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BACL Bay Area Compliance Labs Corp.

SAR EVALUATION REPORT

For

Shanghai Xiangcheng Communication Technology Co.,Ltd

6th Floor, Building 10, No.3000 Longdong Avenue, Pudong New District, Shanghai, China

FCC ID: 2A2UUP8S

Report Type:	**Product Name:**
Original Report	SumUp Terminal

Report Number:	RKSA240808001-20B
Report Date:	2025-04-17
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REPORT REVISION HISTORY

Number of Revisions	Report No.	Version	Issue Date	Description
0	RKSA240808001-20B	R1V1	2025-04-17	Initial Release

EUT Information	
Applicant:	Shanghai Xiangcheng Communication Technology 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 BLE NFC
Power Supply:	DC 7.6V from battery
Normal Operation:	Limbs/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 12: 699-716 MHz(TX), 729-746 MHz(RX) LTE Band 13: 777-787 MHz(TX), 746-756 MHz(RX) LTE Band 17: 704-716 MHz(TX), 734-746 MHz(RX) LTE Band 25: 1850-1915 MHz(TX), 1930-1995 MHz(RX) LTE Band 26: 814-849 MHz(TX), 859-894 MHz(RX) LTE Band 38: 2570-2620 MHz(TX), 2570-2620 MHz(RX) LTE Band 41: 2535-2655 MHz(TX), 2535-2655MHz(RX) LTE Band 66: 1710-1780 MHz(TX), 2110-2200 MHz(RX) LTE Band 71: 663-698 MHz(TX), 617-652 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 (5.8G) : 5725~5850 MHz(TX&RX) BLE: 2402 MHz-2480 MHz(TX&RX) NFC:13.56MHz
Tested Model:	P8
Product name:	SumUp Terminal
Serial Number:	RKSA240808001-1
Test Date:	2025-02-17~2025-02-22

MODE	Max. SAR Level(s) Reported(W/kg)	Limit
GSM850	1.51 W/kg 10g Limbs SAR 0.74 W/kg 1g Body SAR	1.6 W/kg(Body) 4.0 W/kg(Limbs)
DCS1900	1.47 W/kg 10g Limbs SAR 0.55 W/kg 1g Body SAR	
WCDMA Band II	1.01 W/kg 10g Limbs SAR 0.27 W/kg 1g Body SAR	
WCDMA Band IV	0.86 W/kg 10g Limbs SAR 0.27 W/kg 1g Body SAR	
WCDMA Band V	0.86 W/kg 10g Limbs SAR 0.45 W/kg 1g Body SAR	
LTE Band 25&2	1.39 W/kg 10g Limbs SAR 0.45 W/kg 1g Body SAR	
LTE Band 66&4	0.94 W/kg 10g Limbs SAR 0.31 W/kg 1g Body SAR	
LTE Band 26&5	0.85 W/kg 10g Limbs SAR 0.50 W/kg 1g Body SAR	
LTE Band 7	1.08 W/kg 10g Limbs SAR 0.63 W/kg 1g Body SAR	
LTE Band 12&17	0.89 W/kg 10g Limbs SAR 0.36 W/kg 1g Body SAR	
LTE Band 13	1.04 W/kg 10g Limbs SAR 0.54 W/kg 1g Body SAR	
LTE Band 71	0.69 W/kg 10g Limbs SAR 0.31 W/kg 1g Body SAR	
LTE Band 41&38	1.07 W/kg 10g Limbs SAR 0.48 W/kg 1g Body SAR	
2.4GHz WLAN	0.87 W/kg 10g Limbs SAR 0.23 W/kg 1g Body SAR	
5.2GHz WLAN	0.33 W/kg 10g Limbs SAR 0.33 W/kg 1g Body SAR	
5.3GHz WLAN	0.46 W/kg 10g Limbs SAR 0.31 W/kg 1g Body SAR	
5.8GHz WLAN	0.33 W/kg 10g Limbs SAR 0.24 W/kg 1g Body SAR	
Simultaneous	2.38 W/kg 10g Limbs SAR 1.07 W/kg 1g Body SARc	

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 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.**

All measurement and test data in this report was gathered from production sample serial number: RKSA240808001-1 (Assigned by the BACL (Kunshan). The EUT supplied by the applicant was received on 2024-08-08.)

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 and 4.0 W/kg for 10g Extremity SAR applied to the EUT.

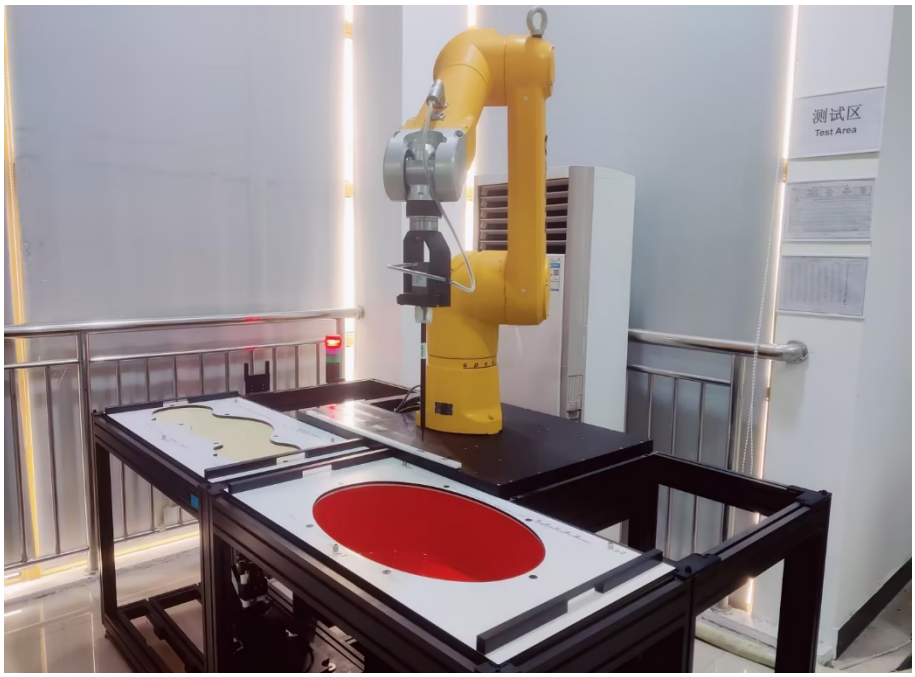
FACILITIES

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.

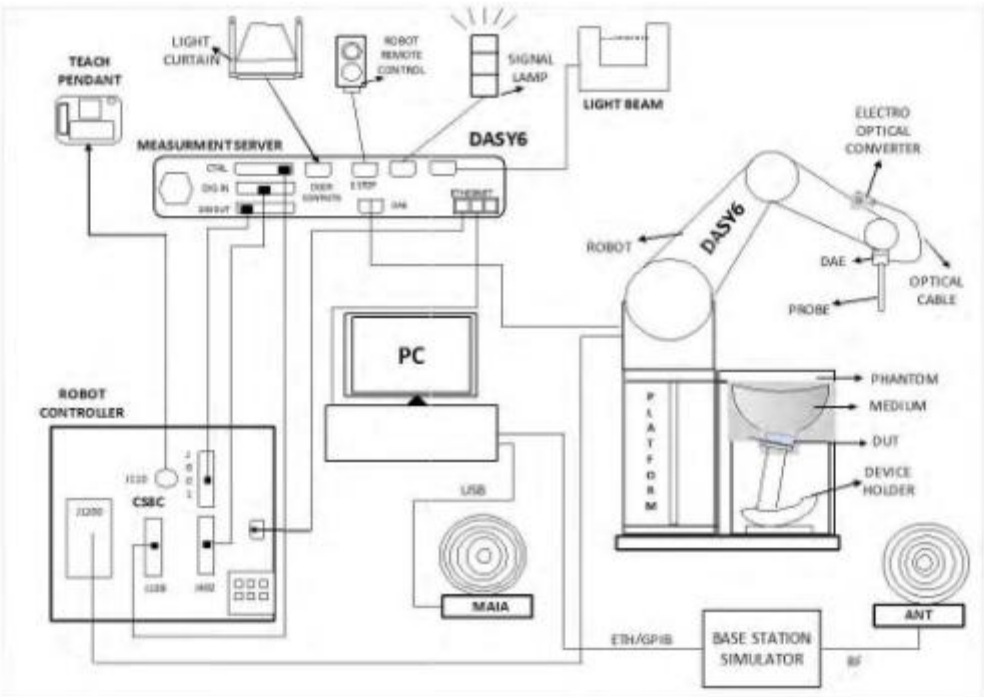
DESCRIPTION OF TEST SYSTEM

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.

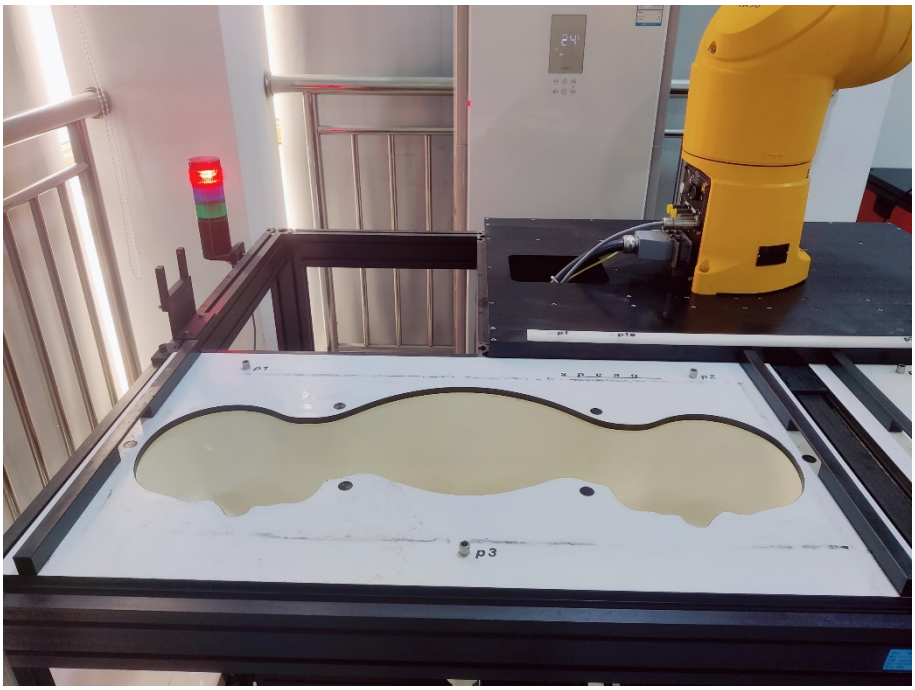
The mechanical probe mounting device includes two different sensor systems for frontal and sideways probe contacts. They are used for mechanical surface detection and probe collision detection.

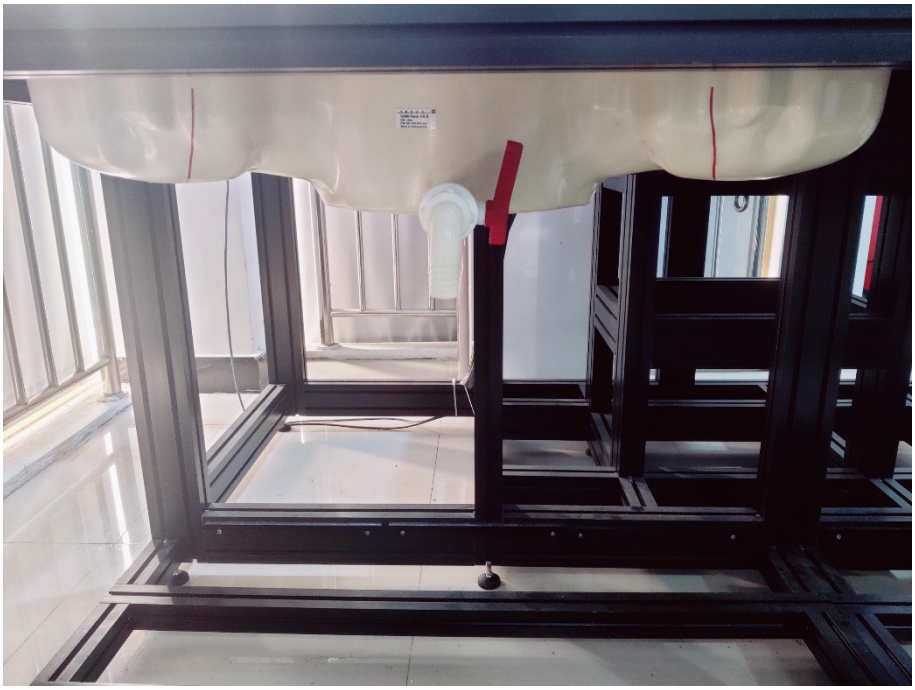
The input impedance of both the DAE4 as well as of the DAE3 box is 200MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

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

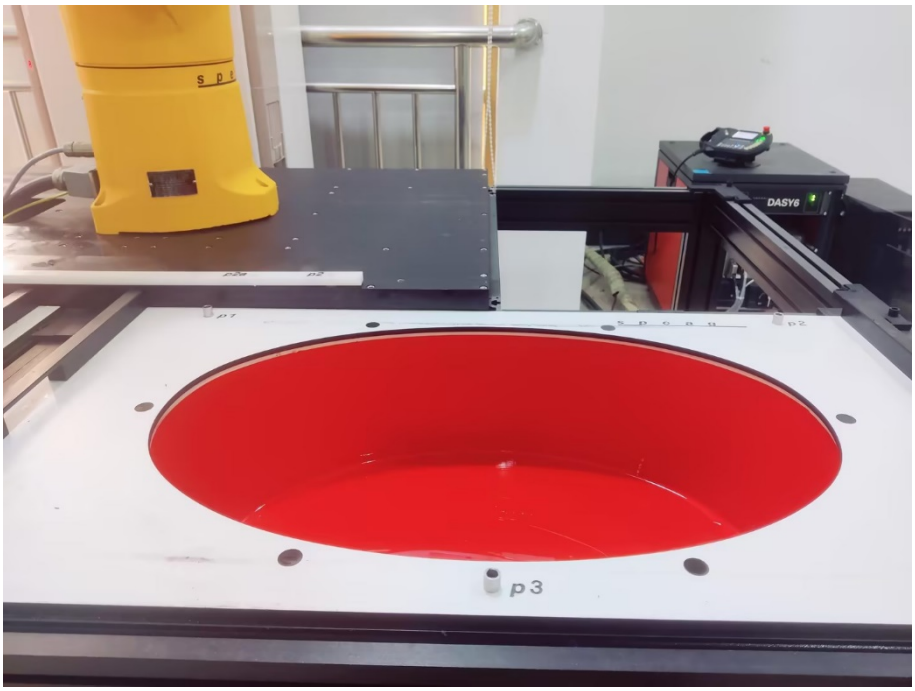




The SAM Twin Phantom (shown in front of DASY6) is a fiberglass shell phantom with shell thickness 2 mm, except in the ear region where the thickness is increased to 6 mm. The phantom has three measurement areas: 1) Left Head, 2) Right Head, and 3) Flat Section. For larger devices, the use of the ELI-Phantom (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

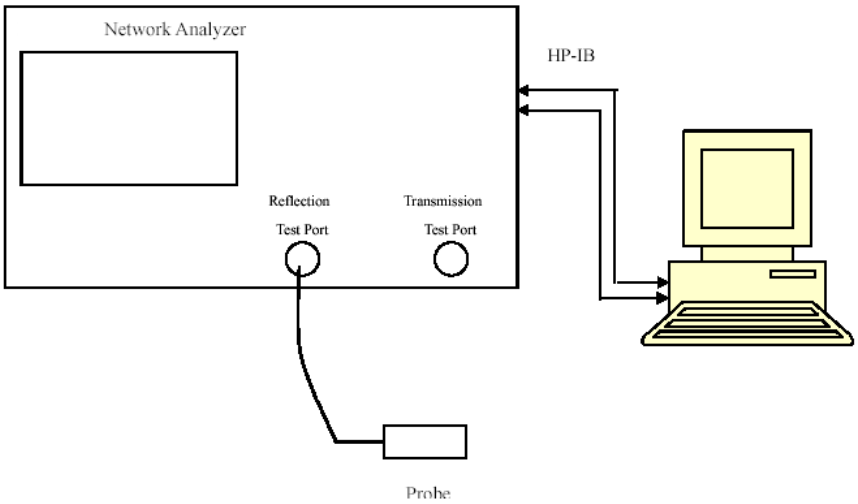
Equipment	Model	S/N	Calibration Date	Calibration Due Date
DASY5 Test Software	DASY52 52.10.2	N/A	N/A	N/A
DASY6 Measurement Server	DASY6 6.0.31	N/A	N/A	N/A
Data Acquisition Electronics	DAE4	527	2024/03/26	2025/03/25
E-Field Probe	EX3DV4	7557	2024/03/26	2025/03/25
Mounting Device	MD4HHTV5	SD 000 H01 KA	N/A	N/A
Twin-SAM Phantom	QD 000 P41 Ax	1963	N/A	N/A
Dipole, 750MHz	D750V3	1166	2024/06/17	2027/06/16
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

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

FCC KDB Publication Number: “KDB865664 D01 SAR Measurement 100 MHz to 6 GHz”

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

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	
750	Simulated Tissue Liquid Head	0.906	42.224	0.890	41.900	1.80	0.77	±5
707.5	Simulated Tissue Liquid Head	0.875	42.830	0.887	42.112	-1.35	1.70	±5
704	Simulated Tissue Liquid Head	0.872	42.880	0.887	42.133	-1.69	1.77	±5
711	Simulated Tissue Liquid Head	0.878	42.782	0.887	42.097	-1.01	1.63	±5
782	Simulated Tissue Liquid Head	0.929	41.824	0.892	41.711	4.15	0.27	±5
680.5	Simulated Tissue Liquid Head	0.851	43.200	0.885	42.252	-3.84	2.24	±5
673	Simulated Tissue Liquid Head	0.844	43.305	0.885	42.293	-4.63	2.39	±5
688	Simulated Tissue Liquid Head	0.858	43.095	0.886	42.215	-3.16	2.08	±5

Liquid Verification above was performed on 2025/02/17.

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	
835	Simulated Tissue Liquid Head	0.896	41.125	0.900	41.500	-0.44	-0.90	±5
836.6	Simulated Tissue Liquid Head	0.898	41.093	0.901	41.500	-0.33	-0.98	±5
824.2	Simulated Tissue Liquid Head	0.886	41.258	0.898	41.512	-1.34	-0.61	±5
848.8	Simulated Tissue Liquid Head	0.909	40.944	0.909	41.500	0.00	-1.34	±5
826.4	Simulated Tissue Liquid Head	0.888	41.230	0.898	41.508	-1.11	-0.67	±5
846.6	Simulated Tissue Liquid Head	0.907	40.972	0.907	41.500	0.00	-1.27	±5
831.5	Simulated Tissue Liquid Head	0.893	41.164	0.899	41.501	-0.67	-0.81	±5
821.5	Simulated Tissue Liquid Head	0.884	41.281	0.897	41.517	-1.45	-0.57	±5
841.5	Simulated Tissue Liquid Head	0.902	41.034	0.903	41.500	-0.11	-1.12	±5

Liquid Verification above was performed on 2025/02/18.

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		σ (S/m)	εr	σ (S/m)	εr	Δ σ	Δ εr	
1750	Simulated Tissue Liquid Head	1.367	41.375	1.370	40.100	-0.22	3.18	±5
1732.6	Simulated Tissue Liquid Head	1.349	41.424	1.377	40.065	-2.03	3.39	±5
1712.4	Simulated Tissue Liquid Head	1.325	41.511	1.364	40.104	-2.86	3.51	±5
1752.6	Simulated Tissue Liquid Head	1.369	41.371	1.388	40.034	-1.37	3.34	±5
1745	Simulated Tissue Liquid Head	1.362	41.388	1.384	40.046	-1.59	3.35	±5
1720	Simulated Tissue Liquid Head	1.334	41.472	1.369	40.089	-2.56	3.45	±5
1770	Simulated Tissue Liquid Head	1.384	41.313	1.395	40.015	-0.79	3.24	±5

Liquid Verification above was performed on 2025/02/19.

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		σ (S/m)	εr	σ (S/m)	εr	Δ σ	Δ εr	
1900	Simulated Tissue Liquid Head	1.438	40.291	1.400	40.000	2.71	0.73	±5
1880	Simulated Tissue Liquid Head	1.417	40.360	1.400	40.000	1.21	0.90	±5
1850.2	Simulated Tissue Liquid Head	1.387	40.491	1.400	40.000	-0.93	1.23	±5
1909.8	Simulated Tissue Liquid Head	1.447	40.251	1.400	40.000	3.36	0.63	±5
1852.4	Simulated Tissue Liquid Head	1.390	40.483	1.400	40.000	-0.71	1.21	±5
1907.6	Simulated Tissue Liquid Head	1.445	40.261	1.400	40.000	3.21	0.65	±5
1860	Simulated Tissue Liquid Head	1.397	40.448	1.400	40.000	-0.21	1.12	±5
1905	Simulated Tissue Liquid Head	1.443	40.268	1.400	40.000	3.07	0.67	±5

Liquid Verification above was performed on 2025/02/20.

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	Simulated Tissue Liquid Head	1.868	38.695	1.800	39.200	3.78	-1.29	±5
2535	Simulated Tissue Liquid Head	1.963	38.323	1.888	39.084	3.97	-1.95	±5
2510	Simulated Tissue Liquid Head	1.935	38.436	1.861	39.117	3.98	-1.74	±5
2545	Simulated Tissue Liquid Head	1.974	38.286	1.899	39.071	3.95	-2.01	±5
2437	Simulated Tissue Liquid Head	1.853	38.757	1.788	39.219	3.64	-1.18	±5
2412	Simulated Tissue Liquid Head	1.824	38.879	1.765	39.256	3.34	-0.96	±5
2462	Simulated Tissue Liquid Head	1.881	38.632	1.812	39.183	3.81	-1.41	±5

Liquid Verification above was performed on 2025/02/21.

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	Simulated Tissue Liquid Head	2.048	37.758	1.960	39.000	4.49	-3.18	±5
2595	Simulated Tissue Liquid Head	2.042	37.771	1.955	39.006	4.45	-3.17	±5
2645	Simulated Tissue Liquid Head	2.101	37.575	2.009	38.943	4.58	-3.51	±5
2560	Simulated Tissue Liquid Head	1.999	37.920	1.916	39.051	4.33	-2.90	±5
2570	Simulated Tissue Liquid Head	2.011	37.877	1.927	39.038	4.36	-2.97	±5

Liquid Verification above was performed on 2025/02/21.

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	Simulated Tissue Liquid Head	4.845	37.011	4.710	35.900	2.87	3.09	±5
5200	Simulated Tissue Liquid Head	4.790	37.082	4.660	36.000	2.79	3.01	±5
5180	Simulated Tissue Liquid Head	4.770	37.110	4.639	36.020	2.82	3.03	±5
5240	Simulated Tissue Liquid Head	4.837	37.022	4.701	35.960	2.89	2.95	±5
5280	Simulated Tissue Liquid Head	4.876	36.959	4.740	35.920	2.87	2.89	±5
5260	Simulated Tissue Liquid Head	4.853	36.995	4.721	35.940	2.80	2.94	±5
5320	Simulated Tissue Liquid Head	4.918	36.897	4.780	35.880	2.89	2.83	±5

Liquid Verification above was performed on 2025/02/22.

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	Simulated Tissue Liquid Head	5.378	36.259	5.220	35.400	3.03	2.43	±5
5785	Simulated Tissue Liquid Head	5.414	36.216	5.255	35.315	3.03	2.55	±5
5745	Simulated Tissue Liquid Head	5.372	36.263	5.215	35.355	3.01	2.57	±5
5825	Simulated Tissue Liquid Head	5.458	36.151	5.296	35.275	3.06	2.48	±5

Liquid Verification above was performed on 2025/02/22.

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.

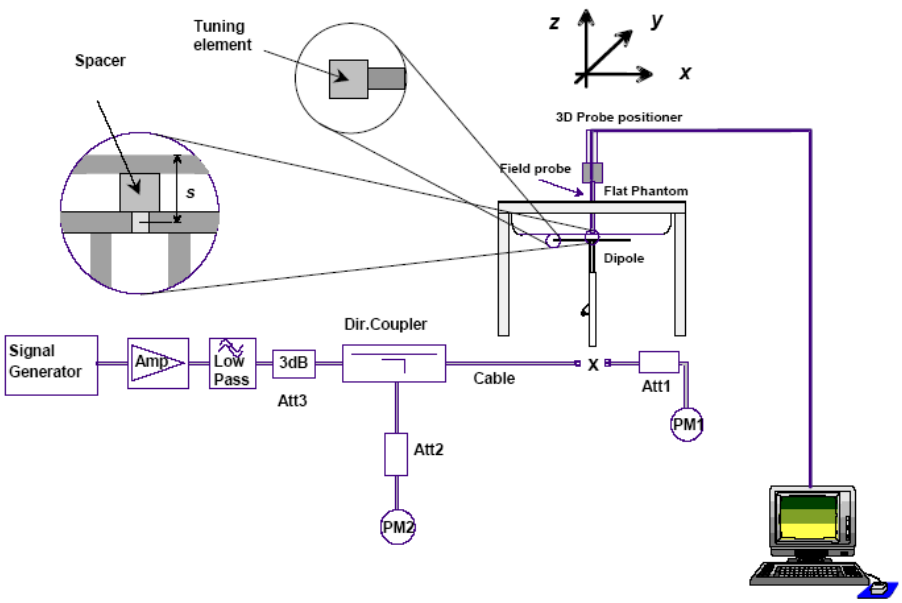
The spacing distance*s* in the **System Verification Setup Block Diagram** is given by the following:

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 (%)
2025/02/17	750MHz	Head	250	1g	2.20	8.8	8.45	4.14	±10
2025/02/18	835MHz	Head	250	1g	2.36	9.44	9.53	-0.94	±10
2025/02/19	1750MHz	Head	250	1g	9.39	37.56	36.00	4.33	±10
2025/02/20	1900MHz	Head	250	1g	9.25	37	39.20	-5.61	±10
2025/02/21	2450MHz	Head	250	1g	12.90	51.6	53.10	-2.82	±10
2025/02/21	2600MHz	Head	250	1g	14.10	56.4	54.90	2.73	±10
2025/02/22	5250MHz	Head	100	1g	7.33	73.3	79.40	-7.68	±10
2025/02/22	5750MHz	Head	100	1g	8.08	80.8	79.00	2.28	±10

Date	Frequency Band	Liquid Type	Input Power (mW)	Measured SAR (W/kg)		Normalized to 1W (W/kg)	Target Value (W/kg)	Delta (%)	Tolerance (%)
2025/02/17	750MHz	Head	250	10g	1.48	5.92	5.59	5.90	±10
2025/02/18	835MHz	Head	250	10g	1.55	6.2	6.25	-0.80	±10
2025/02/19	1750MHz	Head	250	10g	5.07	20.28	19.40	4.54	±10
2025/02/20	1900MHz	Head	250	10g	4.92	19.68	20.60	-4.47	±10
2025/02/21	2450MHz	Head	250	10g	6.31	25.24	24.90	1.37	±10
2025/02/21	2600MHz	Head	250	10g	6.40	25.6	25.10	1.99	±10
2025/02/22	5250MHz	Head	100	10g	2.06	20.6	22.70	-9.25	±10
2025/02/22	5750MHz	Head	100	10g	2.4	24	22.3	7.62	±10

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

SAR SYSTEM VALIDATION DATA

System Check_Head_750MHz

DUT: Dipole 750 MHz D750V3; Type: D750V3; Serial: D750V3 - SN:1166

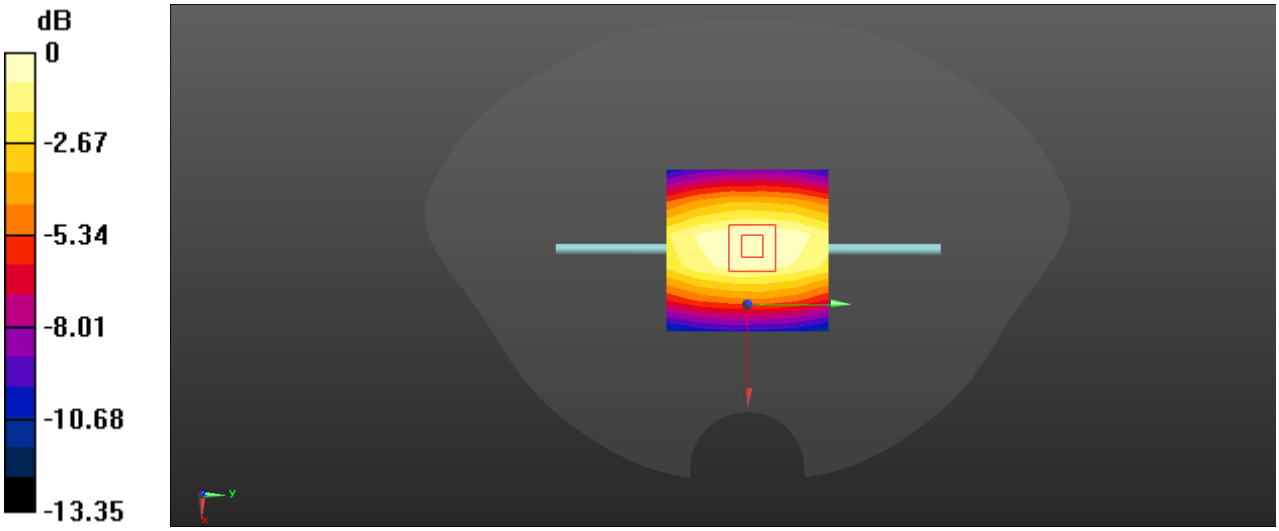
Communication System: UID 0, Systemperformance Check MHz (0); Frequency: 750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 750 MHz; σ = 0.906 S/m; ε_r = 42.224; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(10.27, 10.27, 10.27); 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 (6x6x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.38 W/kg

Pin=250mW /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 52.98 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 3.15 W/kg
SAR(1 g) = 2.2 W/kg; SAR(10 g) = 1.48 W/kg
Maximum value of SAR (measured) = 2.36 W/kg



0 dB = 2.38 W/kg = 3.77 dBW/kg

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 = 0.896 S/m; ε_r = 41.125; 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) = 2.45 W/kg

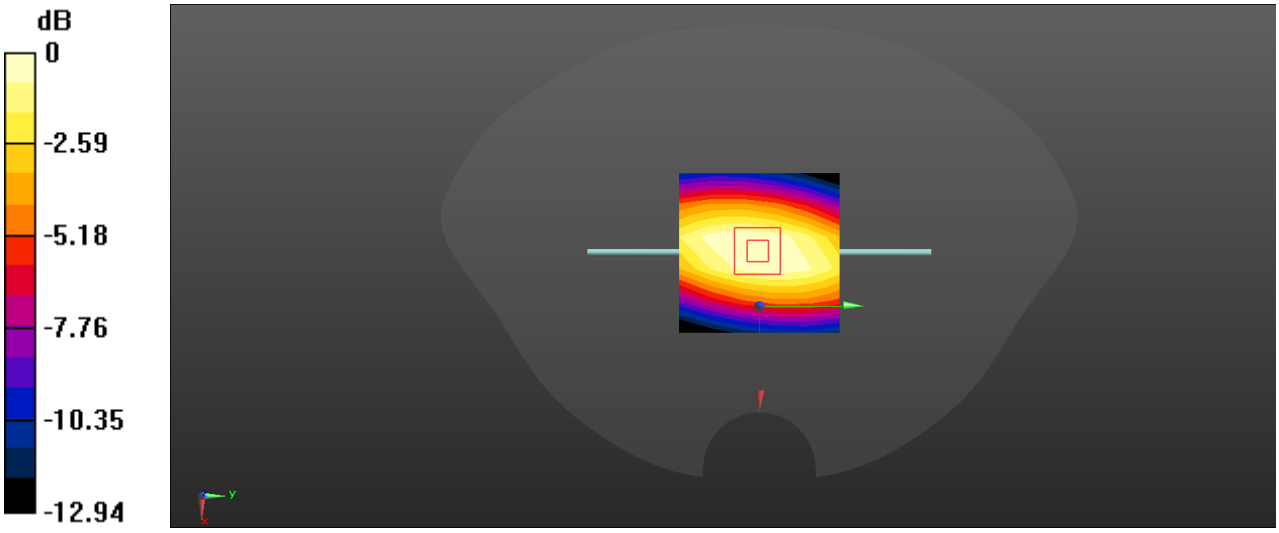
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 56.12 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 3.47 W/kg

SAR(1 g) = 2.36 W/kg; SAR(10 g) = 1.55 W/kg

Maximum value of SAR (measured) = 2.75 W/kg



0 dB = 2.75 W/kg = 4.39 dBW/kg

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

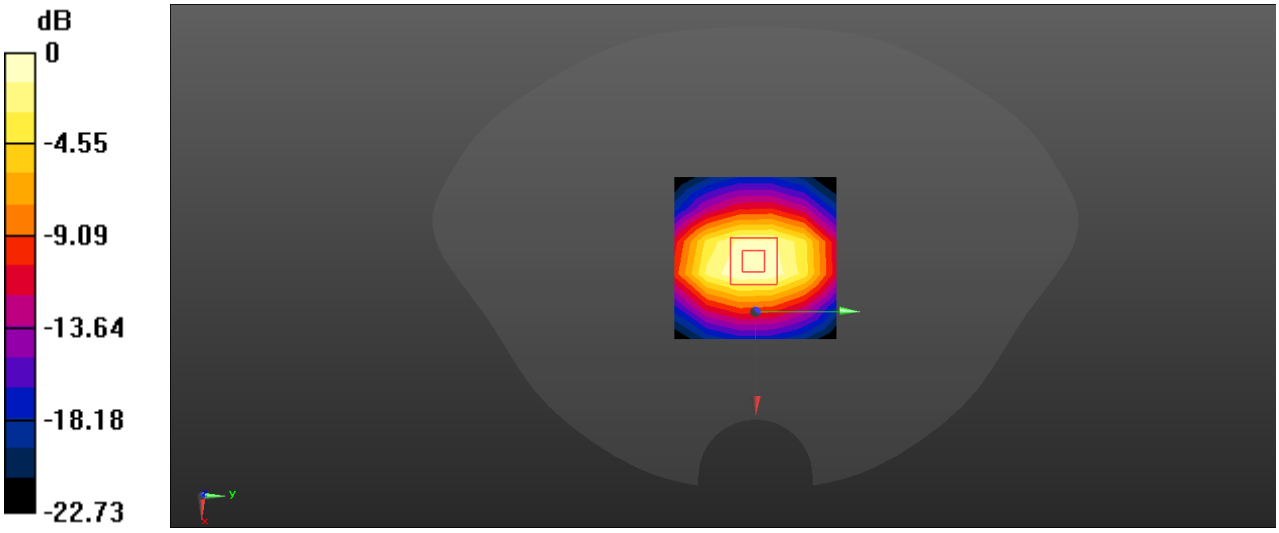
Communication System: UID 0, CW (0); Frequency: 1750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1750 MHz; σ = 1.367 S/m; ε_r = 41.375; ρ = 1000 kg/m^3

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) = 8.82 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) = 16.4 W/kg
SAR(1 g) = 9.39 W/kg; SAR(10 g) = 5.07 W/kg
Maximum value of SAR (measured) = 11.8 W/kg



0 dB = 11.8 W/kg = 10.72 dBW/kg

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

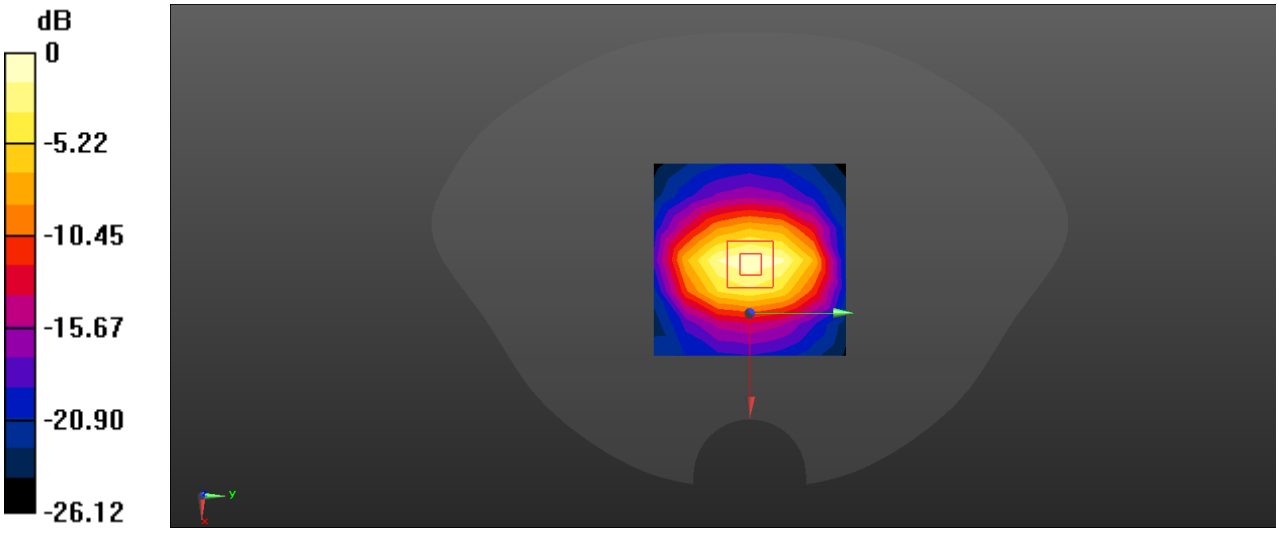
Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.438 S/m; ε_r = 40.291; ρ = 1000 kg/m^3

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) = 11.1 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 88.48 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 16.4 W/kg
SAR(1 g) = 9.25 W/kg; SAR(10 g) = 4.92 W/kg
Maximum value of SAR (measured) = 11.6 W/kg



0 dB = 11.6 W/kg = 10.64 dBW/kg

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

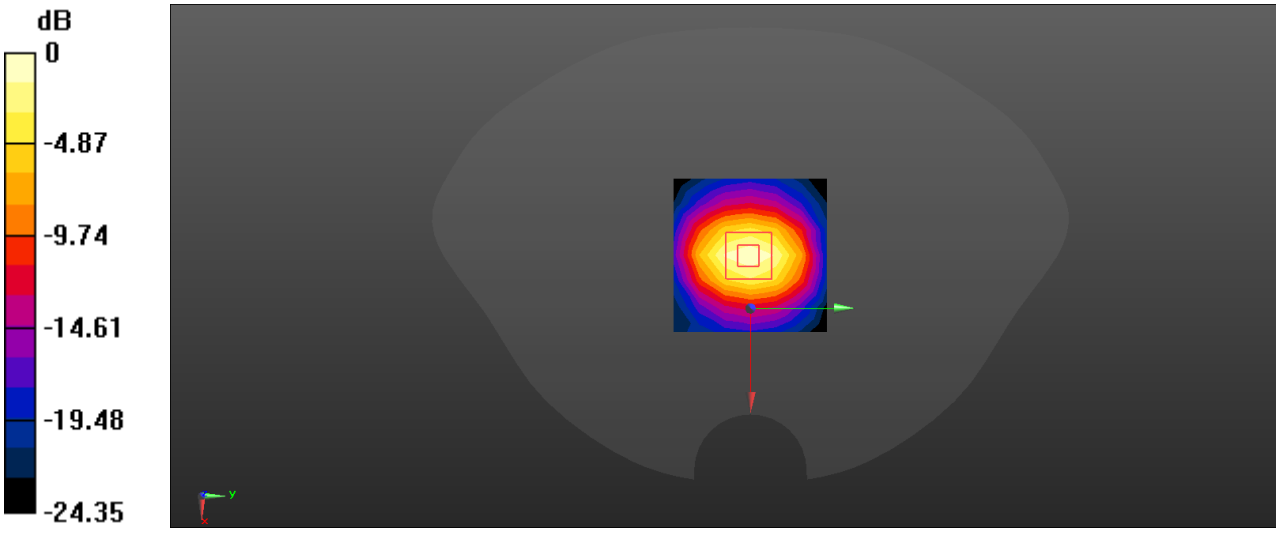
Communication System: UID 0, CW (0); Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.868 S/m; ε_r = 38.695; ρ = 1000 kg/m^3

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) = 16.8 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 95.76 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 25.1 W/kg
SAR(1 g) = 12.9 W/kg; SAR(10 g) = 6.31 W/kg
Maximum value of SAR (measured) = 16.5 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

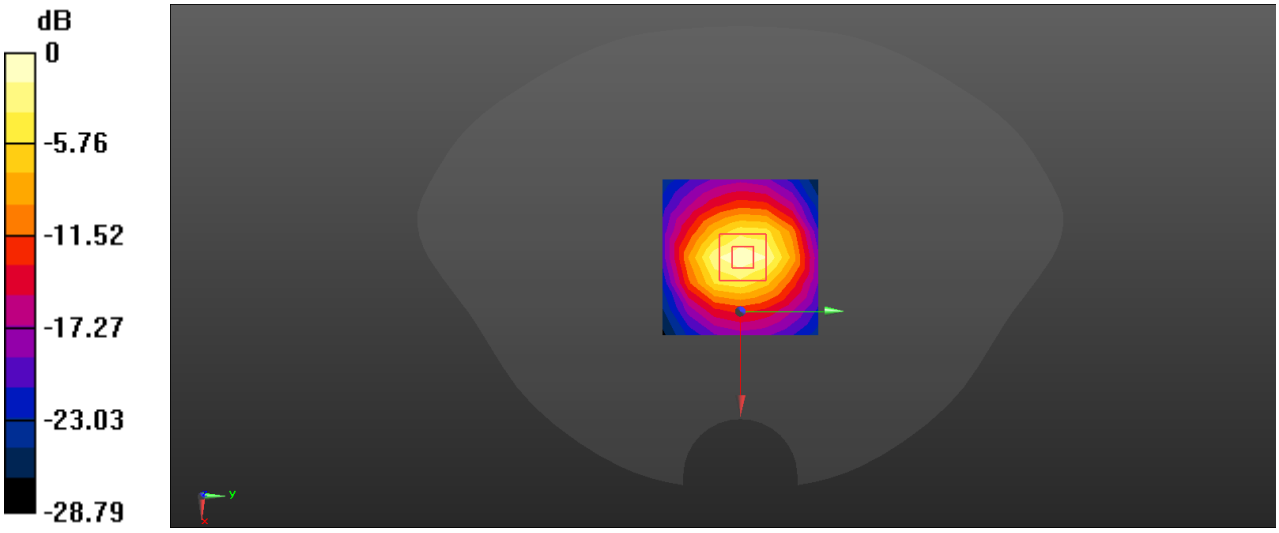
Communication System: UID 0, CW (0); Frequency: 2600 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2600 MHz; σ = 2.048 S/m; ε_r = 37.758; ρ = 1000 kg/m^3

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) = 23.8 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 112.9 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 29.3 W/kg
SAR(1 g) = 14.1 W/kg; SAR(10 g) = 6.4 W/kg
Maximum value of SAR (measured) = 23.7 W/kg



0 dB = 23.8 W/kg = 13.77 dBW/kg

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

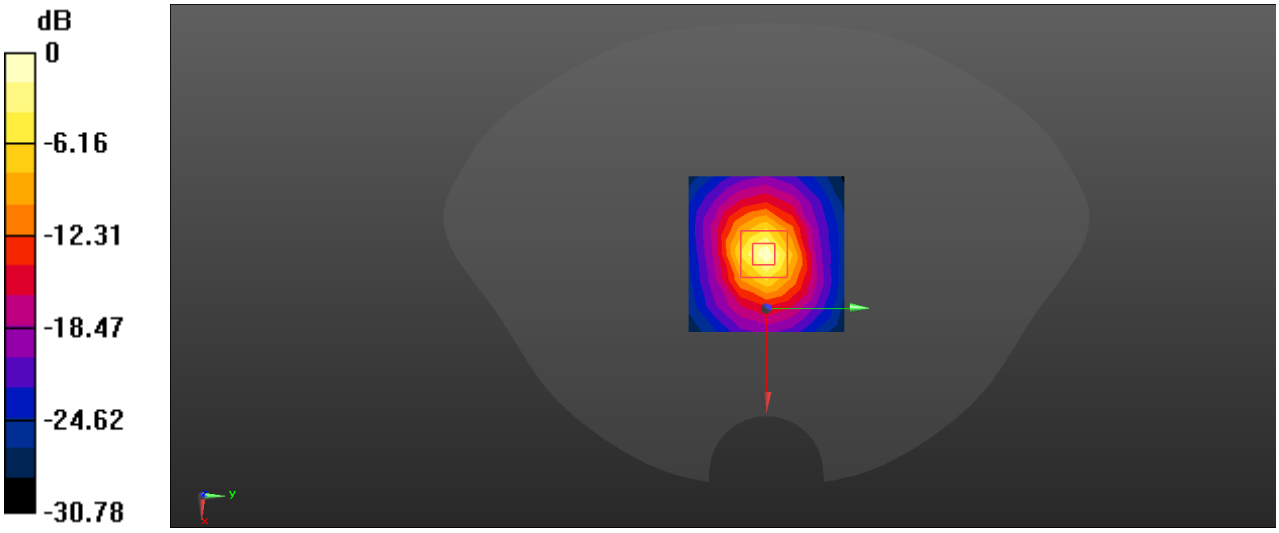
Communication System: UID 0, CW (0); Frequency: 5250 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5250 MHz; σ = 4.845 S/m; ε_r = 37.011; ρ = 1000 kg/m^3

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 (7x7x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 10.4 W/kg

Pin=100mW/Zoom Scan (7x7x17)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 64.27 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 36.0 W/kg
SAR(1 g) = 7.33 W/kg; SAR(10 g) = 2.06 W/kg
Maximum value of SAR (measured) = 10.5 W/kg



0 dB = 10.5 W/kg = 10.21 dBW/kg

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

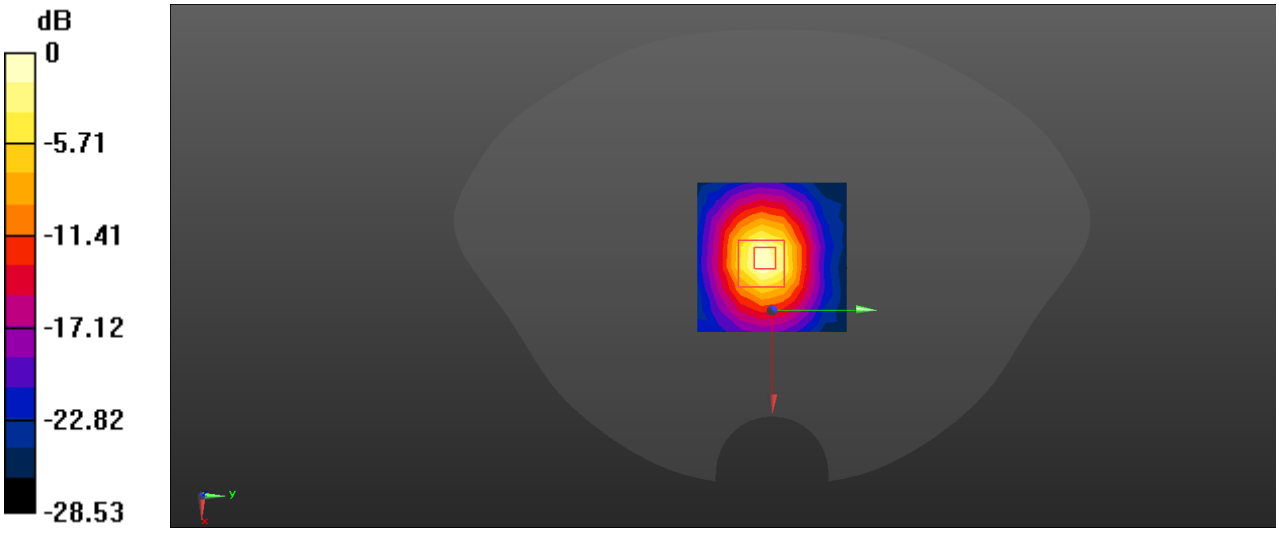
Communication System: UID 0, CW (0); Frequency: 5750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5750 MHz; σ = 5.378 S/m; ε_r = 36.259; ρ = 1000 kg/m^3

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 (8x8x1): 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 = 62.40 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 33.9 W/kg
SAR(1 g) = 8.08 W/kg; SAR(10 g) = 2.4 W/kg
Maximum value of SAR (measured) = 19.6 W/kg



0 dB = 19.6 W/kg = 12.92 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.

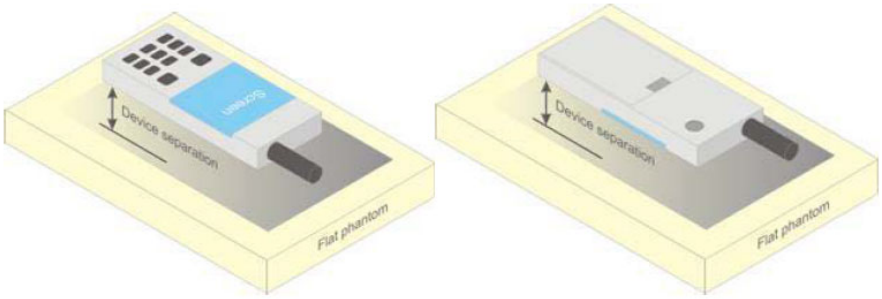


Figure 5 – Test positions for body-worn devices

Test Distance for SAR Evaluation

In this case the EUT (Equipment under Test) is set against from the phantom, the test distance is 0mm (Limbs)/5mm(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.

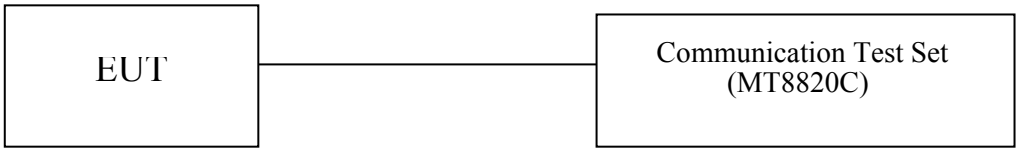
All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

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.

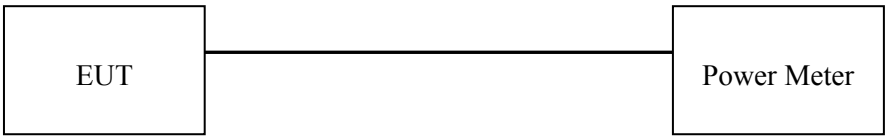
CONDUCTED OUTPUT POWER MEASUREMENT

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&BLE

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_FCls	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	

HSPA+

Sub-test	β_c (Note3)	β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	$\beta_{ed}1$: 30/15 $\beta_{ed}2$: 30/15	$\beta_{ed}3$: 24/15 $\beta_{ed}4$: 24/15	3.5	2.5	14	105	105

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c .
Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).
Note 3: DPDCH is not configured, therefore the β_c is set to 1 and β_d = 0 by default.
Note 4: β_{ed} can not be set directly; it is set by Absolute Grant Value.
Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signalled to use the extrapolation algorithm.

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

FDD-LTE

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

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

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

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

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

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

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 41/38 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	33	33
GSM850 GPRS 2 TX	32.5	32.5	32.5
GSM850 GPRS 3 TX	31	31	31
GSM850 GPRS 4 TX	29.5	29.5	29.5
GSM850 EDGE 1 TX	28	28	28
GSM850 EDGE 2 TX	28	28	28
GSM850 EDGE 3 TX	28	28	28
GSM850 EDGE 4 TX	28	28	28
PCS1900GPRS 1 TX	28.5	28.5	28.5
PCS1900GPRS 2 TX	28	28	28
PCS1900GPRS 3 TX	26	26	26
PCS1900GPRS 4 TX	25	25	25
PCS1900EDGE 1 TX	27	27	27
PCS1900EDGE 2 TX	27	27	27
PCS1900EDGE 3 TX	26	26	26
PCS1900EDGE 4 TX	25	25	25
WCDMA Band 2	22	22	22
WCDMA Band 4	22	22	22
WCDMA Band 5	23	23	23
LTE Band 2	23.5	23.5	23.5
LTE Band 25	23.5	23.5	23.5
LTE Band 4	22.7	22.7	22.7
LTE Band 66	22.7	22.7	22.7
LTE Band 5	25	25	25
LTE Band 26	25	25	25
LTE Band 7	22	22	22
LTE Band 12	25	25	25
LTE Band 17	25	25	25
LTE Band 13	23	23	23
LTE Band 38	22.5	22.5	22.5
LTE Band 41	22.5	22.5	22.5
LTE Band 71	24.5	24.5	24.5
2.4G WLAN(802.11b)	17	17	17

2.4G WLAN(802.11g)	11	8	8
2.4G WLAN(802.11n20)	8	6	6
2.4G WLAN(802.11n40)	7.5	6	6
5.2G WLAN(802.11a)	17	17	17
5.2G WLAN(802.11ac20)	14	14	14
5.2G WLAN(802.11ac40)	14	/	14
5.2G WLAN(802.11ac80)	/	12	/
5.3G WLAN(802.11a)	17	14	14
5.3G WLAN(802.11ac20)	14	14	14
5.3G WLAN(802.11ac40)	14	/	14
5.3G WLAN(802.11ac80)	/	10	/
5.8G WLAN(802.11a)	16	16	16
5.8G WLAN(802.11ac20)	13	13	13
5.8G WLAN(802.11ac40)	13	/	13
5.8G WLAN(802.11ac80)	/	12	/
BLE	-2	-2	-2

Note：
1. Channels without Max Target Power are represented by /.
2. The Maximum Target Power for LTE bands corresponds to their maximum power in QPSK modes with maximum bandwidth.

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	32.56	31.97	30.38	29.39
	190	836.6	32.57	32	30.42	29.38
	251	848.8	32.44	31.94	30.35	29.31
PCS1900	512	1850.2	27.11	26.22	24.27	23.15
	661	1880	28.11	27.3	25.4	24.31
	810	1907.6	28.3	27.53	25.68	24.63

EGPRS:

Mode	Channel No.	Frequency (MHz)	RF Output Power (dBm)			
			1 slot	2 slots	3 slots	4 slots
GSM850	128	824.2	27.36	27.33	27.24	27.16
	190	836.6	27.41	27.34	27.3	27.24
	251	848.8	27.3	27.27	27.25	27.23
PCS1900	512	1850.2	25.34	25.27	24.27	23.17
	661	1880	26.39	26.38	25.38	24.33
	810	1907.6	26.63	26.63	25.66	24.6

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	23.56	25.97	26.13	26.39
	190	836.6	23.57	26	26.17	26.38
	251	848.8	23.44	25.94	26.1	26.31
PCS1900	512	1850.2	18.11	20.22	20.02	20.15
	661	1880	19.11	21.3	21.15	21.31
	810	1907.6	19.3	21.53	21.43	21.63

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	18.36	21.33	22.99	24.16
	190	836.6	18.41	21.34	23.05	24.24
	251	848.8	18.3	21.27	23	24.23
PCS1900	512	1850.2	16.34	19.27	20.02	20.17
	661	1880	17.39	20.38	21.13	21.33
	810	1907.6	17.63	20.63	21.41	21.6

Note:

1. Rohde & Schwarz Radio Communication Tester (MT8820C) was used for the measurement of GSM peak and average output power for active timeslots.
2. .For GPRS, 1, 2, 3 and 4 timeslots has been activated separately with power level 3(850 MHz band) and 3(1900 MHz band).
3. According to KDB941225D01-SAR for EGPRS mode are not required when the source-based time-averaged output power for data mode is lower than that in the normal GPRS mode.
4. For EGPRS, 1, 2, 3 and 4timeslots has been activated separately with power level 6(850 MHz band) and 5(1900 MHz band).

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	20.71	21.43	21.54
	HSDPA	1	20.68	21.41	21.5
		2	20.54	21.42	21.51
		3	20.55	21.35	20.68
		4	20.3	20.62	21.05
	HSUPA	1	20.53	21.23	21.14
		2	20.65	20.71	20.99
		3	20.02	20.5	21.13
		4	20.45	21.04	21.38
		5	20.41	21.34	21.01
	HSPA+	1	20.55	21.18	21.32

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	21.53	21.47	21.34
	HSDPA	1	21.23	21.27	20.97
		2	21.37	21.38	21.05
		3	21.06	21.14	20.85
		4	21.34	20.87	20.61
	HSUPA	1	20.64	21.51	20.88
		2	21.1	20.47	21.19
		3	20.85	20.78	20.23
		4	20.61	21.31	20.41
		5	21.07	20.44	20.83
	HSPA+	1	20.94	21.02	20.87

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	22.69	22.89	22.85
	HSDPA	1	22.45	22.47	22.32
		2	22.52	22.56	22.44
		3	22.32	22.38	22.24
		4	21.54	22.02	21.74
	HSUPA	1	21.79	22.74	22.46
		2	22.17	22.78	22.32
		3	22.27	22.13	21.65
		4	22.46	22.06	22.27
		5	22.24	22.06	22.18
	HSPA+	1	22.08	22.17	22.12

Note:
1.The default test configuration is to measure SAR with an established radio link between the EUT and a communication test set using a 12.2 kbps RMC (reference measurement Channel) Configured in ALL 1
2. KDB 941225 D01-Body SAR is not required for HSDPA/HSUPA/HSPA+ when the maximum average output of each RF channel is less than ¼ dB higher than measured 12.2kbps RMC or the maximum SAR for 12.2kbps RMC is < 75% of SAR limit.

LTE Band 2

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	1#0	22.65	22.19	22.14
		1#3	22.72	22.34	22.25
		1#5	22.58	22.19	22.12
		3#0	22.51	22.31	22.22
		3#3	22.58	22.36	22.25
		6#0	21.52	21.37	21.23
	16-QAM	1#0	21.75	21.08	20.97
		1#3	21.87	21.22	21.1
		1#5	21.71	21.09	20.99
		3#0	21.73	21.47	21.15
		3#3	21.74	21.52	21.25
		6#0	20.36	20.54	20.33
3M	QPSK	1#0	22.46	22.35	22.39
		1#8	22.41	22.32	22.01
		1#14	22.45	22.33	22.42
		6#0	21.54	21.43	21.17
		6#9	21.56	21.41	21.3
		15#0	21.53	21.4	21.23
	16-QAM	1#0	21.27	21.25	21.08
		1#8	21.19	21.22	21.07
		1#14	21.17	20.44	20.3
		6#0	20.44	20.43	20.25
		6#9	20.5	20.38	20.26
		15#0	20.42	20.39	19.75

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	22.41	22.32	21.8
		1#13	22.62	22.5	21.85
		1#24	22.38	22.27	21.62
		15#0	21.52	21.37	20.73
		15#10	21.53	21.41	20.79
		25#0	21.53	21.34	20.69
	16-QAM	1#0	21.39	21.37	21.23
		1#13	21.49	21.54	21.44
		1#24	20.98	21.21	21.19
		15#0	20.51	20.44	19.76
		15#10	20.59	20.43	19.81
		25#0	20.53	20.39	19.82
10M	QPSK	1#0	22.47	22.05	21.89
		1#25	22.6	22.29	21.95
		1#49	22.36	21.79	21.88
		25#0	21.59	21.05	20.86
		25#25	21.6	20.86	20.74
		50#0	21.5	21.1	20.76
	16-QAM	1#0	20.76	20.9	21.08
		1#25	20.93	21.07	21.16
		1#49	20.75	20.78	21.04
		25#0	20.21	20.08	19.89
		25#25	20.39	20.37	19.78
		50#0	20.3	20.14	19.74

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15M	QPSK	1#0	22.58	21.84	22.16
		1#38	22.65	21.93	22.58
		1#74	22.11	21.64	22.43
		36#0	21.24	20.95	21.24
		36#39	21.13	20.82	21.38
		75#0	21.18	20.9	21.27
	16-QAM	1#0	20.89	20.05	21.33
		1#38	21.15	20.49	21.73
		1#74	21	20.36	21.56
		36#0	20.1	19.29	20.16
		36#39	20.1	19.57	20.35
		75#0	20.11	19.41	20.25
20M	QPSK	1#0	22.53	22.75	22.59
		1#50	21.87	21.83	22.63
		1#99	21.67	21.58	21.97
		50#0	22.21	22.41	21.93
		50#50	21.54	21.57	21.85
		100#0	21.59	21.53	21.63
	16-QAM	1#0	19.97	20.56	20.86
		1#50	20.23	21.11	21.53
		1#99	20.04	21.02	21.34
		50#0	18.9	19.43	20.13
		50#50	18.92	19.57	20.34
		100#0	20.91	19.42	20.24

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	21.3	20.61	21.26
		1#3	21.43	20.72	20.99
		1#5	21.27	20.6	20.86
		3#0	21.21	20.74	20.93
		3#3	21.17	20.83	20.87
		6#0	20.2	19.79	19.9
	16-QAM	1#0	20.52	19.46	20.11
		1#3	20.66	19.67	20.33
		1#5	20.45	19.48	20.13
		3#0	20.49	19.87	20.06
		3#3	20.48	19.89	20.1
		6#0	19.14	19.03	18.79
3M	QPSK	1#0	21.67	20.78	21.17
		1#8	21.1	20.76	21.08
		1#14	21.25	20.74	21.08
		6#0	20.24	19.91	19.9
		6#9	20.19	20.02	19.97
		15#0	20.22	19.81	19.87
	16-QAM	1#0	20.07	19.88	20.18
		1#8	19.96	19.9	20.21
		1#14	19.89	19.8	20.21
		6#0	19.26	19.36	19.02
		6#9	19.16	19.33	19.07
		15#0	19.16	19.25	18.91

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	21.68	20.97	20.81
		1#13	21.88	21.11	21.07
		1#24	21.18	20.73	20.87
		15#0	20.47	20.08	19.89
		15#10	20.49	20.43	19.96
		25#0	20.48	20.24	19.9
	16-QAM	1#0	20.26	20.05	20.35
		1#13	20.39	20.21	20.6
		1#24	20.07	19.88	20.37
		15#0	19.37	19.29	19
		15#10	19.36	19.32	19.05
		25#0	19.3	19.34	18.99
10M	QPSK	1#0	21.72	20.93	21.09
		1#25	21.58	20.96	21.18
		1#49	21.1	20.77	21.13
		25#0	20.5	19.9	19.95
		25#25	20.27	19.89	19.97
		50#0	20.28	19.71	19.95
	16-QAM	1#0	20.07	20.09	20.23
		1#25	20.04	19.88	20.37
		1#49	19.78	19.95	20.23
		25#0	19.4	19.78	19
		25#25	19.28	19.16	19.06
		50#0	19.25	19.14	19

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15M	QPSK	1#0	21.82	20.9	21.03
		1#38	21.47	20.96	21.23
		1#74	20.92	20.67	21.03
		36#0	20.21	19.99	19.97
		36#39	20.15	19.91	20.02
		75#0	20.12	19.93	20.01
	16-QAM	1#0	20.12	19.84	20.25
		1#38	20.17	19.93	20.4
		1#74	20.36	19.69	20.15
		36#0	20.27	18.97	18.98
		36#39	19	19.2	19.02
		75#0	19.15	19.12	19.02
20M	QPSK	1#0	21.71	21.99	21.52
		1#50	21.46	21.3	21.17
		1#99	21.56	21.57	21.63
		50#0	21.1	20.95	20.87
		50#50	21	20.82	20.88
		100#0	20.95	20.85	20.95
	16-QAM	1#0	20.1	20.34	19.92
		1#50	20.27	20.6	20.2
		1#99	20.28	19.01	19.94
		50#0	19.8	18.98	19.09
		50#50	18.97	18.73	18.91
		100#0	19.07	18.88	18.98

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	24.23	23.61	23.65
		1#3	24.4	23.76	23.52
		1#5	24.22	23.6	23.42
		3#0	24.04	23.71	23.48
		3#3	24.11	23.42	23.43
		6#0	23.11	21.98	22.49
	16-QAM	1#0	23.34	22.43	22.69
		1#3	23.52	22.59	22.81
		1#5	23.37	22.44	22.66
		3#0	23.34	22.81	22.7
		3#3	23.42	22.8	22.68
		6#0	21.98	21.95	21.38
3M	QPSK	1#0	24.44	23.77	23.66
		1#8	24.08	23.73	23.65
		1#14	23.95	23.73	23.57
		6#0	23.13	22.86	22.51
		6#9	23.15	22.84	22.51
		15#0	23.03	22.72	22.5
	16-QAM	1#0	23.11	22.75	22.77
		1#8	22.88	22.66	22.74
		1#14	22.92	22.55	21.57
		6#0	22.79	21.82	21.55
		6#9	22.07	21.82	21.42
		15#0	22.05	21.72	21.42

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	24.49	23.8	24.09
		1#13	24.23	23.97	24.27
		1#24	23.92	23.62	23.88
		15#0	23.13	22.86	23
		15#10	23.14	22.66	22.97
		25#0	23.12	22.77	23.08
	16-QAM	1#0	23.12	22.84	23.26
		1#13	23	23.01	22.84
		1#24	23.26	23.73	22.01
		15#0	22.98	22.54	22.2
		15#10	22.15	22.5	21.96
		25#0	22.19	22.43	21.97
10M	QPSK	1#0	24.64	24.74	24.69
		1#25	24.71	24.43	24.38
		1#49	24.38	24.14	24.09
		25#0	23.69	23.51	23.14
		25#25	23.64	23.34	23.1
		50#0	23.71	23.11	23.11
	16-QAM	1#0	23.66	23.33	23.46
		1#25	23.39	23.44	23.51
		1#49	23.39	23.35	23.21
		25#0	23.19	23.09	22.19
		25#25	22.69	22.49	22.17
		50#0	22.66	22.45	22.14

LTE Band 7

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	20.98	21.28	20.98
		1#13	21.33	21.47	21.22
		1#24	21.11	21.19	21.11
		15#0	20.18	20.41	20.15
		15#10	20.15	20.37	20.16
		25#0	20.22	20.39	20.01
	16-QAM	1#0	20.68	20.36	19.99
		1#13	20.98	20.55	20.2
		1#24	20.78	20.22	19.96
		15#0	19.31	19.54	19.15
		15#10	19.33	19.56	19.14
		25#0	19.31	19.48	18.96
10M	QPSK	1#0	21.06	21.49	21.36
		1#25	21.26	21.54	21.41
		1#49	21.28	21.28	21.33
		25#0	20.34	20.48	20.09
		25#25	20.26	20.34	19.98
		50#0	20.28	20.41	19.96
	16-QAM	1#0	19.87	20.42	20.01
		1#25	20.16	20.43	20.03
		1#49	20.06	20.21	19.86
		25#0	19.36	19.58	19.06
		25#25	19.38	19.57	19.16
		50#0	19.34	19.46	19.06

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15M	QPSK	1#0	21.2	19.36	21.34
		1#38	21.49	21.44	21.39
		1#74	21.41	21.5	21.22
		36#0	20.39	21.17	20.21
		36#39	20.39	20.48	20.24
		75#0	20.41	20.34	20.18
	16-QAM	1#0	20.09	20.48	20.45
		1#38	20.4	20.39	20.5
		1#74	20.31	20.44	20.1
		36#0	19.33	20.07	19.2
		36#39	19.33	19.51	19.19
		75#0	19.37	19.4	19.15
20M	QPSK	1#0	21.5	21.57	21.4
		1#50	21.33	21.42	21.07
		1#99	21.07	20.9	20.68
		50#0	21.38	21.41	21.13
		50#50	20.31	20.37	20.1
		100#0	20.36	20.08	20.07
	16-QAM	1#0	20.34	20.23	19.84
		1#50	20.17	20.88	20.16
		1#99	20.65	21.02	19.51
		50#0	20.39	20.54	19.11
		50#50	19.36	19.11	19.09
		100#0	19.3	19.26	19.05

LTE Band 12

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	1#0	24.32	24.22	23.34
		1#3	24.47	24.22	23.35
		1#5	24.34	24.07	23.13
		3#0	24.5	24.07	23.42
		3#3	24.53	24.1	23.42
		6#0	24.49	23.04	23.32
	16-QAM	1#0	23.53	23.44	22.4
		1#3	23.33	23.55	22.26
		1#5	23.48	23.28	22.29
		3#0	23.33	23.39	22.58
		3#3	23.7	23.44	22.48
		6#0	22.73	21.99	21.61
3M	QPSK	1#0	24.44	24.11	23.86
		1#8	24.38	23.97	23.69
		1#14	24.38	23.88	23.48
		6#0	23.54	23.18	22.49
		6#9	23.52	23.07	22.56
		15#0	23.43	23.18	22.48
	16-QAM	1#0	23.38	22.97	22.47
		1#8	23.37	22.88	23.12
		1#14	22.52	22.19	22.91
		6#0	22.55	22.12	22.68
		6#9	22.52	22	21.7
		15#0	22.49	22.09	21.72

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	24.43	24.14	23.7
		1#13	24.63	24.23	23.74
		1#24	24.33	23.84	23.21
		15#0	23.61	23.11	22.72
		15#10	23.6	22.86	22.73
		25#0	23.59	22.98	22.59
	16-QAM	1#0	23.54	23.2	22.65
		1#13	23.84	23.25	23.39
		1#24	23.44	22.86	23.47
		15#0	22.66	22.14	22.88
		15#10	22.64	21.83	21.7
		25#0	22.62	21.98	21.83
10M	QPSK	1#0	24.54	24.65	24.5
		1#25	24.37	24.14	24.15
		1#49	23.86	23.71	23.54
		25#0	23.83	24.08	23.74
		25#25	23.27	23.15	23.89
		50#0	23.42	23.59	23.09
	16-QAM	1#0	23.39	23.2	23.53
		1#25	23.41	22.8	23.39
		1#49	22.77	22.2	22.68
		25#0	22.59	22.25	22.43
		25#25	22.48	21.81	21.93
		50#0	22.37	21.98	22.11

LTE Band 13

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	21.9	/	22.22
		1#13	22.12	/	22.57
		1#24	22.11	/	22.47
		15#0	20.77	/	21.23
		15#10	21.04	/	21.6
		25#0	20.8	/	21.44
	16-QAM	1#0	21.55	/	21.86
		1#13	21.7	/	22.24
		1#24	21.75	/	22.08
		15#0	19.86	/	20.33
		15#10	20.15	/	20.73
		25#0	19.95	/	20.64
10M	QPSK	1#0	/	22.81	/
		1#25	/	22.67	/
		1#49	/	22.7	/
		25#0	/	22.72	/
		25#25	/	22.42	/
		50#0	/	21.98	/
	16-QAM	1#0	/	21.65	/
		1#25	/	21.48	/
		1#49	/	21.91	/
		25#0	/	21.96	/
		25#25	/	20.47	/
		50#0	/	20.73	/

LTE Band 17

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	24.21	23.91	23.79
		1#13	24.33	24.08	23.82
		1#24	23.85	23.17	23.24
		15#0	23.15	22.96	22.73
		15#10	23.24	22.79	22.72
		25#0	23.11	22.99	22.67
	16-QAM	1#0	23.97	22.97	22.82
		1#13	23.97	23.13	22.91
		1#24	23.51	22.83	22.31
		15#0	22.23	22.23	21.76
		15#10	22.34	22.04	21.76
		25#0	22.23	22.02	21.72
10M	QPSK	1#0	24.28	24.35	24.34
		1#25	24.02	23.99	24.17
		1#49	23.52	23.46	23.56
		25#0	23.21	23.29	23.37
		25#25	23.13	23.07	23.08
		50#0	23.07	23.17	23.12
	16-QAM	1#0	22.93	23.22	23.59
		1#25	22.54	23.08	23.42
		1#49	22.31	22.57	22.41
		25#0	22.21	22.39	22.01
		25#25	21.91	21.97	21.99
		50#0	22.07	22.16	22.14

LTE Band 25

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	1#0	21.41	21.67	22.6
		1#3	21.52	21.84	22.75
		1#5	21.36	21.67	22.58
		3#0	21.27	21.77	22.68
		3#3	21.27	21.8	22.65
		6#0	20.26	20.82	21.71
	16-QAM	1#0	20.57	20.5	21.45
		1#3	20.71	20.67	21.61
		1#5	20.56	20.54	21.43
		3#0	20.54	20.85	21.72
		3#3	20.57	20.88	21.73
		6#0	19.16	19.97	20.81
3M	QPSK	1#0	21.14	21.77	22.8
		1#8	21.1	21.8	22.87
		1#14	21.08	21.83	22.8
		6#0	20.24	20.83	21.67
		6#9	20.2	20.9	21.71
		15#0	20.2	20.79	21.65
	16-QAM	1#0	20.01	20.72	22
		1#8	19.95	20.7	22.02
		1#14	19.93	20.7	21.97
		6#0	19.19	19.84	20.74
		6#9	19.26	19.9	20.79
		15#0	19.17	19.84	20.65

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	21.18	21.68	22.53
		1#13	21.39	21.95	22.73
		1#24	21.07	21.76	22.54
		15#0	20.22	20.72	21.75
		15#10	20.27	20.85	21.69
		25#0	20.2	20.75	21.65
	16-QAM	1#0	20.18	20.71	22.11
		1#13	20.38	20.96	22.38
		1#24	20.1	20.78	22.11
		15#0	19.27	19.75	20.79
		15#10	19.3	19.88	20.77
		25#0	19.24	19.86	20.66
10M	QPSK	1#0	21.18	21.66	22.74
		1#25	21.2	21.93	22.88
		1#49	21.1	21.92	22.78
		25#0	20.2	20.71	21.71
		25#25	20.27	20.83	21.66
		50#0	20.15	20.89	21.6
	16-QAM	1#0	20.03	20.8	21.92
		1#25	20.08	20.6	22.09
		1#49	19.91	20.88	21.95
		25#0	19.33	20.76	20.76
		25#25	19.4	19.78	20.72
		50#0	19.28	19.9	20.6

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15M	QPSK	1#0	21.33	21.6	22.68
		1#38	21.45	21.95	22.94
		1#74	21.25	21.96	22.8
		36#0	20.32	20.79	21.66
		36#39	20.29	20.96	21.78
		75#0	20.29	20.91	21.69
	16-QAM	1#0	20.28	20.56	21.87
		1#38	20.3	20.91	22.1
		1#74	20.36	20.86	21.93
		36#0	20.18	19.8	20.66
		36#39	19.23	19.93	20.64
		75#0	19.21	19.87	20.62
20M	QPSK	1#0	22.74	22.95	22.84
		1#50	21.63	21.96	22.67
		1#99	21.54	21.93	22.39
		50#0	22.23	22.66	22.49
		50#50	21.57	21.93	21.66
		100#0	21.64	21.96	21.57
	16-QAM	1#0	20.47	20.83	21.53
		1#50	19.27	21.02	21.5
		1#99	19.28	21.58	22.06
		50#0	19.22	21.56	21.75
		50#50	19.31	19.98	20.54
		100#0	20.83	19.83	20.69

LTE Band 26

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	1#0	24.62	24.22	23.77
		1#3	24.75	24.35	23.96
		1#5	24.62	24.21	23.7
		3#0	24.49	24.34	23.8
		3#3	24.46	24.34	23.79
		6#0	23.53	23.34	22.88
	16-QAM	1#0	23.7	23.07	22.56
		1#3	23.85	23.24	22.75
		1#5	23.74	23.55	22.61
		3#0	23.65	23.52	22.87
		3#3	23.67	23.38	22.87
		6#0	22.38	22.51	21.98
3M	QPSK	1#0	24.47	24.42	24.03
		1#8	24.43	24.35	24.08
		1#14	24.41	24.34	24.01
		6#0	23.5	23.42	22.94
		6#9	23.46	23.44	22.92
		15#0	23.46	23.4	22.86
	16-QAM	1#0	23.22	23.25	23.29
		1#8	23.17	23.24	23.16
		1#14	23.18	22.48	23.12
		6#0	22.4	22.45	22.02
		6#9	22.43	22.4	21.99
		15#0	22.44	22.41	21.84

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	24.47	24.43	23.9
		1#13	24.64	24.57	23.99
		1#24	24.41	24.26	23.76
		15#0	23.52	23.33	22.83
		15#10	23.56	23.47	22.99
		25#0	23.54	23.37	22.8
	16-QAM	1#0	23.37	23.34	23.48
		1#13	23.64	23.42	23.59
		1#24	23.45	23.56	23.27
		15#0	22.55	23.21	21.9
		15#10	22.6	22.49	22.04
		25#0	22.6	22.35	21.9
10M	QPSK	1#0	24.47	24.55	24.31
		1#25	24.57	24.51	24.41
		1#49	24.25	24.24	24.03
		25#0	23.5	23.32	23.09
		25#25	23.54	23.4	23.05
		50#0	23.53	23.36	23
	16-QAM	1#0	23.2	23.42	23.04
		1#25	23.4	23.48	23.41
		1#49	23.01	23.07	23.53
		25#0	22.57	22.42	23.11
		25#25	22.6	22.53	22.16
		50#0	22.71	22.43	22.1
15M	QPSK	1#0	24.75	24.81	24.65
		1#38	24.79	24.42	24.7
		1#74	24.44	24.35	24.14
		36#0	24.44	24.51	24.15
		36#39	23.61	23.42	23.14
		75#0	23.46	23.31	23.17
	16-QAM	1#0	23.53	23.61	23.25
		1#38	23.52	23.39	23.45
		1#74	23.38	23.33	23.31
		36#0	22.39	22.42	22.85
		36#39	22.49	22.52	22.42
		75#0	22.42	22.44	22.86

LTE Band 38

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	20.86	21.15	21.74
		1#13	21.2	21.53	22.05
		1#24	20.84	21.26	21.78
		15#0	19.79	20.17	20.66
		15#10	19.8	20.19	20.67
		25#0	19.79	20.24	20.68
	16-QAM	1#0	20.19	20.31	20.82
		1#13	20.51	20.68	21.14
		1#24	20.15	20.4	20.86
		15#0	18.89	19.22	19.59
		15#10	18.92	19.24	19.65
		25#0	18.83	19.25	19.78
10M	QPSK	1#0	20.93	21.04	21.72
		1#25	21.15	21.37	21.99
		1#49	20.95	21.23	21.77
		25#0	19.84	20.28	20.69
		25#25	19.87	20.21	20.75
		50#0	19.86	20.28	20.67
	16-QAM	1#0	20.07	20.29	20.99
		1#25	20.29	20.55	21.27
		1#49	20.07	20.43	21.08
		25#0	18.91	19.26	19.67
		25#25	18.93	19.26	19.75
		50#0	18.92	19.27	19.7

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15M	QPSK	1#0	20.86	20.83	21.46
		1#38	21.15	21.2	21.83
		1#74	20.93	21.03	21.58
		36#0	19.84	20.16	20.59
		36#39	19.91	20.18	20.64
		75#0	19.93	20.19	20.62
	16-QAM	1#0	20.21	20.05	20.77
		1#38	20.49	20.41	21.12
		1#74	20.27	20.25	20.89
		36#0	18.94	19.19	19.47
		36#39	18.95	19.2	19.48
		75#0	18.91	19.18	19.58
20M	QPSK	1#0	21.94	22.06	22
		1#50	22.01	21.32	21.63
		1#99	20.81	21.21	21.42
		50#0	20.78	21.24	21.49
		50#50	20.78	21.18	21.57
		100#0	20.83	21.23	21.53
	16-QAM	1#0	19.79	20.13	20.34
		1#50	20.11	20.53	20.78
		1#99	19.95	20.42	20.58
		50#0	18.84	19.28	19.51
		50#50	18.85	19.18	19.56
		100#0	18.88	19.27	19.56

LTE Band 41

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	2570.0 MHz	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	20.98	21.65	21.54	21.64
		1#13	21.3	21.96	21.83	21.95
		1#24	21.01	21.67	21.5	21.66
		15#0	19.87	20.65	20.49	20.64
		15#10	19.91	20.63	20.48	20.62
		25#0	19.87	20.66	20.49	20.65
	16-QAM	1#0	20.05	20.82	20.92	20.81
		1#13	20.39	21.09	21.22	21.08
		1#24	20.1	20.82	20.86	20.81
		15#0	18.78	19.7	19.64	19.69
		15#10	18.82	19.65	19.58	19.64
		25#0	18.95	19.68	19.51	19.67
10M	QPSK	1#0	20.97	21.69	21.64	21.67
		1#25	21.23	21.96	21.81	21.95
		1#49	21.01	21.74	21.55	21.73
		25#0	19.86	20.71	20.56	20.68
		25#25	19.99	20.62	20.56	20.61
		50#0	19.88	20.63	20.54	20.61
	16-QAM	1#0	20.2	20.66	20.92	20.65
		1#25	20.3	20.84	21.13	20.83
		1#49	20.12	21.1	20.87	21.09
		25#0	18.86	20.87	19.61	20.86
		25#25	18.97	19.68	19.6	19.67
		50#0	18.96	19.75	19.64	19.74

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	2570.0 MHz	Middle Channel (dBm)	High Channel (dBm)
15M	QPSK	1#0	20.92	21.49	21.6	21.48
		1#38	21.3	21.71	21.8	21.7
		1#74	21.07	21.48	21.45	21.47
		36#0	19.94	20.69	20.57	20.68
		36#39	20.15	20.63	20.52	20.6
		75#0	20.07	20.65	20.58	20.64
	16-QAM	1#0	20.23	20.7	20.92	20.69
		1#38	20.56	20.9	21.11	20.89
		1#74	20.4	20.66	20.82	20.65
		36#0	18.88	19.7	19.62	19.69
		36#39	18.99	19.6	19.55	19.59
		75#0	19.06	19.66	19.57	19.65
20M	QPSK	1#0	21.67	21.58	22	21.56
		1#50	21.1	21.75	21.59	21.74
		1#99	20.9	21.48	21.27	21.47
		50#0	20.97	21.53	21.79	21.55
		50#50	20.53	20.56	20.57	20.55
		100#0	20.6	20.61	20.52	20.59
	16-QAM	1#0	20.01	20.66	20.46	20.65
		1#50	20.18	20.88	20.65	20.87
		1#99	20.05	20.61	20.36	20.6
		50#0	18.83	19.59	19.55	19.58
		50#50	19.09	19.46	19.41	19.45
		100#0	18.99	19.52	19.49	19.51

LTE Band 66

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	QPSK	1#0	21.69	22.55	21.09
		1#3	21.71	22.53	21.08
		1#5	21.69	22.53	21.12
		3#0	21.79	22.51	21.25
		3#3	21.78	22.51	21.24
		6#0	20.72	21.56	20.11
	16-QAM	1#0	20.5	21.42	19.73
		1#3	20.49	21.41	19.73
		1#5	20.47	21.44	19.76
		3#0	20.77	21.69	20.41
		3#3	20.73	21.67	20.42
		6#0	19.64	20.41	19.09
3M	QPSK	1#0	21.71	22.33	21.35
		1#8	21.66	22.27	21.35
		1#14	21.68	22.3	21.33
		6#0	20.6	21.41	20.25
		6#9	20.6	21.43	20.27
		15#0	20.59	21.48	20.14
	16-QAM	1#0	20.59	21.96	20.16
		1#8	20.61	21.98	20.18
		1#14	20.65	21.96	20.15
		6#0	19.6	20.49	19.19
		6#9	19.64	20.51	19.2
		15#0	19.58	20.5	19.11

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	21.41	22.29	21.36
		1#13	21.42	22.25	21.35
		1#24	21.45	22.28	21.35
		15#0	20.57	21.38	20.31
		15#10	20.52	21.35	20.33
		25#0	20.53	21.42	20.18
	16-QAM	1#0	20.51	21.19	20.76
		1#13	20.52	21.21	20.77
		1#24	20.5	21.16	20.77
		15#0	19.45	20.29	19.47
		15#10	19.46	20.29	19.47
		25#0	19.54	20.42	19.16
10M	QPSK	1#0	21.58	22.05	22.04
		1#25	21.59	22.04	22.07
		1#49	21.59	22.05	22.02
		25#0	20.49	21.33	20.65
		25#25	20.52	21.34	20.65
		50#0	20.53	21.45	20.38
	16-QAM	1#0	20.49	21.7	20.79
		1#25	20.5	21.69	20.79
		1#49	20.52	21.73	20.8
		25#0	19.58	20.35	19.65
		25#25	19.61	20.37	19.65
		50#0	19.54	20.46	19.39

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15M	QPSK	1#0	21.42	21.84	22.42
		1#38	21.37	21.84	22.41
		1#74	21.42	21.79	22.42
		36#0	20.51	21.28	21.12
		36#39	20.5	21.27	21.11
		75#0	20.53	21.49	20.72
	16-QAM	1#0	20.68	21.49	21.22
		1#38	20.67	21.5	21.22
		1#74	20.68	21.48	21.23
		36#0	19.45	20.27	20.09
		36#39	19.47	20.26	20.05
		75#0	19.45	20.45	19.72
20M	QPSK	1#0	22.23	22.64	22.36
		1#50	21.18	21.63	22.55
		1#99	21.21	21.64	22.55
		50#0	22.35	22.58	22.42
		50#50	21.36	21.2	21.44
		100#0	21.45	21.44	21.69
	16-QAM	1#0	20.51	21.08	21.43
		1#50	20.54	21.05	21.47
		1#99	20.52	21.09	21.45
		50#0	19.34	20.21	20.38
		50#50	19.33	20.19	20.38
		100#0	19.44	20.44	20.36

LTE Band 71

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	QPSK	1#0	23.03	23.72	23.98
		1#13	23.05	23.73	23.94
		1#24	23.01	23.73	23.96
		15#0	22.3	22.96	22.81
		15#10	22.35	22.94	22.76
		25#0	22.34	23.14	22.77
	16-QAM	1#0	22.47	22.9	23.04
		1#13	22.46	22.92	23.02
		1#24	22.46	22.9	23.01
		15#0	21.51	21.88	21.91
		15#10	21.54	21.86	21.92
		25#0	21.36	22.2	21.89
10M	QPSK	1#0	23.19	23.63	24.13
		1#25	23.15	23.63	24.09
		1#49	23.14	23.63	24.11
		25#0	22.5	23.09	23.39
		25#25	22.49	23.08	23.4
		50#0	22.65	23.25	23.31
	16-QAM	1#0	22.04	23.46	22.95
		1#25	22.12	23.44	22.91
		1#49	22.07	23.35	22.96
		25#0	21.69	22.18	22.45
		25#25	21.66	22.2	22.47
		50#0	21.68	22.34	22.38

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
15M	QPSK	1#0	22.93	23.43	24
		1#38	22.92	23.4	24.03
		1#74	22.92	23.4	24.02
		36#0	22.29	22.9	23.2
		36#39	22.28	22.89	23.19
		75#0	22.31	23	23.12
	16-QAM	1#0	22.22	23.13	22.83
		1#38	22.2	23.14	22.87
		1#74	22.19	23.13	22.86
		36#0	21.29	22	22.25
		36#39	21.33	21.98	22.22
		75#0	21.34	22.1	22.18
20M	QPSK	1#0	23.77	24.15	23.99
		1#50	22.75	23.25	23.78
		1#99	22.8	23.24	23.81
		50#0	23.89	24.03	23.81
		50#50	22.86	23.11	22.97
		100#0	23.09	23.09	22.8
	16-QAM	1#0	22.11	22.68	22.69
		1#50	22.11	22.7	22.71
		1#99	21.15	22.69	21.78
		50#0	21.19	22.18	21.82
		50#50	21.22	22.21	21.81
		100#0	21.42	22.13	21.96

WLAN 2.4G:

Mode	Channel frequency (MHz)	Data Rate	Duty cycle (%)	Conducted Average Output Power(dBm)
802.11b	2412	1Mbps	99.45	16.69
	2437			16.49
	2462			16.14
802.11g	2412	6Mbps	96.80	10.16
	2437			7.79
	2462			7.59
802.11n HT20	2412	MCS0	95.72	7.67
	2437			5.78
	2462			5.53
802.11n HT40	2422	MCS0	93.36	6.99
	2437			5.07
	2452			4.89

Note:
The test data and plots of duty cycle, please refer to the radio report: RKSA240808001-00C, which was issued by Bay Area Compliance Laboratories Corp. (KunShan).

WLAN 5.2G:

Test mode	Band	Frequency (MHz)	Duty cycle (%)	Average Conducted Output Power (dBm)
802.11a	5150-5250 MHz	5180	96.04	16.76
		5200		16.87
		5240		16.71
802.11ac20	5150-5250 MHz	5180	96.61	13.42
		5200		13.69
		5240		13.54
802.11ac40	5150-5250 MHz	5190	93.42	13.52
		5230		13.61
802.11ac80	5150-5250 MHz	5210	87.50	11.09

Note:
1.The test data and plots of duty cycle, please refer to the radio report: RKSA240808001-00D, which was issued by Bay Area Compliance Laboratories Corp. (KunShan).
2.The system support 802.11a/n ht20/n ht40/ac vht20/ ac vht40 /ac vht80/, the n ht20/ ht40 is reduced due to having the same parameters as 802.11 ac vht20 and vht 40.

WLAN 5.3G:

Test mode	Band	Frequency (MHz)	Duty cycle (%)	Average Conducted Output Power (dBm)
802.11a	5250-5350 MHz	5260	96.80	16.62
		5280		13.61
		5320		13.47
802.11ac20	5250-5350 MHz	5260	96.61	13.33
		5280		13.42
		5320		13.28
802.11ac40	5250-5350 MHz	5270	86.12	13.23
		5310		13.26
802.11ac80	5250-5350 MHz	5290	87.47	9.84

Note:
1.The test data and plots of duty cycle, please refer to the radio report: RKSA240808001-00D, which was issued by Bay Area Compliance Laboratories Corp. (KunShan).
2.The system support 802.11a/n ht20/n ht40/ac vht20/ ac vht40 /ac vht80/, the n ht20/ ht40 is reduced due to having the same parameters as 802.11 ac vht20 and vht 40.

WLAN 5.8G:

Test mode	Band	Frequency (MHz)	Duty cycle (%)	Average Conducted Output Power (dBm)
802.11a	5725-5850 MHz	5745	96.04	15.31
		5785		15.34
		5825		15.45
802.11ac20	5725-5850 MHz	5745	96.61	12.29
		5785		12.26
		5825		12.97
802.11ac40	5725-5850 MHz	5755	92.42	12.17
		5795		12.13
802.11ac80	5725-5850 MHz	5775	87.26	11.91

Note:
1.The test data and plots of duty cycle, please refer to the radio report: RKSA240808001-00D, which was issued by Bay Area Compliance Laboratories Corp. (KunShan).
2.The system support 802.11a/n ht20/n ht40/ac vht20/ ac vht40 /ac vht80/, the n ht20/ ht40 is reduced due to having the same parameters as 802.11 ac vht20 and vht 40.

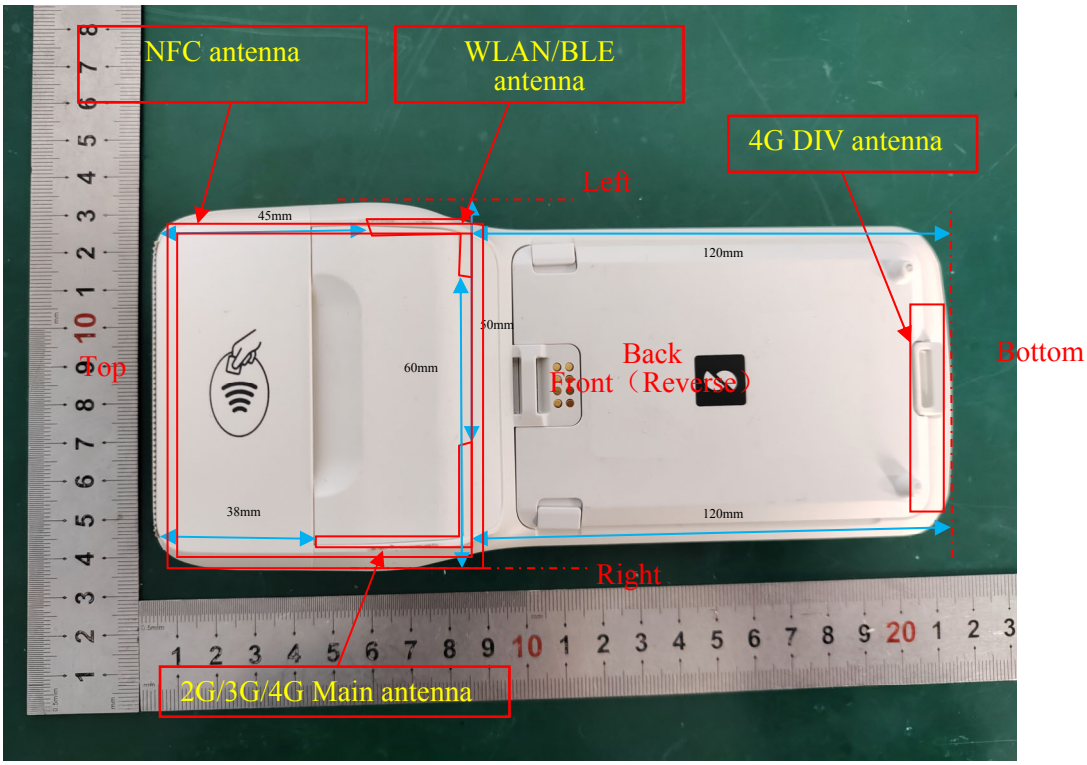
BLE:

Mode	Max ConductedPeak OutputPower (dBm)		
	Low	Middle	High
BLE（1M）	-2.21	-2.17	-2.21
BLE（2M）	-2.06	-2.08	-2.06

Standalone SAR test exclusion considerations

Antennas Location:

P8



Antenna Distance To Edge

	Antenna Distance To Edge(mm)					
Antenna	**Back**	**Front**	**Left**	**Right**	**Top**	**Bottom**
WWAN Main	<5	<5	50	<5	38	120
WIFI/BLE	<5	<5	<5	60	45	120

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	17	50.12	0	15.73	3	No
WLAN 5.2G	5240	17	50.12	0	22.95	3	No
WLAN 5.3G	5320	17	50.12	0	23.12	3	No
WLAN 5.8G	5825	16	39.81	0	19.22	3	No
BLE	2480	-2	0.63	0	0.20	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.

Standalone SAR estimation:

Mode	Frequency (MHz)	Pavg (dBm)	Pavg (mW)	Distance (mm)	Estimated 10-g (W/kg)
BLE Limbs	2480	-2	0.63	0	0.01

Mode	Frequency (MHz)	Pavg (dBm)	Pavg (mW)	Distance (mm)	Estimated 1-g (W/kg)
BLE Body	2480	-2	0.63	5	0.03

Note: *The BLE based Peak power for calculation.*

When standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:
[(max. power of channel, including tune-up tolerance , mW)/(min. test separation distance,mm)] · [√f(GHz)/x]
W/kg for test separation distances ≤50 mm;
where x = 7.5 for 1-g SAR. and x= 18.75 for 10-g SAR.
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 59.57 dBuV/m =-35.63dBm (0.00027mW)

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

>0.00027 mW

Conclusion:

The NFC SAR evaluation can be exempted.

Note:

For NFC,please refer to report RKSA240808001-00B

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	25	316.23	70.77
WCDMA 2	1907.6	22	158.49	54.99
WCDMA 4	1752.6	22	158.49	54.52
WCDMA 5	846.6	23	199.53	56.47
LTE Band 25&2	1905	23.5	223.87	61.52
LTE Band 66&4	1770	22.7	186.21	57.35
LTE Band 26&5	841.5	25	316.23	77.22
LTE Band 7	2560	22	158.49	56.47
LTE Band 12&17	711	25	316.23	79.2
LTE Band 13	784.5	23	199.53	55.77
LTE Band 71	688	24.5	281.84	72.02
LTE Band 41&38	2645	22.5	177.83	58.56
WLAN 2.4G	2462	17	50.12	26.21
WLAN 5.2G	5240	17	50.12	38.24
WLAN 5.3G	5320	17	50.12	38.53
WLAN 5.8G	5825	16	39.81	32.03

SAR test exclusion for the EUT edge considerations Result

Mode	Back	Front	Left	Right	Top	Bottom
GSM 850	**Required**	**Required**	**Required**	**Required**	**Required**	**Required**
GSM 1900	**Required**	**Required**	**Required**	**Required**	**Required**	Exclusion
WCDMA 2	**Required**	**Required**	**Required**	**Required**	**Required**	Exclusion
WCDMA 4	**Required**	**Required**	**Required**	**Required**	**Required**	Exclusion
WCDMA 5	**Required**	**Required**	**Required**	**Required**	**Required**	Exclusion
LTE Band 25&2	**Required**	**Required**	**Required**	**Required**	**Required**	Exclusion
LTE Band 66&4	**Required**	**Required**	**Required**	**Required**	**Required**	Exclusion
LTE Band 26&5	**Required**	**Required**	**Required**	**Required**	**Required**	Exclusion
LTE Band 7	**Required**	**Required**	**Required**	**Required**	**Required**	Exclusion
LTE Band 12&17	**Required**	**Required**	**Required**	**Required**	**Required**	Exclusion
LTE Band 13	**Required**	**Required**	**Required**	**Required**	**Required**	Exclusion
LTE Band 71	**Required**	**Required**	**Required**	**Required**	**Required**	Exclusion
LTE Band 41&38	**Required**	**Required**	**Required**	**Required**	**Required**	Exclusion
WLAN 2.4G	**Required**	**Required**	**Required**	Exclusion	Exclusion	Exclusion
WLAN 5.2G	**Required**	**Required**	**Required**	Exclusion	Exclusion	Exclusion
WLAN 5.3G	**Required**	**Required**	**Required**	Exclusion	Exclusion	Exclusion
WLAN 5.8G	**Required**	**Required**	**Required**	Exclusion	Exclusion	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:	22.1-23.3 ℃	22.2-23.3 ℃	22.2-23.4 ℃
Relative Humidity:	50 %	53 %	51 %
Test Date:	2025/02/17	2025/02/18	2025/02/19
Temperature:	22.1-23.3 ℃	22.1-23.3 ℃	22.2-23.3 ℃
Relative Humidity:	48 %	51 %	51 %
Test Date:	2025/02/20	2025/02/21	2025/02/22

Testing was performed by Allen and Jacky

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	Limbs Front(0mm)	836.6	GPRS 4 Tx slots	29.38	29.5	1.028	0.175	0.18	4.0	/
GSM850	Limbs Back (0mm)	836.6	GPRS 4 Tx slots	29.38	29.5	1.028	0.633	0.65	4.0	/
GSM850	Limbs Left(0mm)	836.6	GPRS 4 Tx slots	29.38	29.5	1.028	0.238	0.25	4.0	/
GSM850	Limbs Right (0mm)	836.6	GPRS 4 Tx slots	29.38	29.5	1.028	**1.470**	**1.51**	4.0	**1#**
GSM850	Limbs Top(0mm)	836.6	GPRS 4 Tx slots	29.38	29.5	1.028	0.355	0.37	4.0	/
GSM850	Limbs Bottom(0mm)	836.6	GPRS 4 Tx slots	29.38	29.5	1.028	0.030	0.03	4.0	/
GSM850	Body Back (5mm)	836.6	GPRS 4 Tx slots	29.38	29.5	1.028	**0.721**	**0.74**	1.6	**2#**

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	Limbs Front(0mm)	1880	GPRS 4 Tx slots	24.31	25	1.172	0.133	0.16	4.0	/
PCS1900	Limbs Back (0mm)	1880	GPRS 4 Tx slots	24.31	25	1.172	0.412	0.48	4.0	/
PCS1900	Limbs Left(0mm)	1880	GPRS 4 Tx slots	24.31	25	1.172	0.035	0.04	4.0	/
PCS1900	Limbs Right (0mm)	1880	GPRS 4 Tx slots	24.31	25	1.172	**1.250**	**1.47**	4.0	3#
PCS1900	Limbs Top(0mm)	1880	GPRS 4 Tx slots	24.31	25	1.172	0.067	0.08	4.0	/
PCS1900	Limbs Bottom(0mm)	1880	GPRS 4 Tx slots	/	/	/	/	/	4.0	/
PCS1900	Body Back (5mm)	1880	GPRS 4 Tx slots	24.31	25	1.172	**0.470**	**0.55**	1.6	4#

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	Limbs Front(0mm)	1880	RMC	21.43	22	1.140	0.096	0.11	4.0	/
WCDMA Band 2	Limbs Back (0mm)	1880	RMC	21.43	22	1.140	0.253	0.29	4.0	/
WCDMA Band 2	Limbs Left(0mm)	1880	RMC	21.43	22	1.140	0.025	0.03	4.0	/
WCDMA Band 2	Limbs Right (0mm)	1880	RMC	21.43	22	1.140	**0.889**	**1.01**	4.0	**5#**
WCDMA Band 2	Limbs Top(0mm)	1880	RMC	21.43	22	1.140	0.051	0.06	4.0	/
WCDMA Band 2	Limbs Bottom(0mm)	1880	RMC	/	/	1.140	/	/	4.0	/
WCDMA Band 2	Body Back (5mm)	1880	RMC	21.43	22	1.140	**0.238**	**0.27**	1.6	**6#**

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	Limbs Front(0mm)	1732.6	RMC	21.47	22	1.130	0.098	0.11	4.0	/
WCDMA Band 4	Limbs Back (0mm)	1732.6	RMC	21.47	22	1.130	0.221	0.25	4.0	/
WCDMA Band 4	Limbs Left(0mm)	1732.6	RMC	21.47	22	1.130	0.052	0.06	4.0	/
WCDMA Band 4	Limbs Right (0mm)	1732.6	RMC	21.47	22	1.130	**0.761**	**0.86**	4.0	**7#**
WCDMA Band 4	Limbs Top(0mm)	1732.6	RMC	21.47	22	1.130	0.043	0.05	4.0	/
WCDMA Band 4	Limbs Bottom(0mm)	1732.6	RMC	/	/	/	/	/	4.0	/
WCDMA Band 4	Body Back (5mm)	1732.6	RMC	21.47	22	1.130	**0.237**	**0.27**	1.6	**8#**

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	Limbs Front(0mm)	836.6	RMC	22.89	23	1.026	0.100	0.10	4.0	/
WCDMA Band 5	Limbs Back (0mm)	836.6	RMC	22.89	23	1.026	0.342	0.35	4.0	/
WCDMA Band 5	Limbs Left(0mm)	836.6	RMC	22.89	23	1.026	0.126	0.13	4.0	/
WCDMA Band 5	Limbs Right (0mm)	836.6	RMC	22.89	23	1.026	**0.838**	**0.86**	4.0	**9#**
WCDMA Band 5	Limbs Top(0mm)	836.6	RMC	22.89	23	1.026	0.202	0.21	4.0	/
WCDMA Band 5	Limbs Bottom(0mm)	836.6	RMC	/	/	/	/	/	4.0	/
WCDMA Band 5	Body Back (5mm)	836.6	RMC	22.89	23	1.026	**0.437**	**0.45**	1.6	**10#**

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 ALL 1.
4. KDB 941225 D01-Body SAR is not required for HSUPA/HSDPA / HSPA+ when the maximum average output of each RF channel is less than ¼ dB higher than measured 12.2kbps RMC or the maximum SAR for 12.2kbps RMC is < 75% of SAR limit.
5. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.

LTE FDD Band 25&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
Limbs Front(0mm)	1880	QPSK	20	1RB	22.95	23.5	1.135	0.144	0.16	4.0	/
Limbs Front(0mm)	1880	QPSK	20	50%RB	22.66	23.5	1.213	0.119	0.14	4.0	/
Limbs Back(0mm)	1880	QPSK	20	1RB	22.95	23.5	1.135	0.411	0.47	4.0	/
Limbs Back(0mm)	1880	QPSK	20	50%RB	22.66	23.5	1.213	0.342	0.42	4.0	/
Limbs Left(0mm)	1880	QPSK	20	1RB	22.95	23.5	1.135	0.041	0.05	4.0	/
Limbs Left(0mm)	1880	QPSK	20	50%RB	22.66	23.5	1.213	0.033	0.04	4.0	/
Limbs Right (0mm)	1880	QPSK	20	1RB	22.95	23.5	1.135	**1.220**	**1.39**	4.0	**11#**
Limbs Right (0mm)	1880	QPSK	20	50%RB	22.66	23.5	1.213	1.130	1.37	4.0	/
Limbs Top(0mm)	1880	QPSK	20	1RB	22.95	23.5	1.135	0.083	0.09	4.0	/
Limbs Top(0mm)	1880	QPSK	20	50%RB	22.66	23.5	1.213	0.070	0.09	4.0	/
Limbs Bottom(0mm)	1880	QPSK	20	1RB	/	/	/	/	/	4.0	/
Limbs Bottom(0mm)	1880	QPSK	20	50%RB	/	/	/	/	/	4.0	/
Body Back(5mm)	1880	QPSK	20	1RB	22.95	23.5	1.135	**0.396**	**0.45**	1.6	**12#**
Body Back(5mm)	1880	QPSK	20	50%RB	22.66	23.5	1.213	0.327	0.40	1.6	/

Note:

LTE FDD Band 25 and LTE FDD Band 2 have the same power, we only tested the LTE Band 25 because it has a larger frequency range, so the LTE FDD Band 2 does not need to be tested

LTE FDD Band 66&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
Limbs Front(0mm)	1745	QPSK	20	1RB	22.64	22.7	1.014	0.129	0.13	4.0	/
Limbs Front(0mm)	1745	QPSK	20	50%RB	22.58	22.7	1.028	0.113	0.12	4.0	/
Limbs Back(0mm)	1745	QPSK	20	1RB	22.64	22.7	1.014	0.321	0.33	4.0	/
Limbs Back(0mm)	1745	QPSK	20	50%RB	22.58	22.7	1.028	0.284	0.29	4.0	/
Limbs Left(0mm)	1745	QPSK	20	1RB	22.64	22.7	1.014	0.063	0.06	4.0	/
Limbs Left(0mm)	1745	QPSK	20	50%RB	22.58	22.7	1.028	0.051	0.05	4.0	/
Limbs Right (0mm)	1745	QPSK	20	1RB	22.64	22.7	1.014	**0.931**	**0.94**	4.0	**13#**
Limbs Right (0mm)	1745	QPSK	20	50%RB	22.58	22.7	1.028	0.914	0.94	4.0	/
Limbs Top(0mm)	1745	QPSK	20	1RB	22.64	22.7	1.014	0.063	0.06	4.0	/
Limbs Top(0mm)	1745	QPSK	20	50%RB	22.58	22.7	1.028	0.056	0.06	4.0	/
Limbs Bottom(0mm)	1745	QPSK	20	1RB	/	/	/	/	/	4.0	/
Limbs Bottom(0mm)	1745	QPSK	20	50%RB	/	/	/	/	/	4.0	/
Body Back(5mm)	1745	QPSK	20	1RB	22.64	22.7	1.014	**0.303**	**0.31**	1.6	**14#**
Body Back(5mm)	1745	QPSK	20	50%RB	22.58	22.7	1.028	0.269	0.28	1.6	/

Note:

LTE FDD Band 66 and LTE FDD Band 4 have the same power, we only tested the LTE Band 66 because it has a larger frequency range, so the LTE FDD Band 4 does not need to be tested

LTE FDD Band 26&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
Limbs Front(0mm)	831.5	QPSK	15	1RB	24.81	25	1.045	0.118	0.12	4.0	/
Limbs Front(0mm)	831.5	QPSK	15	50%RB	24.51	25	1.119	0.089	0.10	4.0	/
Limbs Back(0mm)	831.5	QPSK	15	1RB	24.81	25	1.045	0.383	0.40	4.0	/
Limbs Back(0mm)	831.5	QPSK	15	50%RB	24.51	25	1.119	0.306	0.34	4.0	/
Limbs Left(0mm)	831.5	QPSK	15	1RB	24.81	25	1.045	0.143	0.15	4.0	/
Limbs Left(0mm)	831.5	QPSK	15	50%RB	24.51	25	1.119	0.115	0.13	4.0	/
Limbs Right (0mm)	831.5	QPSK	15	1RB	24.81	25	1.045	**0.810**	**0.85**	4.0	**15#**
Limbs Right (0mm)	831.5	QPSK	15	50%RB	24.51	25	1.119	0.680	0.76	4.0	/
Limbs Top(0mm)	831.5	QPSK	15	1RB	24.81	25	1.045	0.208	0.22	4.0	/
Limbs Top(0mm)	831.5	QPSK	15	50%RB	24.51	25	1.119	0.164	0.18	4.0	/
Limbs Bottom(0mm)	831.5	QPSK	15	1RB	/	/	/	/	/	4.0	/
Limbs Bottom(0mm)	831.5	QPSK	15	50%RB	/	/	/	/	/	4.0	/
Body Back(5mm)	831.5	QPSK	15	1RB	24.81	25	1.045	**0.481**	**0.50**	1.6	**16#**
Body Back(5mm)	821.5	QPSK	15	50%RB	24.51	25	1.119	0.393	0.44	1.6	/

Note:

LTE FDD Band 26 and LTE FDD Band 5 have the same power, we only tested the LTE Band 26 because it has a larger frequency range, so the LTE FDD Band 5 does not need to be tested

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
Limbs Front(0mm)	2535	QPSK	20	1RB	21.57	22	1.104	0.069	0.08	4.0	/
Limbs Front(0mm)	2535	QPSK	20	50%RB	21.41	22	1.146	0.057	0.07	4.0	/
Limbs Back(0mm)	2535	QPSK	20	1RB	21.57	22	1.104	0.454	0.50	4.0	/
Limbs Back(0mm)	2535	QPSK	20	50%RB	21.41	22	1.146	0.361	0.41	4.0	/
Limbs Left(0mm)	2535	QPSK	20	1RB	21.57	22	1.104	0.080	0.09	4.0	/
Limbs Left(0mm)	2535	QPSK	20	50%RB	21.41	22	1.146	0.068	0.08	4.0	/
Limbs Right (0mm)	2535	QPSK	20	1RB	21.57	22	1.104	**0.979**	**1.08**	4.0	**17#**
Limbs Right (0mm)	2535	QPSK	20	50%RB	21.41	22	1.146	0.791	0.91	4.0	/
Limbs Top(0mm)	2535	QPSK	20	1RB	21.57	22	1.104	0.046	0.05	4.0	/
Limbs Top(0mm)	2535	QPSK	20	50%RB	21.41	22	1.146	0.037	0.04	4.0	/
Limbs Bottom(0mm)	2535	QPSK	20	1RB	/	/	/	/	/	4.0	/
Limbs Bottom(0mm)	2535	QPSK	20	50%RB	/	/	/	/	/	4.0	/
Body Back(5mm)	2535	QPSK	20	1RB	21.57	22	1.104	**0.568**	**0.63**	1.6	**18#**
Body Back(5mm)	2535	QPSK	20	50%RB	21.41	22	1.146	0.463	0.53	1.6	/

LTE FDD Band 12&17:

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
Limbs Front(0mm)	707.5	QPSK	10	1RB	24.65	25	1.084	0.137	0.15	4.0	/
Limbs Front(0mm)	707.5	QPSK	10	50%RB	24.08	25	1.236	0.120	0.15	4.0	/
Limbs Back(0mm)	707.5	QPSK	10	1RB	24.65	25	1.084	0.341	0.37	4.0	/
Limbs Back(0mm)	707.5	QPSK	10	50%RB	24.08	25	1.236	0.283	0.35	4.0	/
Limbs Left(0mm)	707.5	QPSK	10	1RB	24.65	25	1.084	0.062	0.07	4.0	/
Limbs Left(0mm)	707.5	QPSK	10	50%RB	24.08	25	1.236	0.049	0.06	4.0	/
Limbs Right (0mm)	707.5	QPSK	10	1RB	24.65	25	1.084	**0.822**	**0.89**	4.0	**19#**
Limbs Right (0mm)	707.5	QPSK	10	50%RB	24.08	25	1.236	0.665	0.82	4.0	/
Limbs Top(0mm)	707.5	QPSK	10	1RB	24.65	25	1.084	0.070	0.08	4.0	/
Limbs Top(0mm)	707.5	QPSK	10	50%RB	24.08	25	1.236	0.060	0.07	4.0	/
Limbs Bottom(0mm)	707.5	QPSK	10	1RB	/	/	/	/	/	4.0	/
Limbs Bottom(0mm)	707.5	QPSK	10	50%RB	/	/	/	/	/	4.0	/
Body Back(5mm)	707.5	QPSK	10	1RB	24.65	25	1.084	**0.329**	**0.36**	1.6	**20#**
Body Back(5mm)	707.5	QPSK	10	50%RB	24.08	25	1.236	0.273	0.34	1.6	/

Note:

LTE FDD Band 12 and LTE FDD Band 17 have the same power, we only tested the LTE Band 12 because it has a larger frequency range, so the LTE FDD Band 17 does not need to be tested

LTE FDD Band 13:

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
Limbs Front(0mm)	782	QPSK	10	1RB	22.81	23	1.045	0.186	0.19	4.0	/
Limbs Front(0mm)	782	QPSK	10	50%RB	22.72	23	1.067	0.150	0.16	4.0	/
Limbs Back(0mm)	782	QPSK	10	1RB	22.81	23	1.045	0.515	0.54	4.0	/
Limbs Back(0mm)	782	QPSK	10	50%RB	22.72	23	1.067	0.417	0.45	4.0	/
Limbs Left(0mm)	782	QPSK	10	1RB	22.81	23	1.045	0.154	0.16	4.0	/
Limbs Left(0mm)	782	QPSK	10	50%RB	22.72	23	1.067	0.125	0.13	4.0	/
Limbs Right (0mm)	782	QPSK	10	1RB	22.81	23	1.045	**0.994**	**1.04**	4.0	**21#**
Limbs Right (0mm)	782	QPSK	10	50%RB	22.72	23	1.067	0.969	1.03	4.0	/
Limbs Top(0mm)	782	QPSK	10	1RB	22.81	23	1.045	0.198	0.21	4.0	/
Limbs Top(0mm)	782	QPSK	10	50%RB	22.72	23	1.067	0.164	0.18	4.0	/
Limbs Bottom(0mm)	782	QPSK	10	1RB	/	/	/	/	/	4.0	/
Limbs Bottom(0mm)	782	QPSK	10	50%RB	/	/	/	/	/	4.0	/
Body Back(5mm)	782	QPSK	10	1RB	22.81	23	1.045	**0.517**	**0.54**	1.6	**22#**
Body Back(5mm)	782	QPSK	10	50%RB	22.72	23	1.067	0.432	0.46	1.6	/

LTE FDD Band 71:

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
Limbs Front(0mm)	680.5	QPSK	20	1RB	24.15	24.5	1.084	0.106	0.12	4.0	/
Limbs Front(0mm)	680.5	QPSK	20	50%RB	24.03	24.5	1.114	0.108	0.12	4.0	/
Limbs Back(0mm)	680.5	QPSK	20	1RB	24.15	24.5	1.084	0.315	0.34	4.0	/
Limbs Back(0mm)	680.5	QPSK	20	50%RB	24.03	24.5	1.114	0.314	0.35	4.0	/
Limbs Left(0mm)	680.5	QPSK	20	1RB	24.15	24.5	1.084	0.042	0.05	4.0	/
Limbs Left(0mm)	680.5	QPSK	20	50%RB	24.03	24.5	1.114	0.039	0.04	4.0	/
Limbs Right (0mm)	680.5	QPSK	20	1RB	24.15	24.5	1.084	**0.640**	**0.69**	4.0	**23#**
Limbs Right (0mm)	680.5	QPSK	20	50%RB	24.03	24.5	1.114	0.622	0.69	4.0	/
Limbs Top(0mm)	680.5	QPSK	20	1RB	24.15	24.5	1.084	0.031	0.03	4.0	/
Limbs Top(0mm)	680.5	QPSK	20	50%RB	24.03	24.5	1.114	0.033	0.04	4.0	/
Limbs Bottom(0mm)	680.5	QPSK	20	1RB	/	/	/	/	/	4.0	/
Limbs Bottom(0mm)	680.5	QPSK	20	50%RB	/	/	/	/	/	4.0	/
Body Back(5mm)	680.5	QPSK	20	1RB	24.15	24.5	1.084	0.272	0.30	1.6	/
Body Back(5mm)	680.5	QPSK	20	50%RB	24.03	24.5	1.114	**0.275**	**0.31**	1.6	**24#**

LTE TDD Band 41&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
Limbs Front(0mm)	2595	QPSK	20	1RB	22	22.5	1.122	0.065	0.07	4.0	/
Limbs Front(0mm)	2595	QPSK	20	50%RB	21.79	22.5	1.178	0.055	0.07	4.0	/
Limbs Back(0mm)	2595	QPSK	20	1RB	22	22.5	1.122	0.344	0.39	4.0	/
Limbs Back(0mm)	2595	QPSK	20	50%RB	21.79	22.5	1.178	0.302	0.36	4.0	/
Limbs Left(0mm)	2595	QPSK	20	1RB	22	22.5	1.122	0.102	0.11	4.0	/
Limbs Left(0mm)	2595	QPSK	20	50%RB	21.79	22.5	1.178	0.089	0.11	4.0	/
Limbs Right (0mm)	2595	QPSK	20	1RB	22	22.5	1.122	**0.950**	**1.07**	4.0	**25#**
Limbs Right (0mm)	2595	QPSK	20	50%RB	21.79	22.5	1.178	0.772	0.91	4.0	/
Limbs Top(0mm)	2595	QPSK	20	1RB	22	22.5	1.122	0.049	0.06	4.0	/
Limbs Top(0mm)	2595	QPSK	20	50%RB	21.79	22.5	1.178	0.043	0.05	4.0	/
Limbs Bottom(0mm)	2595	QPSK	20	1RB	/	/	/	/	/	4.0	/
Limbs Bottom(0mm)	2595	QPSK	20	50%RB	/	/	/	/	/	4.0	/
Body Back(5mm)	2595	QPSK	20	1RB	22	22.5	1.122	**0.428**	**0.48**	1.6	**26#**
Body Back(5mm)	2595	QPSK	20	50%RB	21.79	22.5	1.178	0.367	0.43	1.6	/

Note:

1.The frequency range of LTE Band 41 is 2535~ 2655MHz. Per KDB 447498 D01, according to the following formula Calculate Nc is 4.

2.KDB procedures *the following should be applied to determine the number of required test channels. The test channels should be evenly spread across the transmission frequency band of each wireless mode.*

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

where

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

Note:

1. When the SAR value is greater than half of the limit value, the other two channels should be tested
2. 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.
3. 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.
4. LTE TDD Band 41 and LTE TDD Band 38 have the same power, we only tested the LTE TDD Band 41 because it has a larger frequency range, so the LTE TDD Band 38 does not need to be tested

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	Limbs Front(0mm)	2437	802.11b 1Mbps	16.49	17	1.125	1.006	0.040	0.05	4.0	/
WLAN2.4G	Limbs Back (0mm)	2437	802.11b 1Mbps	16.49	17	1.125	1.006	0.157	0.18	4.0	/
WLAN2.4G	Limbs Left(0mm)	2437	802.11b 1Mbps	16.49	17	1.125	1.006	**0.765**	**0.87**	4.0	**27#**
WLAN2.4G	Limbs Right (0mm)	2437	802.11b 1Mbps	/	/	/	/	/	/	4.0	/
WLAN2.4G	Limbs Top(0mm)	2437	802.11b 1Mbps	/	/	/	/	/	/	4.0	/
WLAN2.4G	Limbs Bottom(0mm)	2437	802.11b 1Mbps	/	/	/	/	/	/	4.0	/
WLAN2.4G	Body Back (5mm)	2437	802.11b 1Mbps	16.49	17	1.125	1.006	**0.203**	**0.23**	1.6	**28#**

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	Limbs Front(0mm)	5200	802.11a 6Mbps	16.87	17	1.030	1.041	0.012	0.01	4.0	/
WLAN5.2G	Limbs Back (0mm)	5200	802.11a 6Mbps	16.87	17	1.030	1.041	0.218	0.23	4.0	/
WLAN5.2G	Limbs Left(0mm)	5200	802.11a 6Mbps	16.87	17	1.030	1.041	**0.306**	**0.33**	4.0	**29#**
WLAN5.2G	Limbs Right (0mm)	5200	802.11a 6Mbps	/	/	/	/	/	/	4.0	/
WLAN5.2G	Limbs Top(0mm)	5200	802.11a 6Mbps	/	/	/	/	/	/	4.0	/
WLAN5.2G	Limbs Bottom(0mm)	5200	802.11a 6Mbps	/	/	/	/	/	/	4.0	/
WLAN5.2G	Body Back (5mm)	5200	802.11a 6Mbps	16.87	17	1.030	1.041	**0.305**	**0.33**	1.6	**30#**

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	Limbs Front(0mm)	5260	802.11a 6Mbps	16.62	17	1.091	1.033	0.018	0.02	4.0	/
WLAN5.3G	Limbs Back (0mm)	5260	802.11a 6Mbps	16.62	17	1.091	1.033	0.269	0.30	4.0	/
WLAN5.3G	Limbs Left(0mm)	5260	802.11a 6Mbps	16.62	17	1.091	1.033	**0.407**	**0.46**	4.0	**31#**
WLAN5.3G	Limbs Right (0mm)	5260	802.11a 6Mbps	/	/	/	/	/	/	4.0	/
WLAN5.3G	Limbs Top(0mm)	5260	802.11a 6Mbps	/	/	/	/	/	/	4.0	/
WLAN5.3G	Limbs Bottom(0mm)	5260	802.11a 6Mbps	/	/	/	/	/	/	4.0	/
WLAN5.3G	Body Back (5mm)	5260	802.11a 6Mbps	16.62	17	1.091	1.033	**0.271**	**0.31**	1.6	**32#**

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	Limbs Front(0mm)	5785	802.11a 6Mbps	15.34	16	1.164	1.041	0.008	0.01	4.0	/
WLAN5.8G	Limbs Back (0mm)	5785	802.11a 6Mbps	15.34	16	1.164	1.041	0.212	0.26	4.0	/
WLAN5.8G	Limbs Left(0mm)	5785	802.11a 6Mbps	15.34	16	1.164	1.041	**0.272**	**0.33**	4.0	**33#**
WLAN5.8G	Limbs Right (0mm)	5785	802.11a 6Mbps	/	/	/	/	/	/	4.0	/
WLAN5.8G	Limbs Top(0mm)	5785	802.11a 6Mbps	/	/	/	/	/	/	4.0	/
WLAN5.8G	Limbs Bottom(0mm)	5785	802.11a 6Mbps	/	/	/	/	/	/	4.0	/
WLAN5.8G	Body Back (5mm)	5785	802.11a 6Mbps	15.34	16	1.164	1.041	**0.199**	**0.24**	1.6	**34#**

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

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) + BLE+NFC	√	×

Simultaneous Transmission Consideration Detail

Limbs:

Transmitter Combination	Position	Max SAR(W/kg)		∑SAR< 4.0W/kg
		SAR1(WWAN)	SAR2(WLAN)	
WWAN+ 2.4GWLAN	Limbs	1.51	0.87	2.38

Transmitter Combination	Position	Max SAR(W/kg)		∑SAR< 4.0W/kg
		SAR1(WWAN)	SAR2(WLAN)	
WWAN+5GWLAN	Limbs	1.51	0.46	1.97

Transmitter Combination	Position	Max SAR(W/kg)		∑SAR< 4.0W/kg
		SAR1(WWAN)	SAR2(WLAN)	
WWAN+ BLE	Limbs	1.51	0.01	1.52

Body:

Transmitter Combination	Position	Max SAR(W/kg)		∑SAR< 1.6W/kg
		SAR1(WWAN)	SAR2(WLAN)	
WWAN+ 2.4GWLAN	Body	0.74	0.23	0.97

Transmitter Combination	Position	Max SAR(W/kg)		∑SAR< 1.6W/kg
		SAR1(WWAN)	SAR2(WLAN)	
WWAN+5GWLAN	Body	0.74	0.33	1.07

Transmitter Combination	Position	Max SAR(W/kg)		∑SAR< 1.6W/kg
		SAR1(WWAN)	SAR2(WLAN)	
WWAN+ BLE	Body	0.74	0.03	0.77

Conclusion:

Sum of SAR: **1.6 W/kg(Body)/4.0 W/kg(Limbs)** therefore simultaneous transmission SAR result is **Compliance**.

APPENDIX A SAR PLOTS OF SAR MEASUREMENT

1#_GSM850_GPRS 4 Tx slots_Right_0mm_Ch190

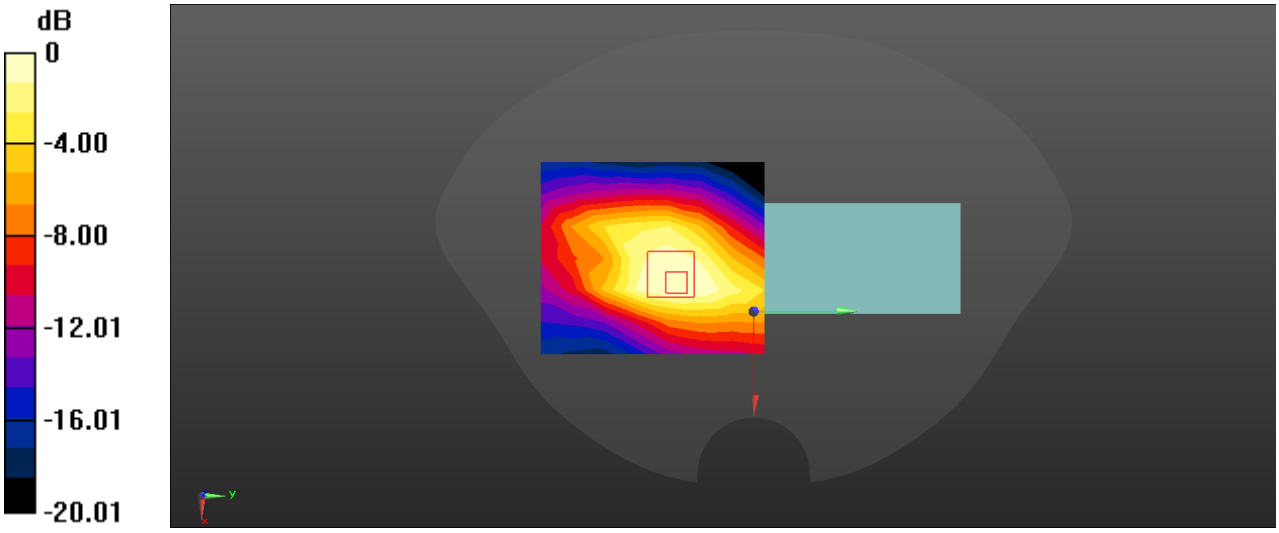
Communication System: UID 0, GSM850 (0); Frequency: 836.6 MHz;Duty Cycle: 1:2
Medium parameters used: f = 836.6 MHz; σ = 0.898 S/m; ε_r = 41.093; ρ = 1000 kg/m^3

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 (7x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.78 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.47 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 3.65 W/kg
SAR(1 g) = 2.12 W/kg; SAR(10 g) = 1.47 W/kg
Maximum value of SAR (measured) = 2.65 W/kg



0 dB = 2.78 W/kg = 4.44 dBW/kg

2#_GSM850_GPRS 4 Tx slots_Back_5mm_Ch190

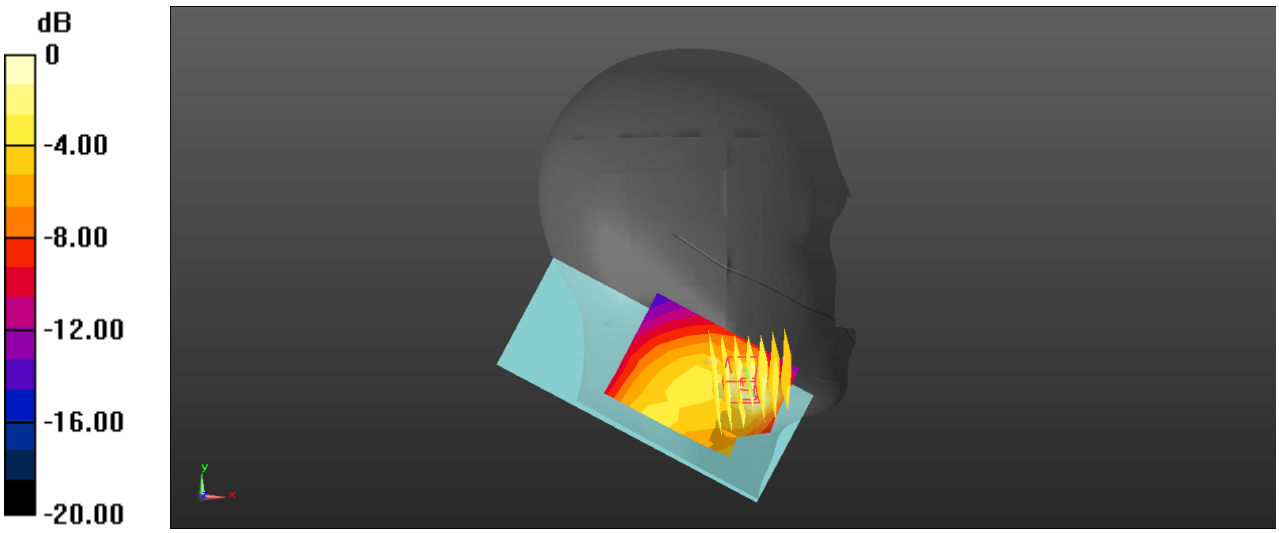
Communication System: UID 0, GSM850 (0); Frequency: 836.6 MHz;Duty Cycle: 1:2
Medium parameters used: f = 836.6 MHz; σ = 0.898 S/m; ε_r = 41.093; ρ = 1000 kg/m^3

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 (8x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.07 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.374 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 1.77 W/kg
SAR(1 g) = 0.721 W/kg; SAR(10 g) = 0.398 W/kg
Maximum value of SAR (measured) = 1.24 W/kg



0 dB = 1.24 W/kg = 0.93 dBW/kg

3#_GSM1900_GPRS 4 Tx slots_Right_0mm_Ch661

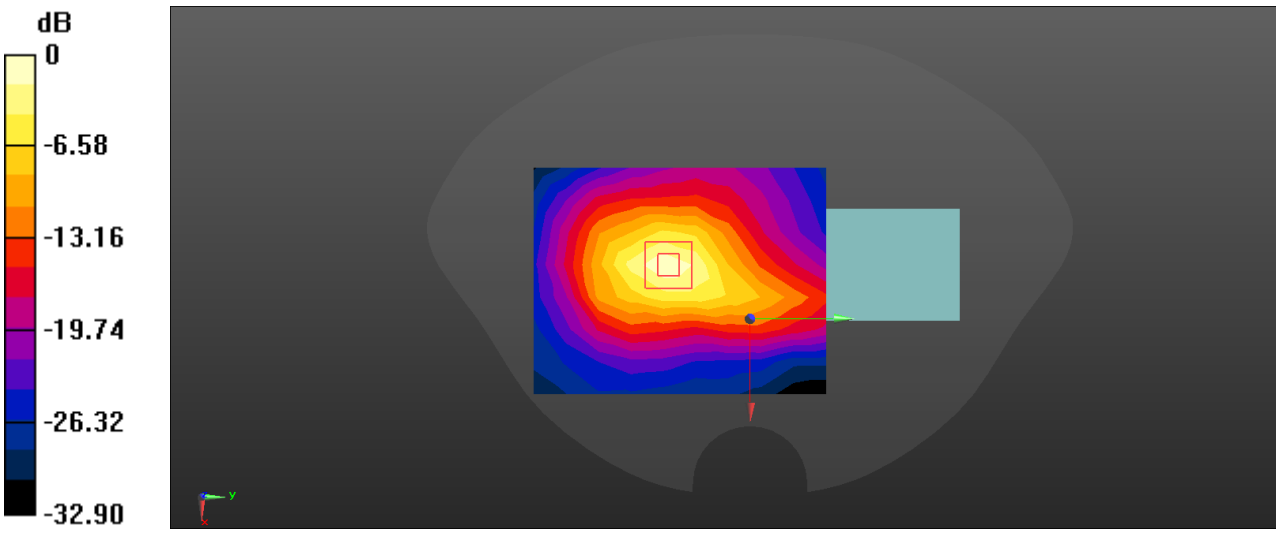
Communication System: UID 0, GSM 1900 (0); Frequency: 1880 MHz;Duty Cycle: 1:2
Medium parameters used: f = 1880 MHz; σ = 1.417 S/m; ε_r = 40.36; ρ = 1000 kg/m^3

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 (8x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 3.00 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.63 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 3.33 W/kg
SAR(1 g) = 2.2 W/kg; SAR(10 g) = 1.25 W/kg
Maximum value of SAR (measured) = 3.06 W/kg



0 dB = 3.06 W/kg = 4.86 dBW/kg

4#_GSM1900_GPRS 4 Tx slots_Back_5mm_Ch661

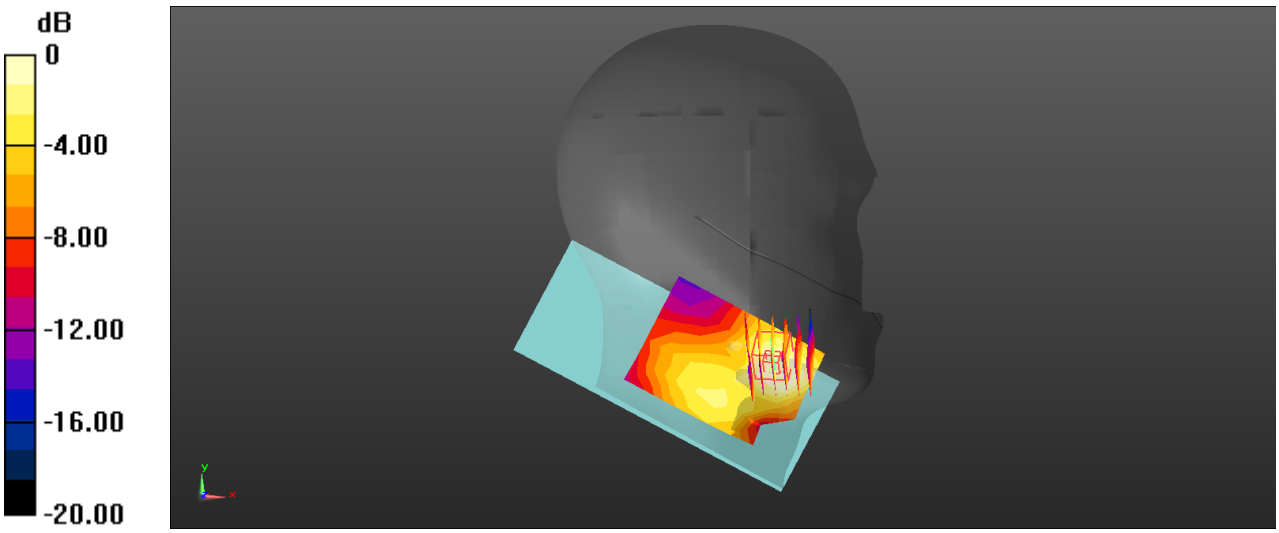
Communication System: UID 0, GSM 1900 (0); Frequency: 1880 MHz;Duty Cycle: 1:2
Medium parameters used: f = 1880 MHz; σ = 1.417 S/m; ε_r = 40.36; ρ = 1000 kg/m^3

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 (8x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.412 W/kg

Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.191 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.625 W/kg
SAR(1 g) = 0.470 W/kg; SAR(10 g) = 0.332 W/kg
Maximum value of SAR (measured) = 0.545 W/kg



0 dB = 0.545 W/kg = -2.64 dBW/kg

5#_WCDMA II_RMC 12.2Kbps_Right_0mm_Ch9400

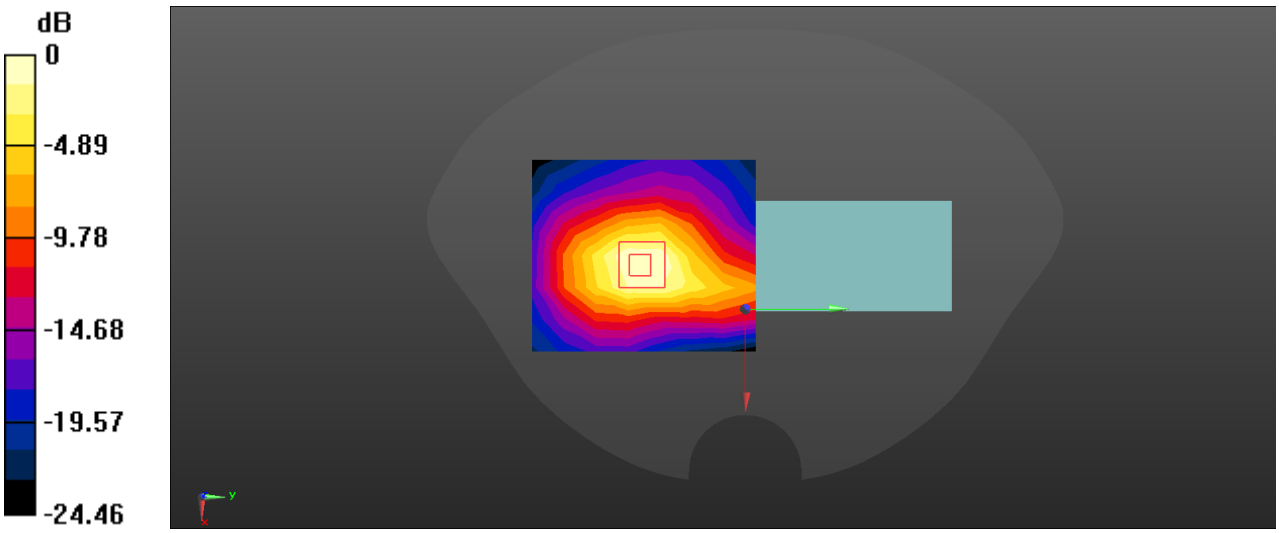
Communication System: UID 0, WCDMA 3G (0); Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.417 S/m; ε_r = 40.36; ρ = 1000 kg/m^3

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 (7x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.44 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.091 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 2.28 W/kg
SAR(1 g) = 1.53 W/kg; SAR(10 g) = 0.889 W/kg
Maximum value of SAR (measured) = 2.06 W/kg



0 dB = 2.06 W/kg = 3.14 dBW/kg

6#_WCDMA II_RMC 12.2Kbps_Back_5mm_Ch9400

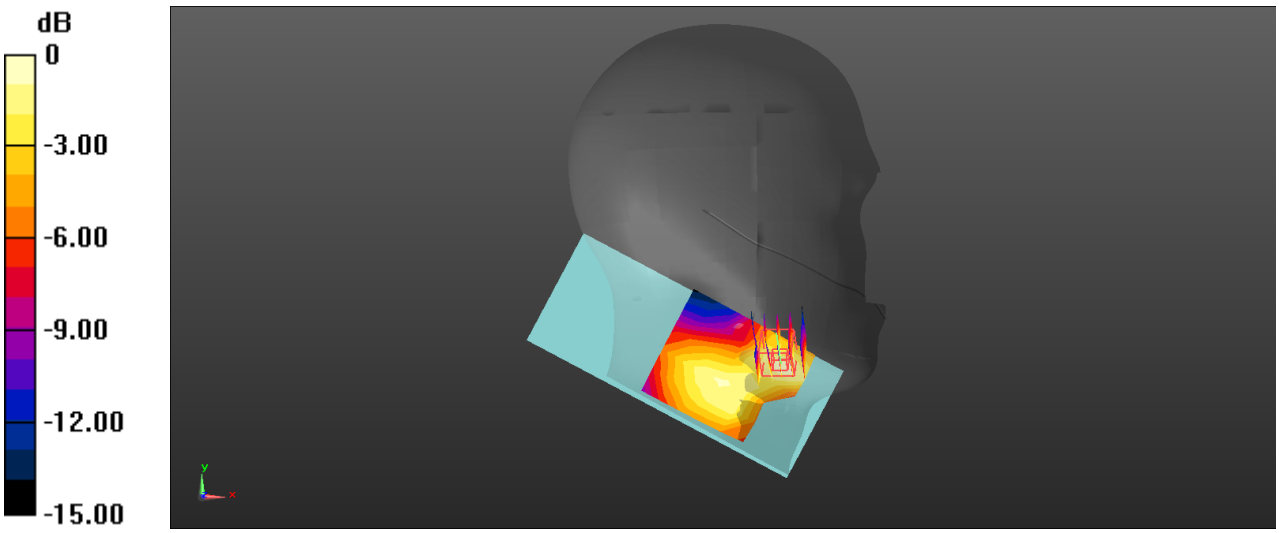
Communication System: UID 0, WCDMA 3G (0); Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.417 S/m; ε_r = 40.36; ρ = 1000 kg/m^3

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 (7x6x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.275 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.583 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.308 W/kg
SAR(1 g) = 0.238 W/kg; SAR(10 g) = 0.167 W/kg
Maximum value of SAR (measured) = 0.287 W/kg



0 dB = 0.287 W/kg = -5.42 dBW/kg

7#_WCDMA IV_RMC 12.2Kbps_Right_0mm_Ch1413

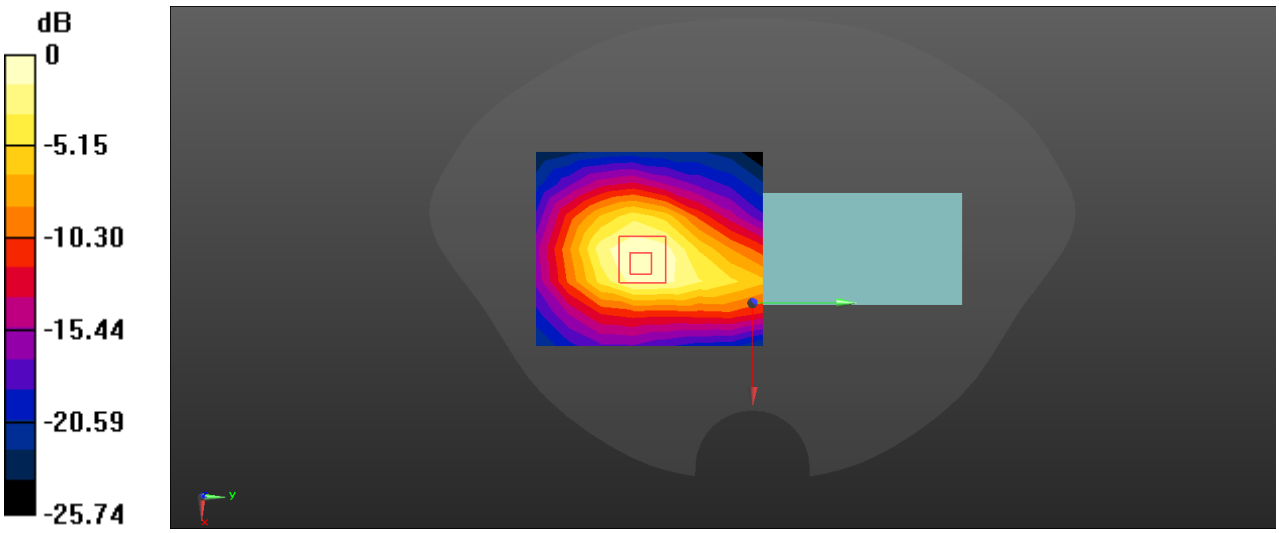
Communication System: UID 0, WCDMA 3G (0); Frequency: 1732.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1732.6 MHz; σ = 1.349 S/m; ε_r = 41.424; ρ = 1000 kg/m^3

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 (7x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.24 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.643 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 1.91 W/kg
SAR(1 g) = 1.27 W/kg; SAR(10 g) = 0.761 W/kg
Maximum value of SAR (measured) = 1.66 W/kg



0 dB = 1.66 W/kg = 2.20 dBW/kg

8#_WCDMA IV_RMC 12.2Kbps_Back_5mm_Ch1413

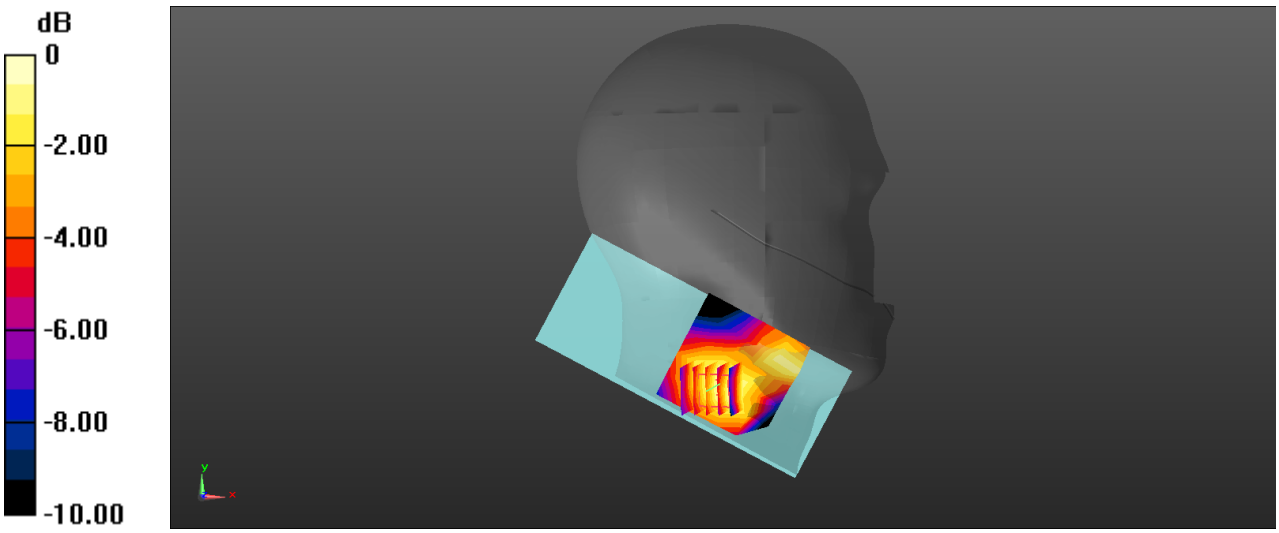
Communication System: UID 0, WCDMA 3G (0); Frequency: 1732.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1732.6 MHz; σ = 1.349 S/m; ε_r = 41.424; ρ = 1000 kg/m^3

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 (6x6x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.258 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.711 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.263 W/kg
SAR(1 g) = 0.237 W/kg; SAR(10 g) = 0.189 W/kg
Maximum value of SAR (measured) = 0.255 W/kg



0 dB = 0.258 W/kg = -5.88 dBW/kg

9#_WCDMA V_RMC 12.2Kbps_Right_0mm_Ch4183

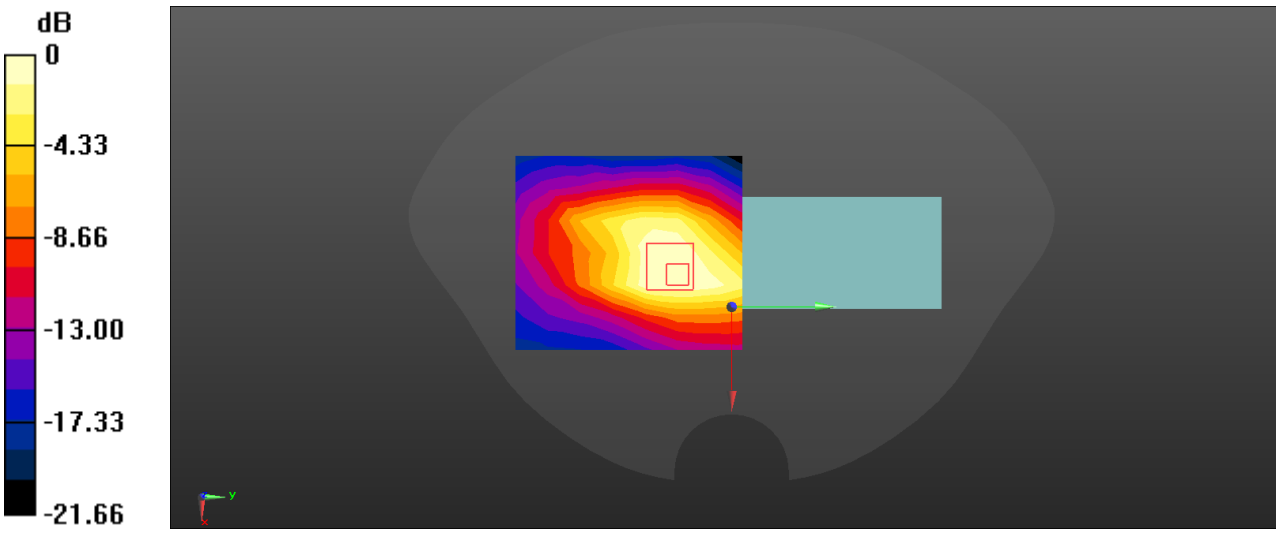
Communication System: UID 0, WCDMA 3G (0); Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 836.6 MHz; σ = 0.898 S/m; ε_r = 41.093; ρ = 1000 kg/m^3

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 (7x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.61 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.07 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 2.16 W/kg
SAR(1 g) = 1.21 W/kg; SAR(10 g) = 0.838 W/kg
Maximum value of SAR (measured) = 1.56 W/kg



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

10#_WCDMA V_RMC 12.2Kbps_Back_5mm_Ch4183

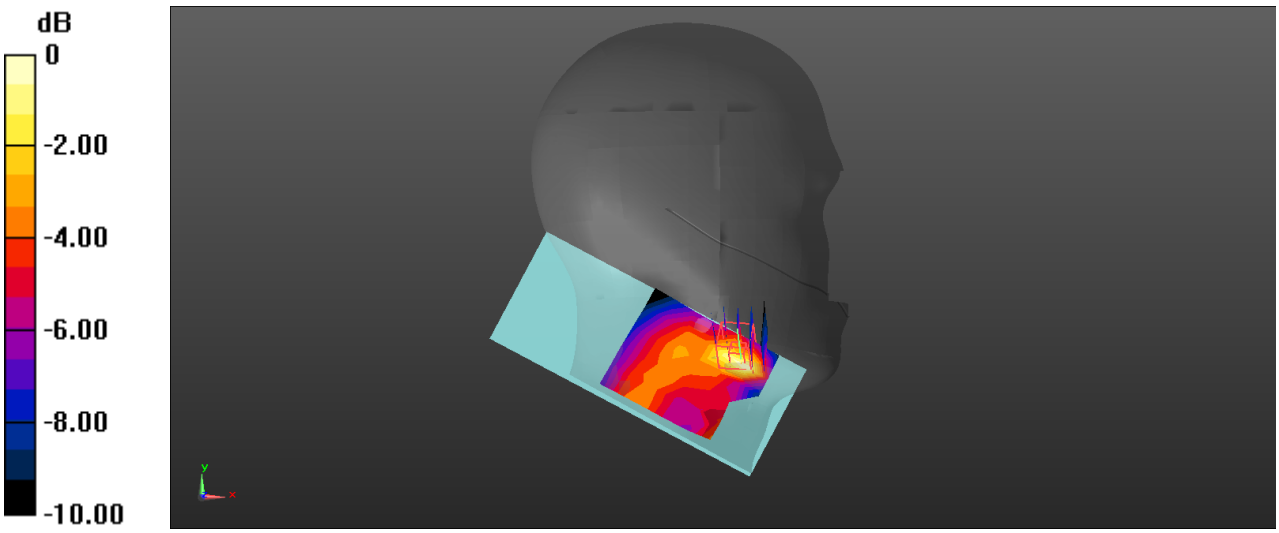
Communication System: UID 0, WCDMA 3G (0); Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 836.6 MHz; σ = 0.898 S/m; ε_r = 41.093; ρ = 1000 kg/m^3

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 (7x6x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.600 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.278 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 1.12 W/kg
SAR(1 g) = 0.437 W/kg; SAR(10 g) = 0.227 W/kg
Maximum value of SAR (measured) = 0.817 W/kg



0 dB = 0.817 W/kg = -0.88 dBW/kg

11#_LTE Band 25_20M_QPSK_1RB_0offset_Right_0mm_Ch26340

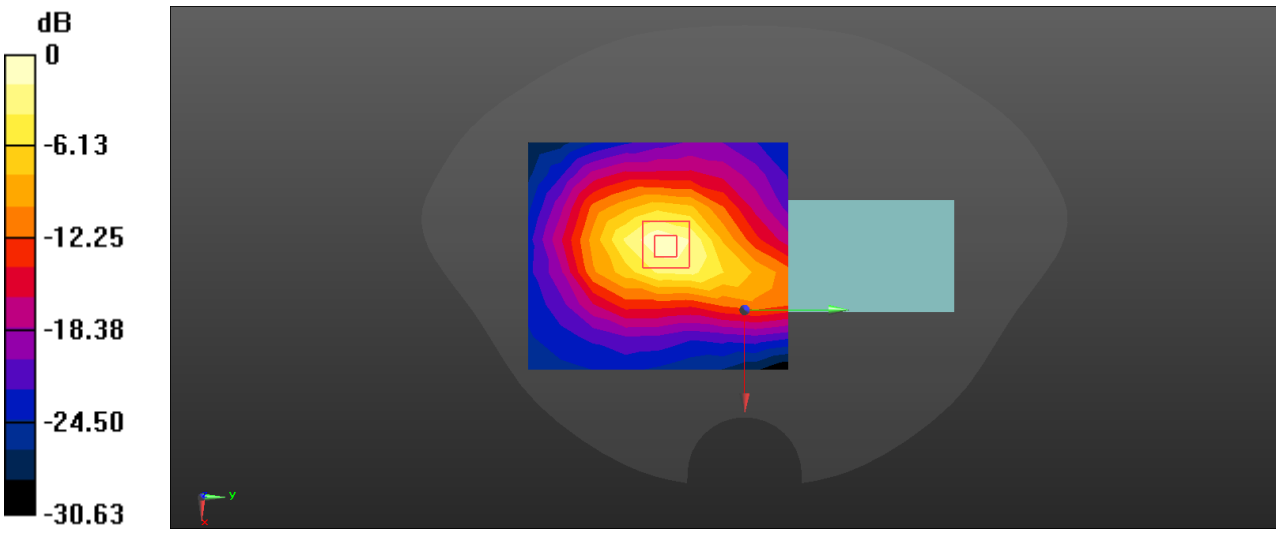
Communication System: UID 0, FDD LTE 4G (0); Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.417 S/m; ε_r = 40.36; ρ = 1000 kg/m^3

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 (8x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 3.00 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.18 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 3.20 W/kg
SAR(1 g) = 2.13 W/kg; SAR(10 g) = 1.22 W/kg
Maximum value of SAR (measured) = 2.91 W/kg



0 dB = 3.00 W/kg = 4.77 dBW/kg

12#_LTE Band 25_20M_QPSK_1RB_0offset_Back_5mm_Ch26340

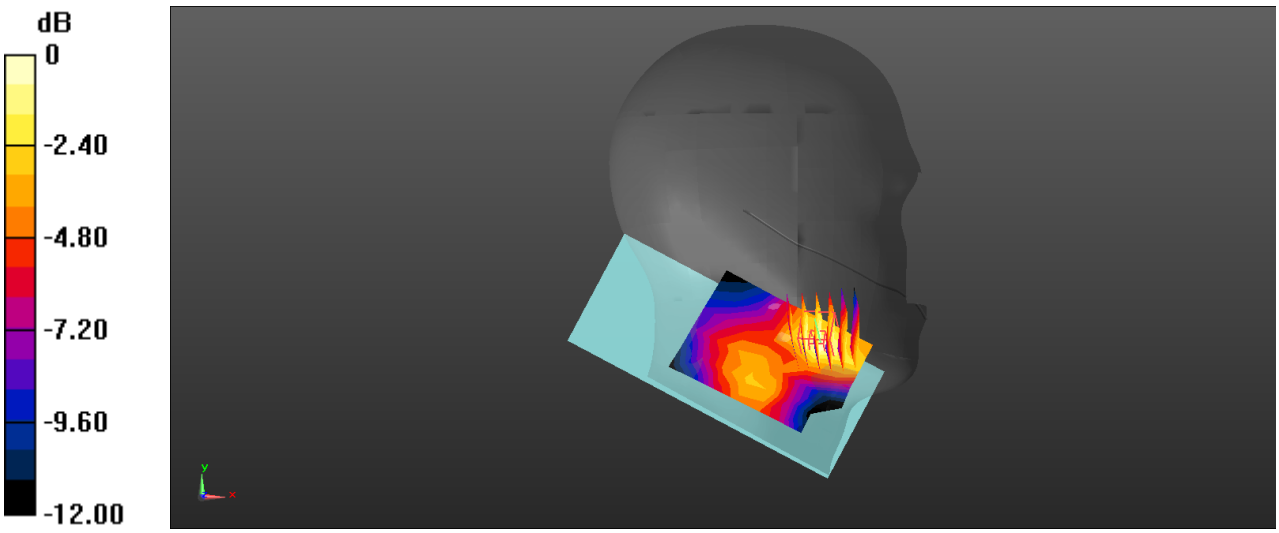
Communication System: UID 0, FDD LTE 4G (0); Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.417 S/m; ε_r = 40.36; ρ = 1000 kg/m^3

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 (8x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.408 W/kg

Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.838 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.446 W/kg
SAR(1 g) = 0.396 W/kg; SAR(10 g) = 0.290 W/kg
Maximum value of SAR (measured) = 0.420 W/kg



0 dB = 0.420 W/kg = -3.77 dBW/kg

13#_LTE Band 66_20M_QPSK_1RB_0offset_Right_0mm_Ch132322

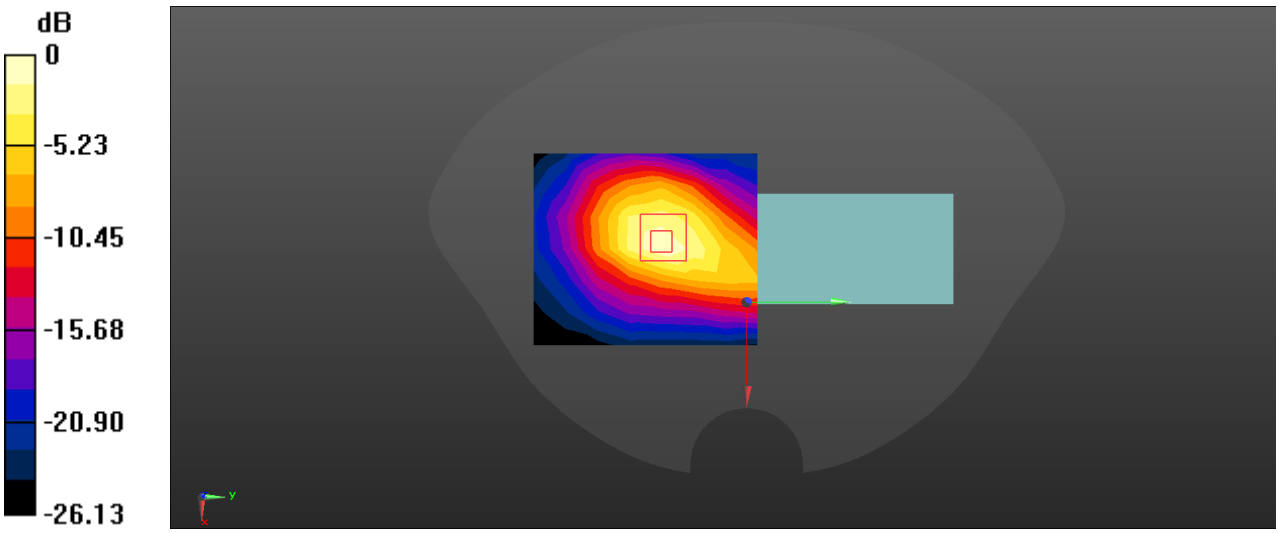
Communication System: UID 0, FDD LTE 4G (0); Frequency: 1745 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1745 MHz; σ = 1.362 S/m; ε_r = 41.388; ρ = 1000 kg/m^3

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 (7x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.91 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.88 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 2.45 W/kg
SAR(1 g) = 1.59 W/kg; SAR(10 g) = 0.931 W/kg
Maximum value of SAR (measured) = 2.22 W/kg



0 dB = 2.22 W/kg = 3.46 dBW/kg

14#_LTE Band 66_20M_QPSK_1RB_0offset_Back_5mm_Ch132322

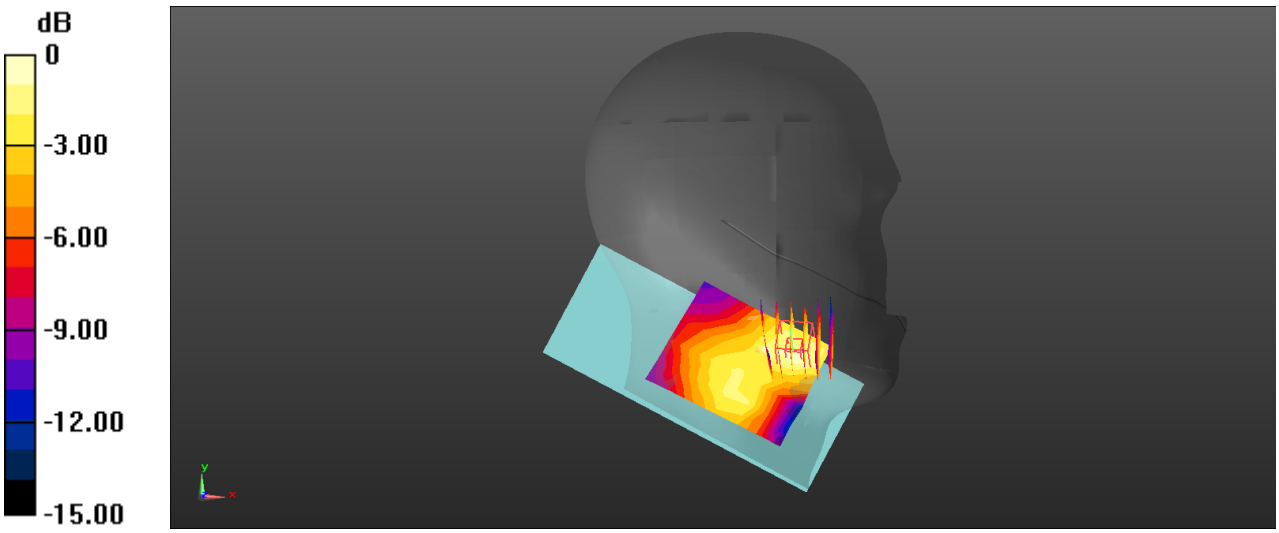
Communication System: UID 0, FDD LTE 4G (0); Frequency: 1745 MHz;Duty Cycle: 1:1
Medium parameters used : f = 1745 MHz; σ = 1.362 S/m; ε_r = 41.388; ρ = 1000 kg/m^3

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 (7x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.310 W/kg

Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.007 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.349 W/kg
SAR(1 g) = 0.303 W/kg; SAR(10 g) = 0.231 W/kg
Maximum value of SAR (measured) = 0.344 W/kg



0 dB = 0.344 W/kg = -4.63 dBW/kg

15#_LTE Band 26_15M_QPSK_1RB_0offset_Right_0mm_Ch26865

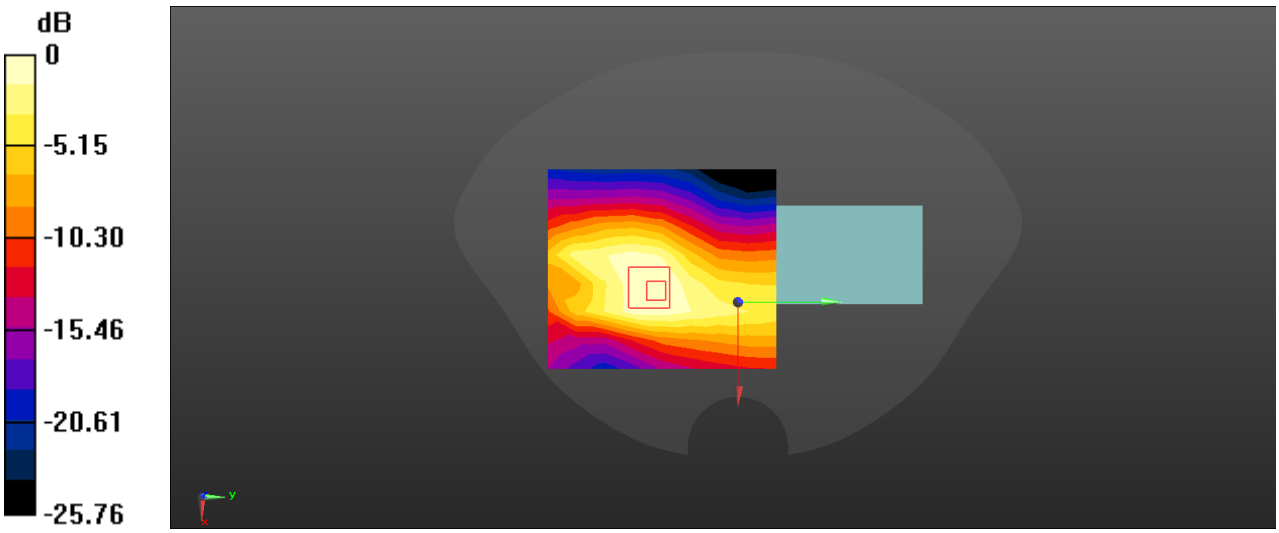
Communication System: UID 0, FDD LTE 4G (0); Frequency: 831.5 MHz;Duty Cycle: 1:1
Medium parameters used : f = 831.5 MHz; σ = 0.893 S/m; ε_r = 41.164; ρ = 1000 kg/m^3

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 (8x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.45 W/kg

Zoom Scan (6x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.73 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 1.92 W/kg
SAR(1 g) = 1.19 W/kg; SAR(10 g) = 0.810 W/kg
Maximum value of SAR (measured) = 1.57 W/kg



0 dB = 1.57 W/kg = 1.96 dBW/kg

16#_LTE Band 26_15M_QPSK_1RB_0offset_Back_5mm_Ch26865

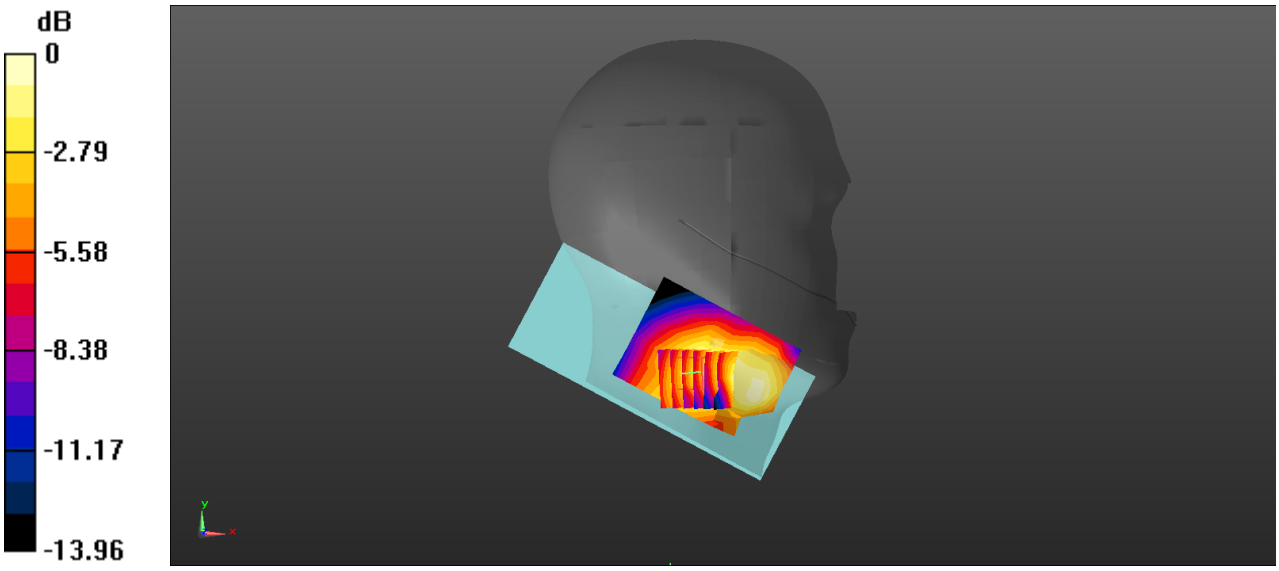
Communication System: UID 0, FDD LTE 4G (0); Frequency: 831.5 MHz;Duty Cycle: 1:1
Medium parameters used : f = 831.5 MHz; σ = 0.893 S/m; ε_r = 41.164; ρ = 1000 kg/m^3

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 (8x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.404 W/kg

Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.361 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 1.38 W/kg
SAR(1 g) = 0.481 W/kg; SAR(10 g) = 0.245 W/kg
Maximum value of SAR (measured) = 0.835 W/kg



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

17#_LTE Band 7_20M_QPSK_1RB_0offset_Right_0mm_Ch21100

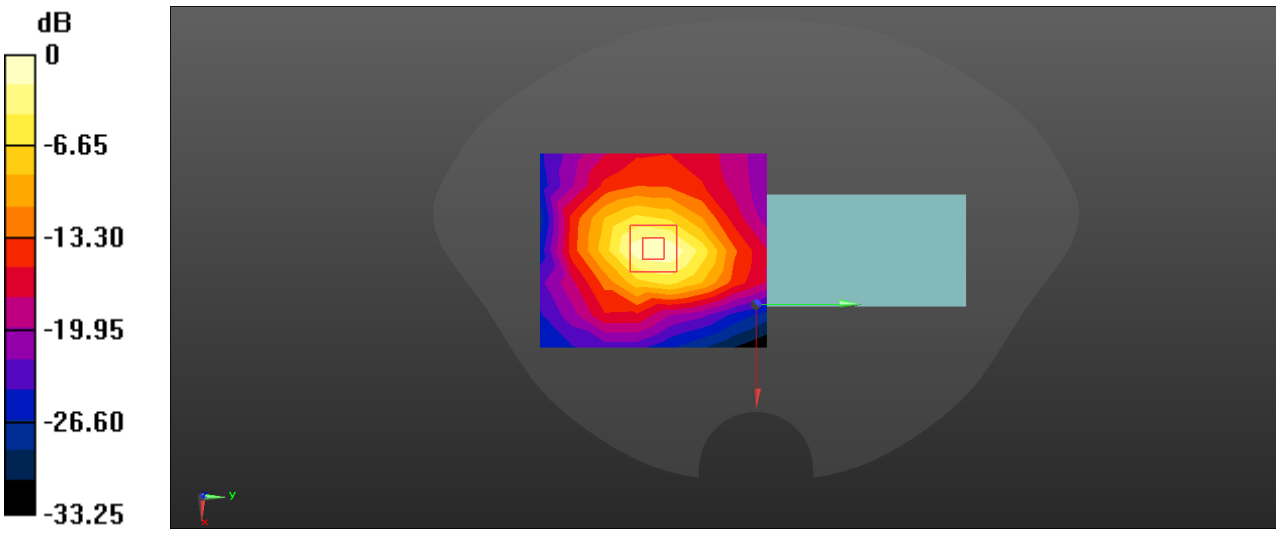
Communication System: UID 0, FDD LTE 4G (0); Frequency: 2535 MHz;Duty Cycle: 1:1
Medium parameters used : f = 2535 MHz; σ = 1.963 S/m; ε_r = 38.323; ρ = 1000 kg/m^3

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 (7x8x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 2.10 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.244 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 2.57 W/kg
SAR(1 g) = 1.81 W/kg; SAR(10 g) = 0.979 W/kg
Maximum value of SAR (measured) = 2.33 W/kg



0 dB = 2.33 W/kg = 3.67 dBW/kg

18#_LTE Band 7_20M_QPSK_1RB_0offset_Back_5mm_Ch21100

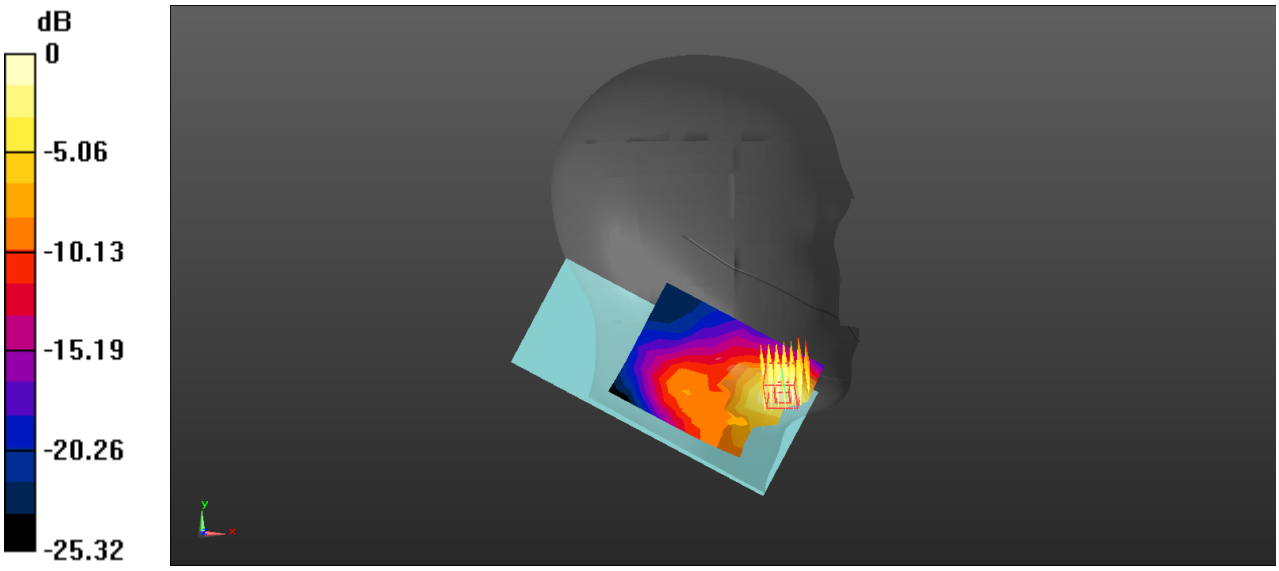
Communication System: UID 0, FDD LTE 4G (0); Frequency: 2535 MHz;Duty Cycle: 1:1
Medium parameters used : f = 2535 MHz; σ = 1.963 S/m; ε_r = 38.323; ρ = 1000 kg/m^3

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 (9x9x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.593 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.362 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.778 W/kg
SAR(1 g) = 0.568 W/kg; SAR(10 g) = 0.351 W/kg
Maximum value of SAR (measured) = 0.704 W/kg



0 dB = 0.704 W/kg = -1.52 dBW/kg

19#_LTE Band 12_10M_QPSK_1RB_0offset_Right_0mm_Ch23095

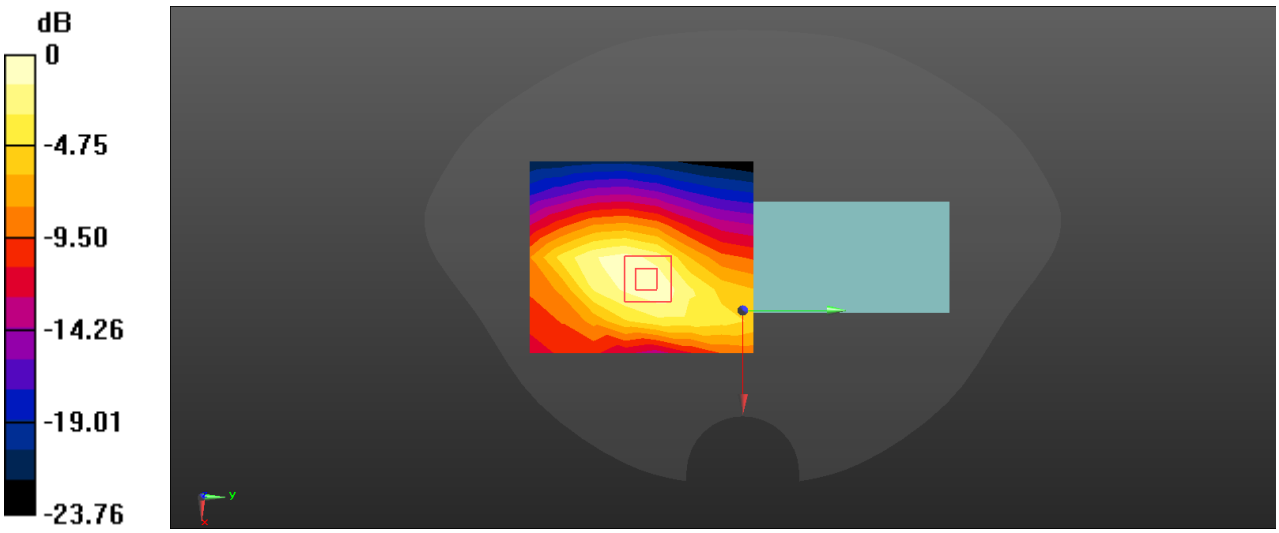
Communication System: UID 0, FDD LTE 4G (0); Frequency: 707.5 MHz;Duty Cycle: 1:1
Medium parameters used : f = 707.5 MHz; σ = 0.875 S/m; ε_r = 42.83; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(10.27, 10.27, 10.27); 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 (7x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.76 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.42 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 2.27 W/kg
SAR(1 g) = 1.33 W/kg; SAR(10 g) = 0.822 W/kg
Maximum value of SAR (measured) = 1.91 W/kg



0 dB = 1.91 W/kg = 2.81 dBW/kg

20#_LTE Band 12_10M_QPSK_1RB_0offset_Back_5mm_Ch23095

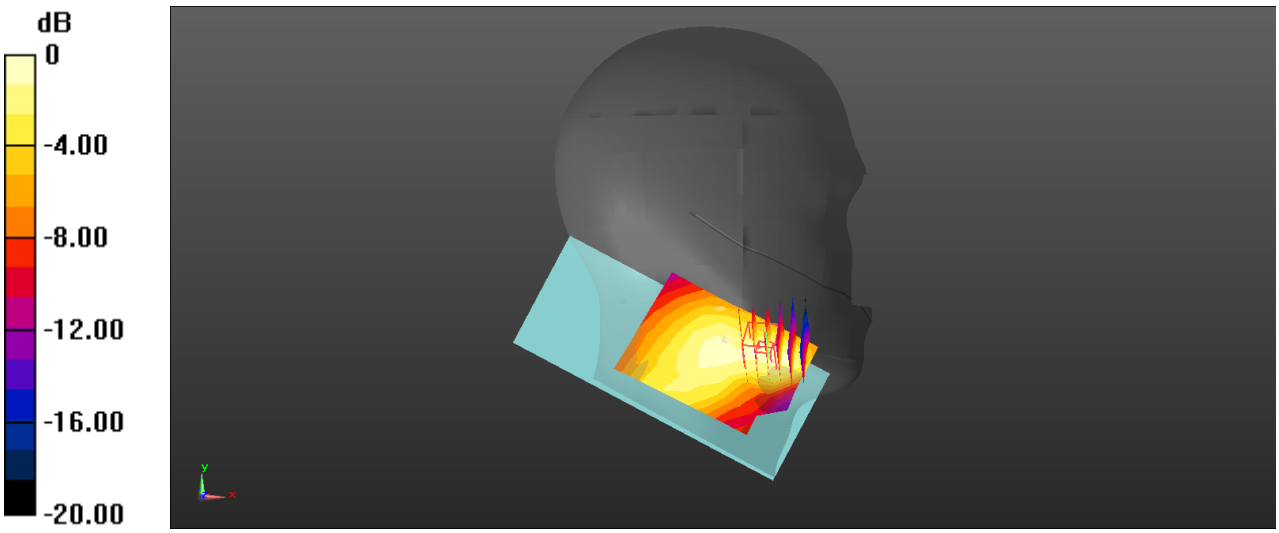
Communication System: UID 0, FDD LTE 4G (0); Frequency: 707.5 MHz;Duty Cycle: 1:1
Medium parameters used : f = 707.5 MHz; σ = 0.875 S/m; ε_r = 42.83; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(10.27, 10.27, 10.27); 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 (8x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.377 W/kg

Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.792 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.515 W/kg
SAR(1 g) = 0.329 W/kg; SAR(10 g) = 0.215 W/kg.
Maximum value of SAR (measured) = 0.448 W/kg



0 dB = 0.448 W/kg = -3.49 dBW/kg

21#_LTE Band 13_10M_QPSK_1RB_0offset_Right_0mm_Ch23230

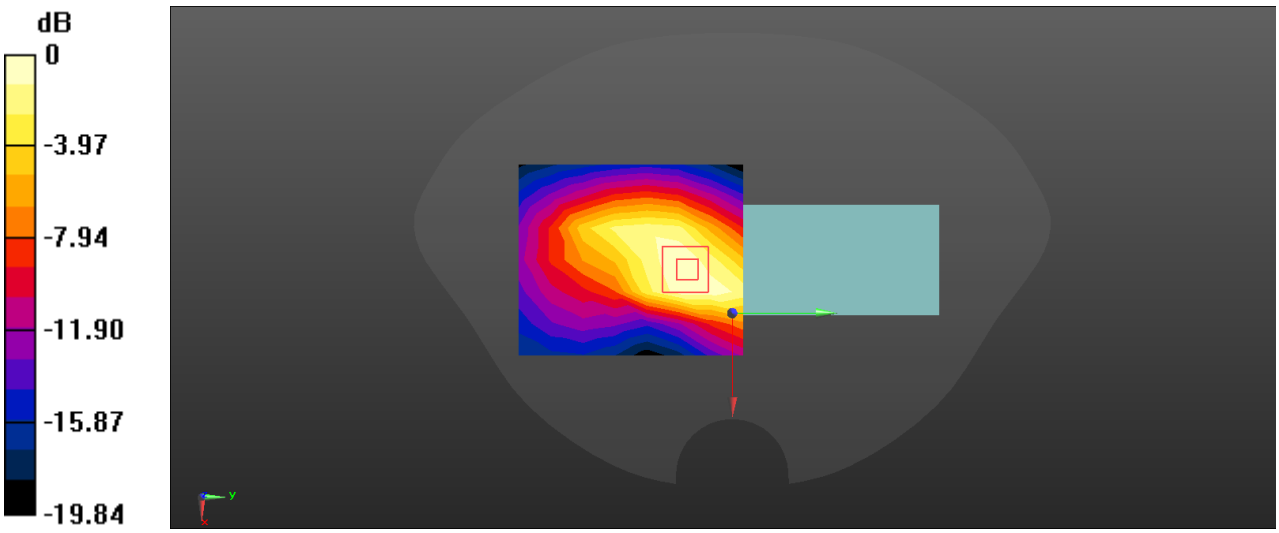
Communication System: UID 0, FDD LTE 4G (0); Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782 MHz; σ = 0.929 S/m; ε_r = 41.824; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(10.27, 10.27, 10.27); 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 (7x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.92 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 29.05 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 2.60 W/kg
SAR(1 g) = 1.47 W/kg; SAR(10 g) = 0.994 W/kg
Maximum value of SAR (measured) = 1.94 W/kg



0 dB = 1.94 W/kg = 2.88 dBW/kg

22#_LTE Band 13_10M_QPSK_1RB_0offset_Back_5mm_Ch23230

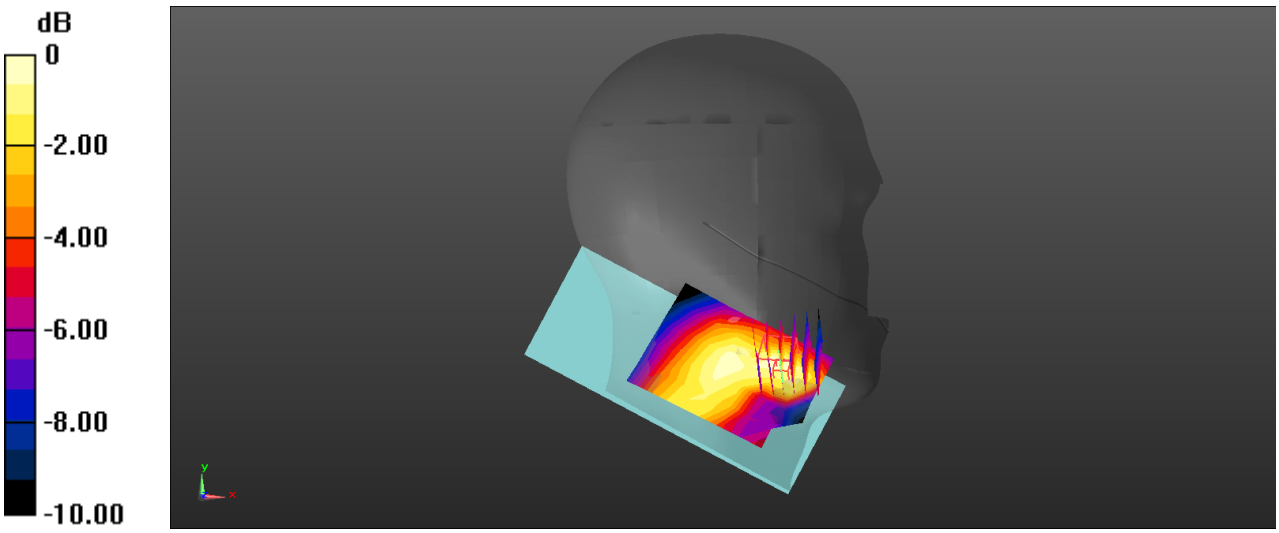
Communication System: UID 0, FDD LTE 4G (0); Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782 MHz; σ = 0.929 S/m; ε_r = 41.824; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(10.27, 10.27, 10.27); 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 (8x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.501 W/kg

Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.781 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 1.04 W/kg
SAR(1 g) = 0.517 W/kg; SAR(10 g) = 0.322 W/kg
Maximum value of SAR (measured) = 0.732 W/kg



0 dB = 0.732 W/kg = -1.35 dBW/kg

23#_LTE Band 71_20M_QPSK_1RB_0offset_Right_0mm_Ch133297

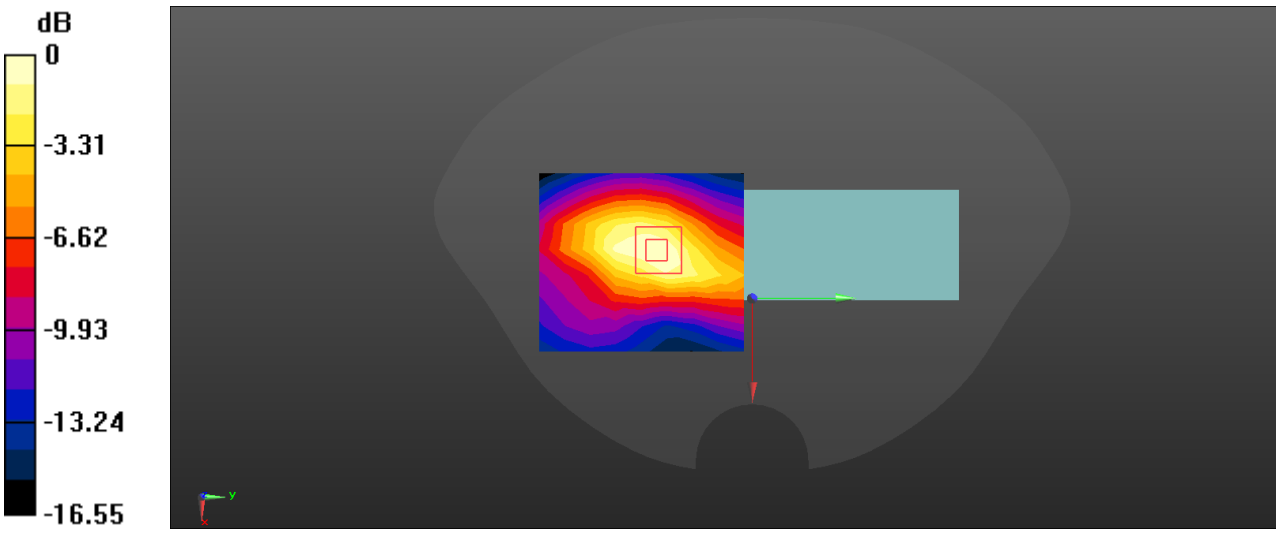
Communication System: UID 0, FDD LTE 4G (0); Frequency: 680.5 MHz;Duty Cycle: 1:1
Medium parameters used: f = 680.5 MHz; σ = 0.851 S/m; ε_r = 43.2; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(10.27, 10.27, 10.27); 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 (8x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.41 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.49 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 1.87 W/kg
SAR(1 g) = 1.05 W/kg; SAR(10 g) = 0.640 W/kg
Maximum value of SAR (measured) = 1.54 W/kg



0 dB = 1.54 W/kg = 1.88 dBW/kg

24#_LTE Band 71_20M_QPSK_50RB_0offset_Back_5mm_Ch133297

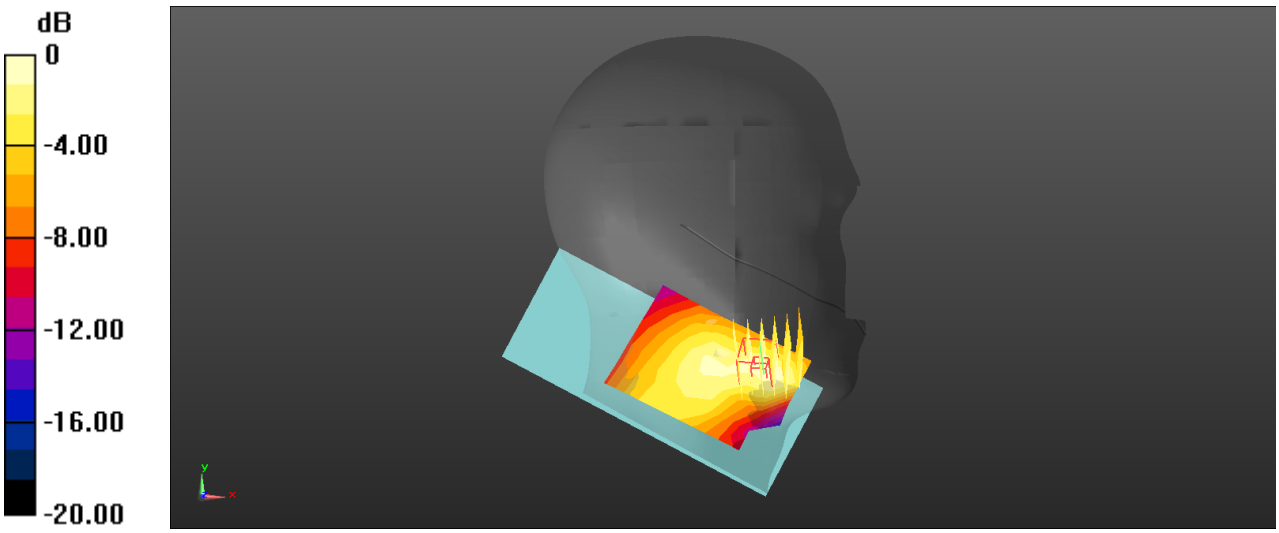
Communication System: UID 0, FDD LTE 4G (0); Frequency: 680.5 MHz;Duty Cycle: 1:1
Medium parameters used: f = 680.5 MHz; σ = 0.851 S/m; ε_r = 43.2; ρ = 1000 kg/m^3

DASY5 Configuration:

- Probe: EX3DV4 - SN7557; ConvF(10.27, 10.27, 10.27); 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 (8x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.344 W/kg

Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.310 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.438 W/kg
SAR(1 g) = 0.275 W/kg; SAR(10 g) = 0.181 W/kg
Maximum value of SAR (measured) = 0.370 W/kg



0 dB = 0.370 W/kg = -4.32 dBW/kg

25#_LTE Band 41_20M_QPSK_1RB_0offset_Right_0mm_Ch40640

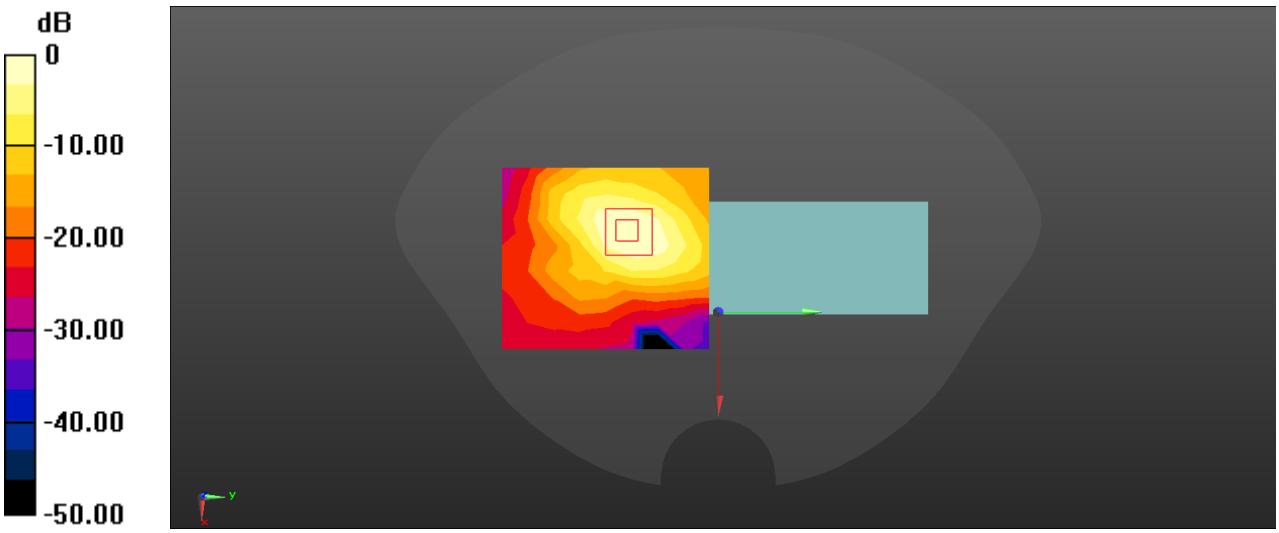
Communication System: UID 0, TDD LTE 4G (0); Frequency: 2595 MHz;Duty Cycle: 1:1.58
Medium parameters used : f = 2595 MHz; σ = 2.042 S/m; ε_r = 37.771; ρ = 1000 kg/m^3

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 (8x9x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 1.77 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.525 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 2.40 W/kg
SAR(1 g) = 1.73 W/kg; SAR(10 g) = 0.950 W/kg
Maximum value of SAR (measured) = 2.25 W/kg



0 dB = 2.25 W/kg = 3.52 dBW/kg

26#_LTE Band 41_20M_QPSK_1RB_0offset_Back_5mm_Ch40640

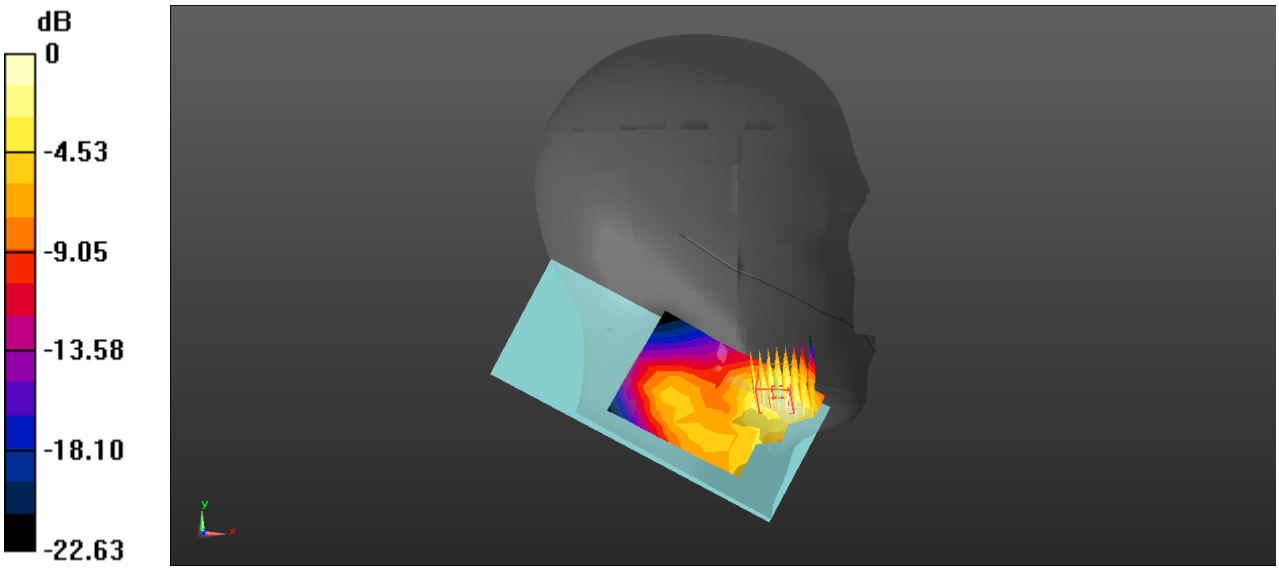
Communication System: UID 0, TDD LTE 4G (0); Frequency: 2595 MHz;Duty Cycle: 1:1.58
Medium parameters used : f = 2595 MHz; σ = 2.042 S/m; ε_r = 37.771; ρ = 1000 kg/m^3

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 (8x9x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.472 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.437 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.584 W/kg
SAR(1 g) = 0.428 W/kg; SAR(10 g) = 0.270 W/kg
Maximum value of SAR (measured) = 0.522 W/kg



0 dB = 0.522 W/kg = -2.82 dBW/kg

27#_WLAN 2.4GHz_802.11b 1Mbps_Left_0mm_Ch6

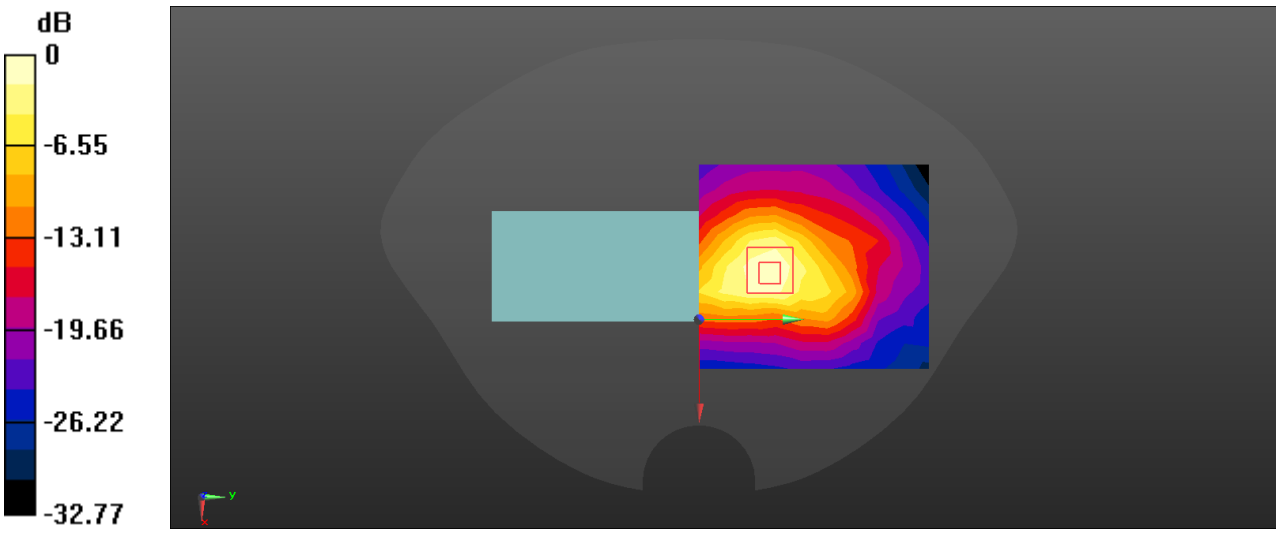
Communication System: UID 0, WIFI2.4G (0); Frequency: 2437 MHz;Duty Cycle: 1:1.006
Medium parameters used : f = 2437 MHz; σ = 1.853 S/m; ε_r = 38.757; ρ = 1000 kg/m^3

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 (9x10x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 1.70 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.68 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 2.10 W/kg
SAR(1 g) = 1.35 W/kg; SAR(10 g) = 0.765 W/kg
Maximum value of SAR (measured) = 1.88 W/kg



0 dB = 1.88 W/kg = 2.74 dBW/kg

28#_WLAN 2.4GHz_802.11b 1Mbps_Back_5mm_Ch6

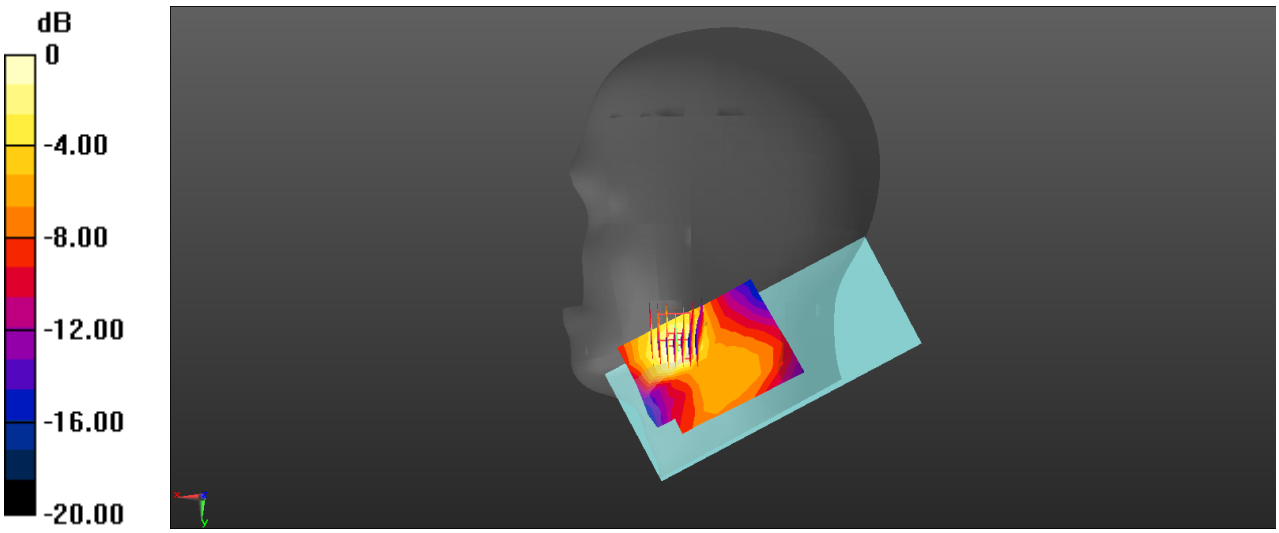
Communication System: UID 0, WIFI2.4G (0); Frequency: 2437 MHz;Duty Cycle: 1:1.006
Medium parameters used : f = 2437 MHz; σ = 1.853 S/m; ε_r = 38.757; ρ = 1000 kg/m^3

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 (9x7x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 0.214 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.9360 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.255 W/kg
SAR(1 g) = 0.203 W/kg; SAR(10 g) = 0.142 W/kg
Maximum value of SAR (measured) = 0.236 W/kg



0 dB = 0.236 W/kg = -6.27 dBW/kg

29#_WLAN 5.2GHz_802.11a 6Mbps_Left_0mm_Ch40

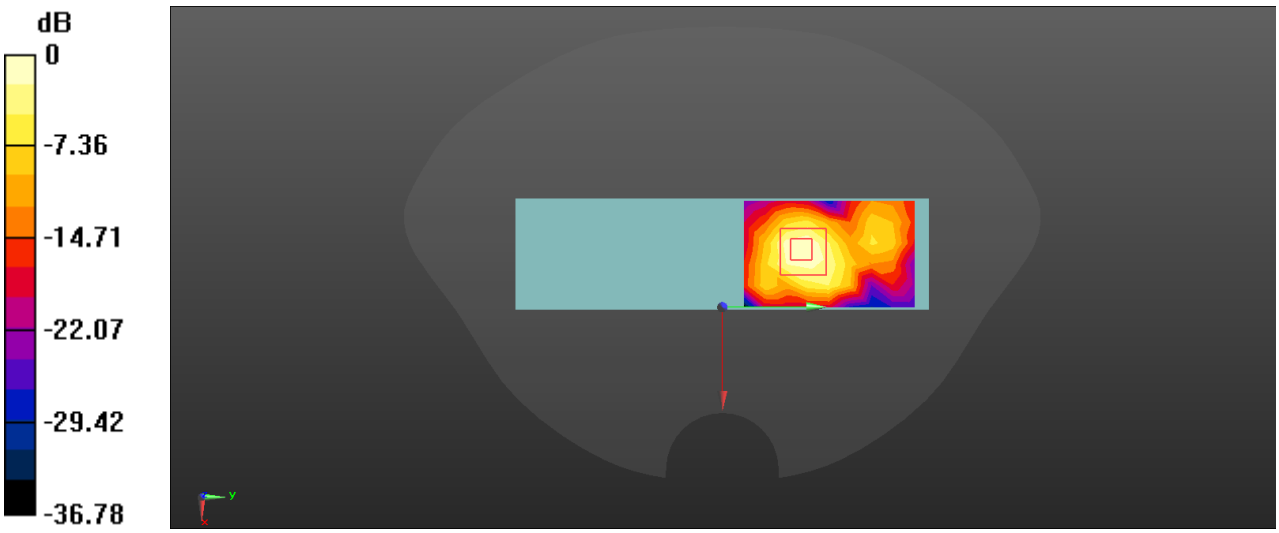
Communication System: UID 0, WIFI 5G (0); Frequency: 5200 MHz;Duty Cycle: 1:1.041
Medium parameters used: f = 5200 MHz; σ = 4.79 S/m; ε_r = 37.082; ρ = 1000 kg/m^3

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 (6x9x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.19 W/kg

Zoom Scan (9x9x17)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 1.084 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 1.75 W/kg
SAR(1 g) = 0.812 W/kg; SAR(10 g) = 0.306 W/kg
Maximum value of SAR (measured) = 1.47 W/kg



0 dB = 1.47 W/kg = 1.67 dBW/kg

30#_WLAN 5.2GHz_802.11a 6Mbps_Back_5mm_Ch40

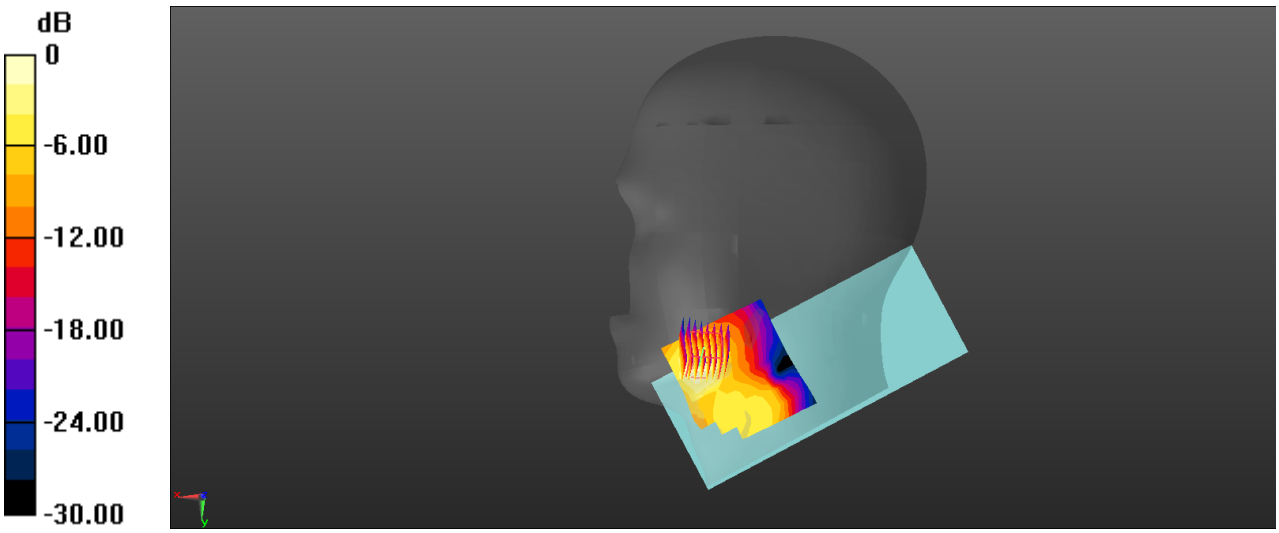
Communication System: UID 0, WIFI 5G (0); Frequency: 5200 MHz;Duty Cycle: 1:1.041
Medium parameters used: f = 5200 MHz; σ = 4.79 S/m; ε_r = 37.082; ρ = 1000 kg/m^3

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 (8x9x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.407 W/kg

Zoom Scan (8x8x17)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 0.9920 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.586 W/kg
SAR(1 g) = 0.305 W/kg; SAR(10 g) = 0.139 W/kg
Maximum value of SAR (measured) = 0.472 W/kg



0 dB = 0.472 W/kg = -3.26 dBW/kg

31#_WLAN 5.3GHz_802.11a 6Mbps_Left_0mm_Ch52

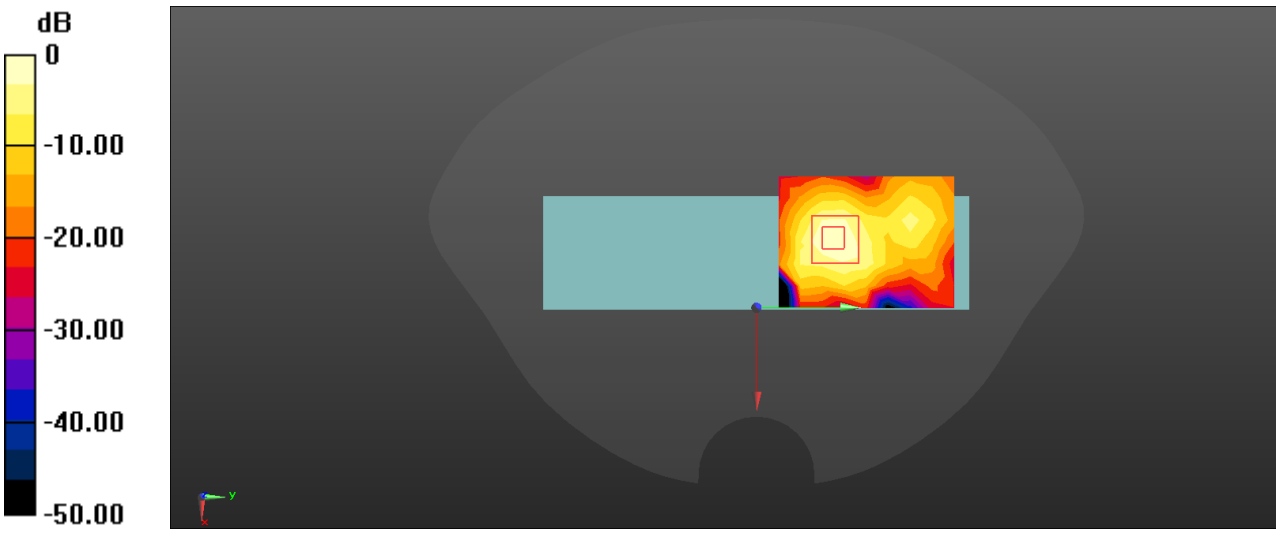
Communication System: UID 0, WIFI 5G (0); Frequency: 5260 MHz;Duty Cycle: 1:1.033
Medium parameters used: f = 5260 MHz; σ = 4.853 S/m; ε_r = 36.995; ρ = 1000 kg/m^3

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 (7x9x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.64 W/kg

Zoom Scan (9x9x17)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 1.964 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 2.23 W/kg
SAR(1 g) = 1.07 W/kg; SAR(10 g) = 0.407 W/kg
Maximum value of SAR (measured) = 1.92 W/kg



0 dB = 1.92 W/kg = 2.83 dBW/kg

32#_WLAN 5.3GHz_802.11a 6Mbps_Back_5mm_Ch52

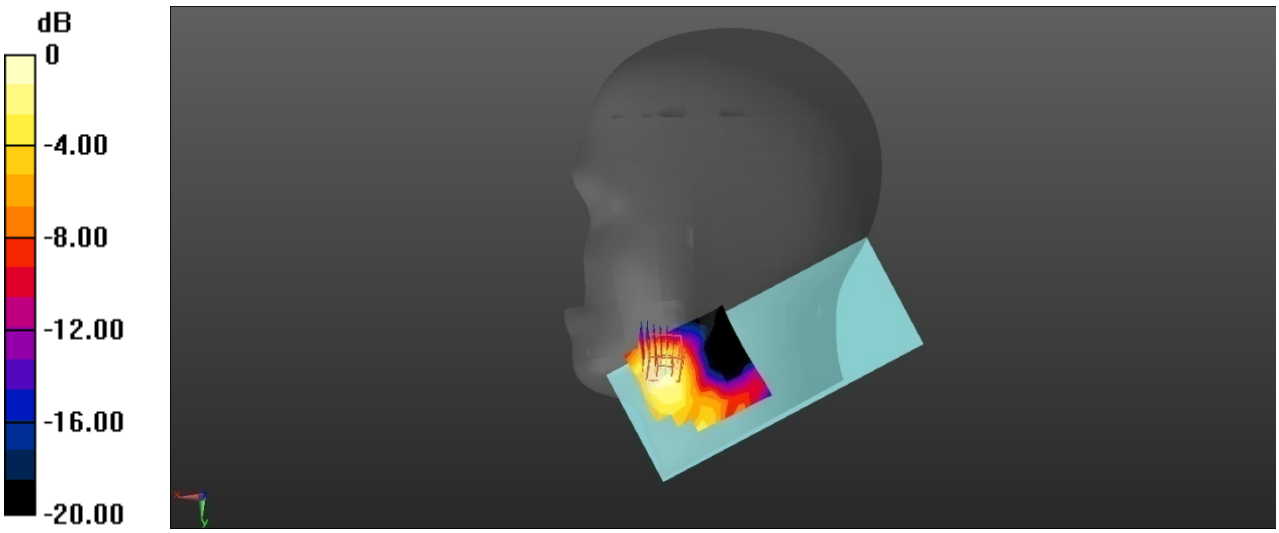
Communication System: UID 0, WIFI 5G (0); Frequency: 5260 MHz;Duty Cycle: 1:1.033
Medium parameters used: f = 5260 MHz; σ = 4.853 S/m; ε_r = 36.995; ρ = 1000 kg/m^3

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 (8x8x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.406 W/kg

Zoom Scan (8x8x17)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 0.5020 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.588 W/kg
SAR(1 g) = 0.271 W/kg; SAR(10 g) = 0.130 W/kg
Maximum value of SAR (measured) = 0.431 W/kg



0 dB = 0.431 W/kg = -3.66 dBW/kg

33#_WLAN 5.8GHz_802.11a 6Mbps_Left_0mm_Ch157

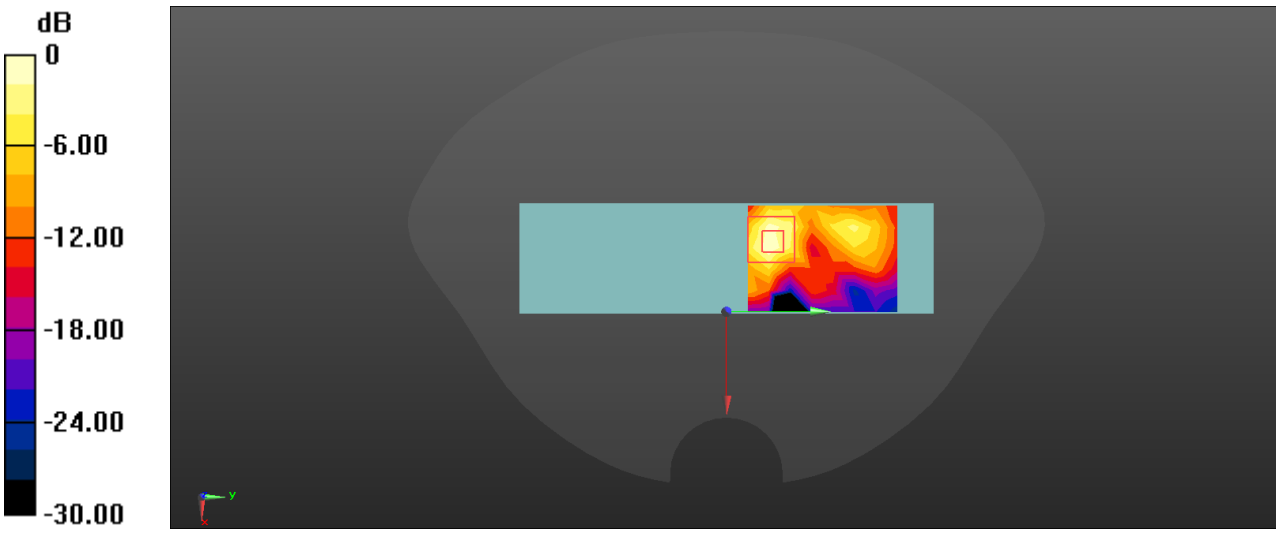
Communication System: UID 0, WIFI 5G (0); Frequency: 5785 MHz;Duty Cycle: 1:1.041
Medium parameters used : f = 5785 MHz; σ = 5.414 S/m; ε_r = 36.216; ρ = 1000 kg/m^3

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 (6x8x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.35 W/kg

Zoom Scan (9x9x17)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 3.555 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 1.82 W/kg
SAR(1 g) = 0.781 W/kg; SAR(10 g) = 0.272 W/kg
Maximum value of SAR (measured) = 1.45 W/kg



0 dB = 1.45 W/kg = 1.61 dBW/kg

34#_WLAN 5.8GHz_802.11a 6Mbps_Back_5mm_Ch157

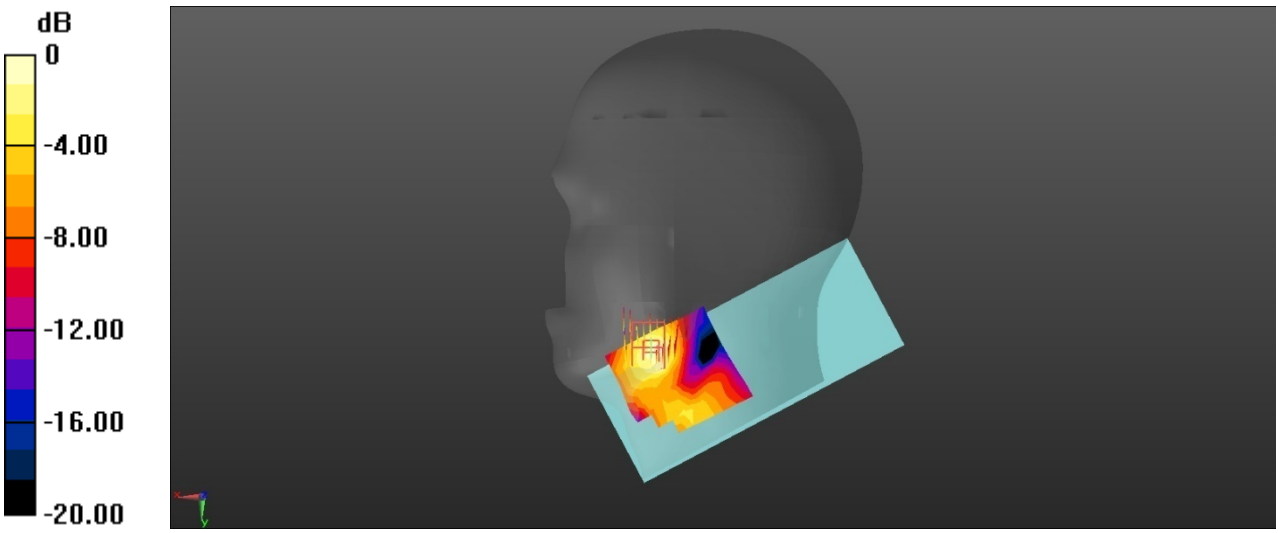
Communication System: UID 0, WIFI 5G (0); Frequency: 5785 MHz;Duty Cycle: 1:1.041
Medium parameters used : f = 5785 MHz; σ = 5.414 S/m; ε_r = 36.216; ρ = 1000 kg/m^3

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 (8x8x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.360 W/kg

Zoom Scan (9x8x17)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 1.151 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 2.64 W/kg
SAR(1 g) = 0.199 W/kg; SAR(10 g) = 0.092 W/kg
Maximum value of SAR (measured) = 0.343 W/kg



0 dB = 0.360 W/kg = -4.44 dBW/kg

APPENDIX B MEASUREMENT UNCERTAINTY

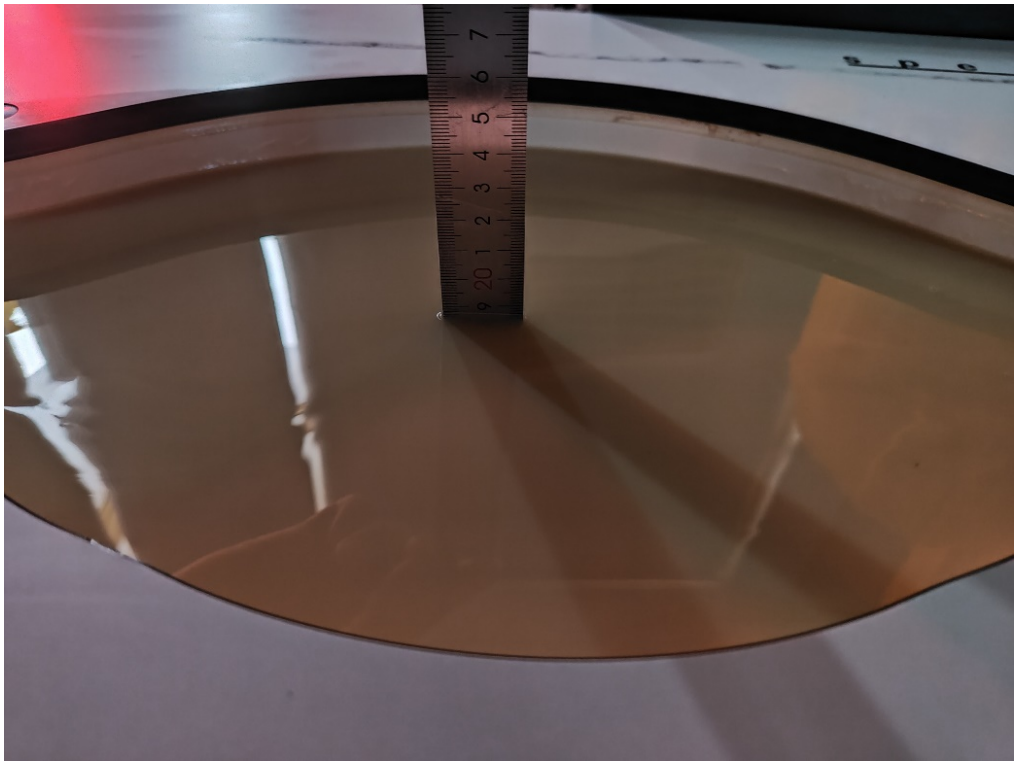
The uncertainty budget has been determined for the measurement system and is given in the following Table.

Measurement uncertainty evaluation for IEEE 1528:2013 SAR test

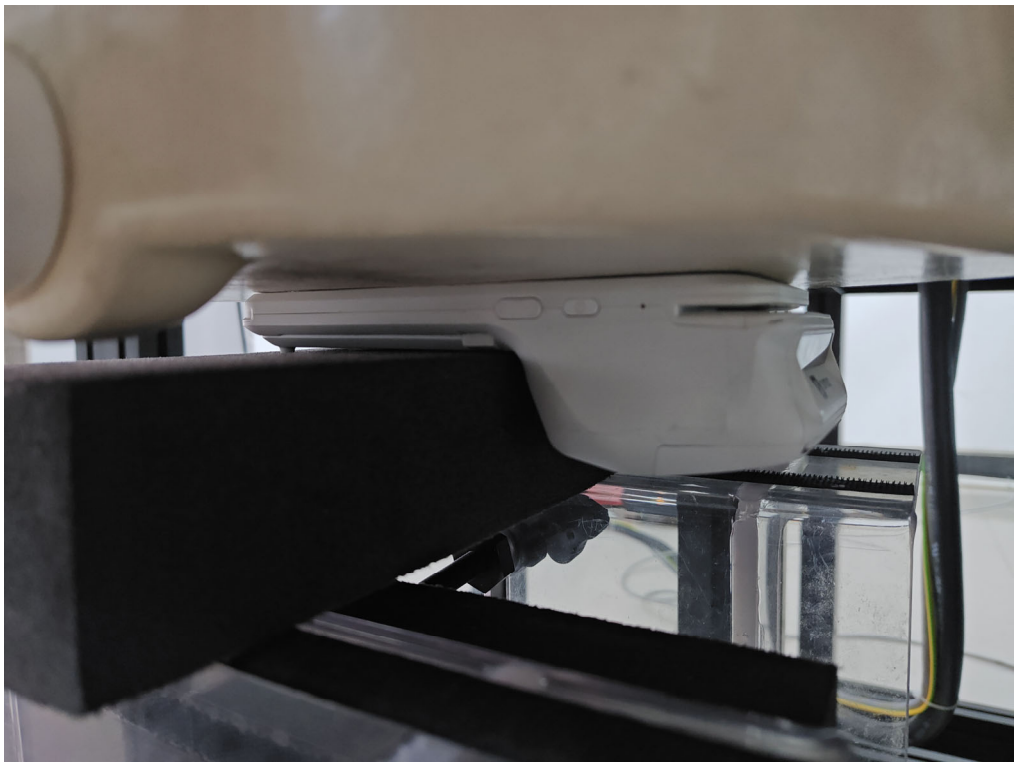
Source of uncertainty	Tolerance/ uncertainty ± %	Probability distribution	Divisor	ci (1 g)	ci (10 g)	Standard uncertainty ± %, (1 g)	Standard uncertainty ± %, (10 g)
Measurement system							
Probe calibration	6.55	N	1	1	1	6.6	6.6
Axial Isotropy	4.7	R	√3	1	1	2.7	2.7
Hemispherical Isotropy	9.6	R	√3	0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

APPENDIX C EUT TEST POSITION PHOTOS

Liquid depth ≥ 15cm

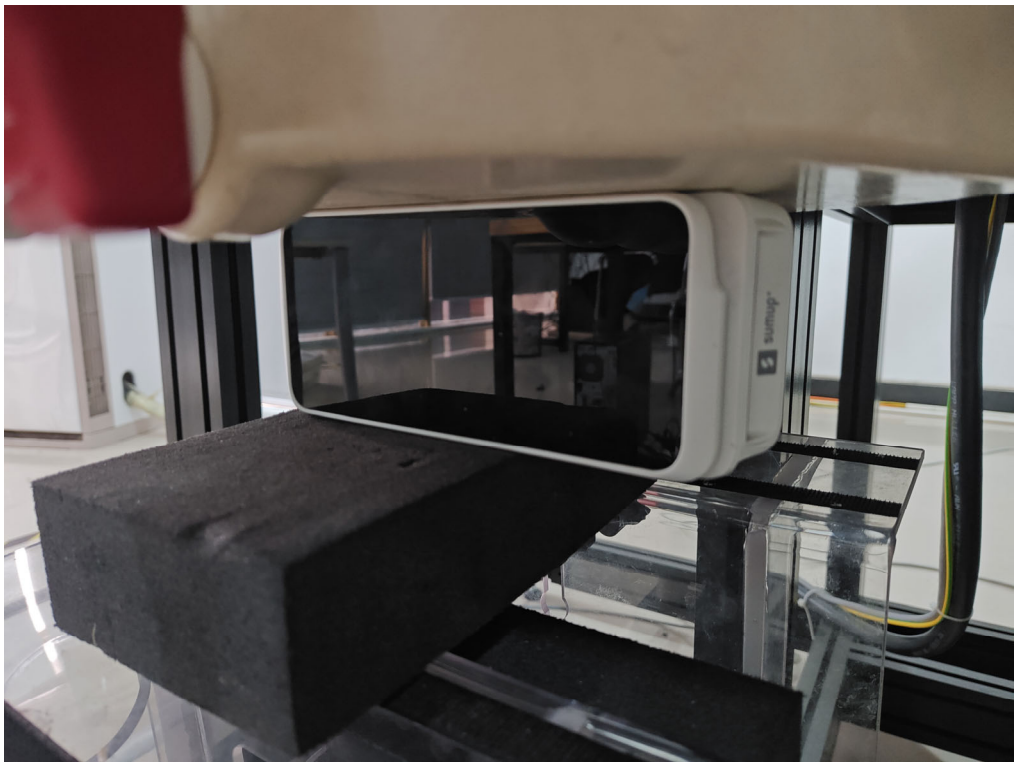


WWAN Limbs Front (0mm)



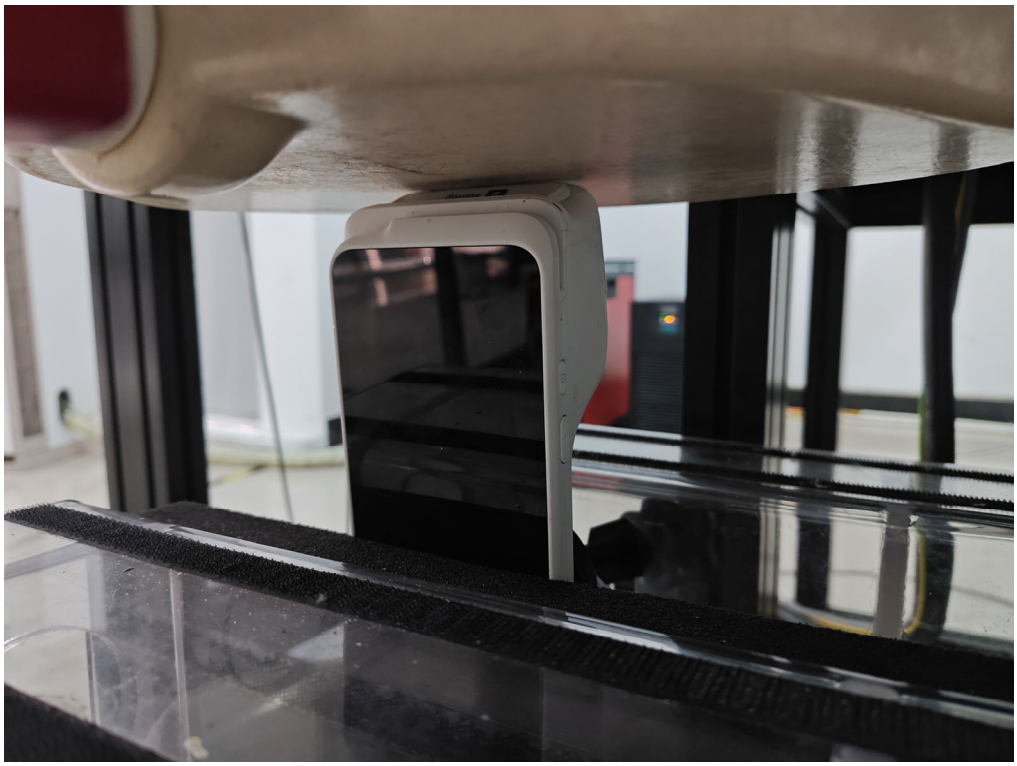
WWAN Limbs Back (0mm)

WWAN/WLAN Limbs Left (0mm)

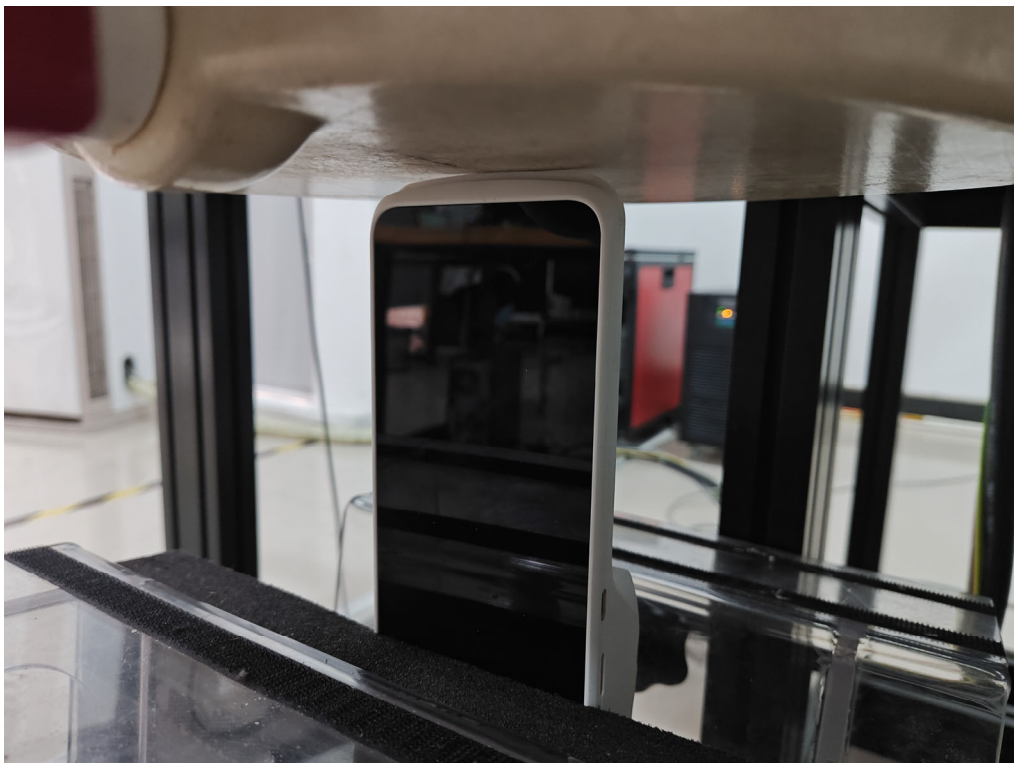


WWAN Limbs Right (0mm)

WWAN Limbs Top (0mm)



WWAN Limbs Bottom (0mm)



WLAN Limbs Front (0mm)

WLAN Limbs Back (0mm)

WWAN Body Back (5mm)

WLAN Body Back (5mm)

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 *******