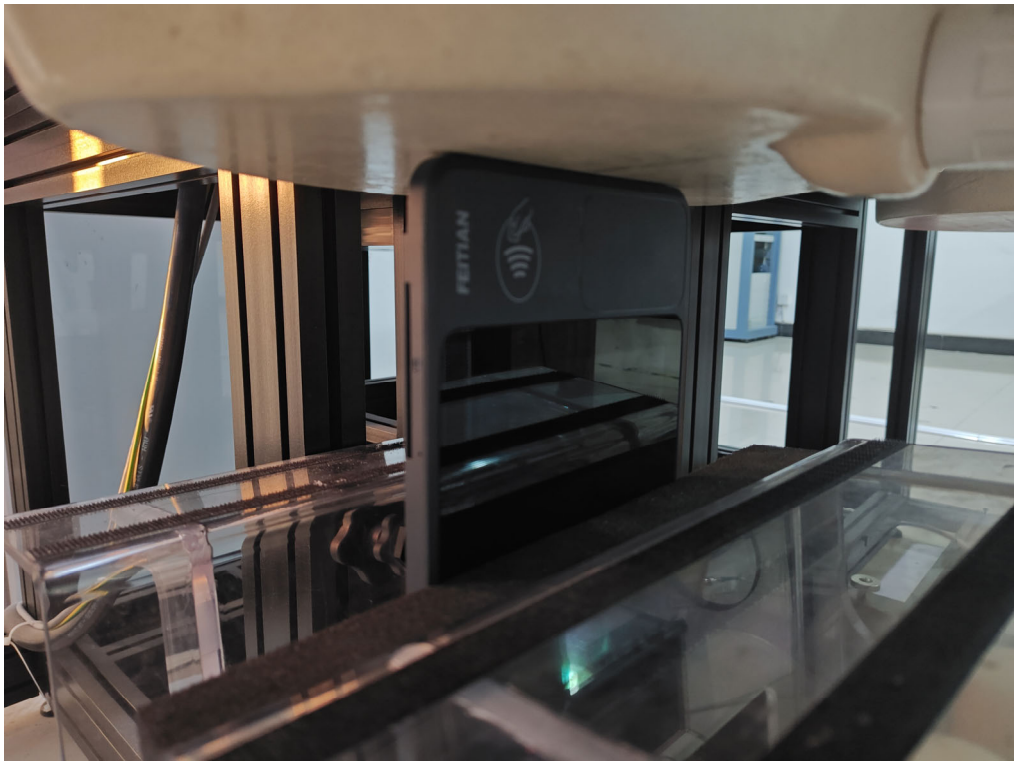
WWAN Front (0mm)

WWAN Back (0mm)

WWAN Left (0mm)



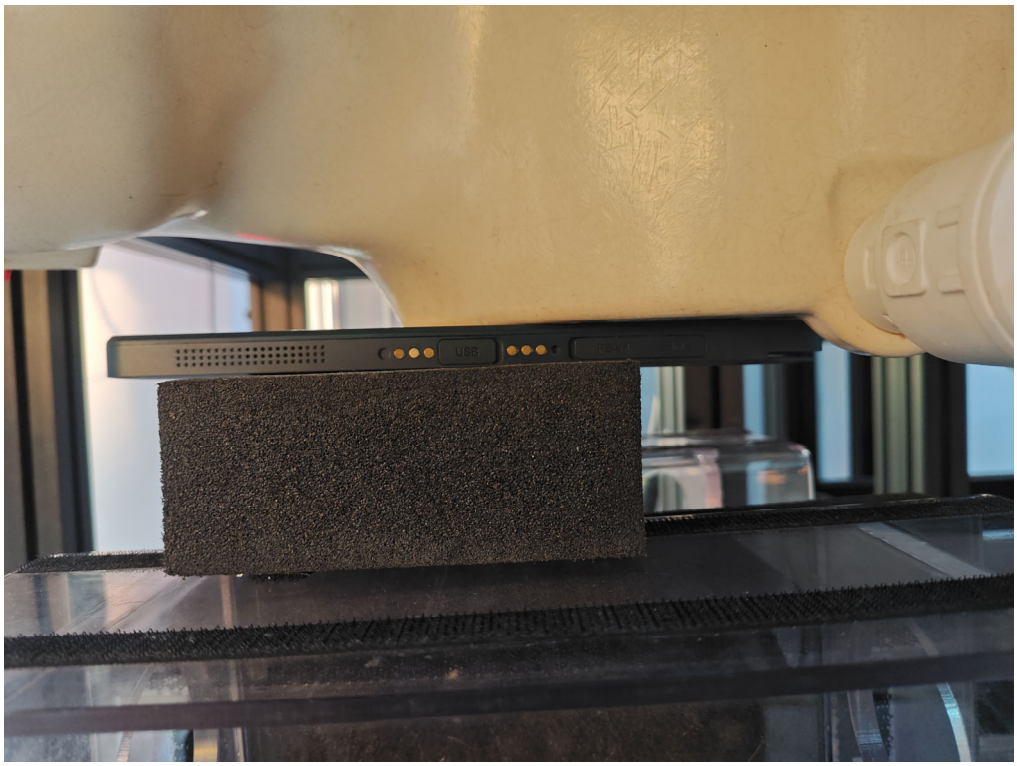
WLAN Right (0mm)



WWAN Top (0mm)

WWAN Bottom (0mm)

WLAN Front (0mm)



WLAN Back (0mm)

WLAN Top (0mm)

APPENDIX D CALIBRATION CERTIFICATES

Please Refer to the Attachment.

Declarations

1. The laboratory is not responsible for the authenticity of any information provided by the applicant. Information from the applicant that may affect test results is marked with "★".

2. The test data was only valid for the test sample(s).

3. This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.

4. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

5. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor k=2 with the 95.45% confidence interval.

6. This report may contain standards and test items that are not covered by the accreditation scope and shall be marked with an asterisk "▲".

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