

# TEST REPORT

**Applicant:** HMD Global Oy  
**Address:** Bertel Jungin aukio 9, 02600 Espoo, Finland  
**Equipment Type:** Smart Phone  
**Model Name:** TA-1637  
**Brand Name:** HMD  
**FCC ID:** 2AJOTTA-1637  
**Test Standard:** FCC 47 CFR Part 2.1093  
(refer to section 3.1)  
**Maximum SAR:** Head (1 g@0mm): 1.34 W/kg  
Body-worn (1 g@10mm): 0.69 W/kg  
Hotspot (1 g@10mm): 0.72 W/kg  
**Sample Arrival Date:** Feb. 18, 2024  
**Test Date:** Mar. 17, 2024 - Apr. 16, 2024  
**Date of Issue:** Apr. 22, 2024

**ISSUED BY:**

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<b>Revision History</b>		
Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Apr. 22, 2024</u>	<u>Initial Issue</u>

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# 1 GENERAL INFORMATION

## 1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Phone Number	+86 755 6685 0100

## 1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	<input checked="" type="checkbox"/> Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
	<input type="checkbox"/> 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park, No. 1008, Songbai Road, Yangguang Community, Xili Sub-district, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196.

## 1.3 Test Environment Condition

Ambient Temperature	18°C to 25°C
Ambient Relative Humidity	30% to 70%

## 2 PRODUCT INFORMATION

### 2.1 Applicant Information

Applicant	HMD Global Oy
Address	Bertel Jungin aukio 9, 02600 Espoo, Finland

### 2.2 Manufacturer Information

Manufacturer	HMD Global Oy
Address	Bertel Jungin aukio 9, 02600 Espoo, Finland

### 2.3 General Description for Equipment under Test (EUT)

EUT Name	Smart Phone
Model Name Under Test	TA-1637
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	V1.0C
Software Version	V0.050_A01
Dimensions (Approx.)	163.86*75.51*8.9mm
Weight (Approx.)	0.186kg

### 2.4 Ancillary Equipment

Ancillary Equipment 1	Li-Polymer Battery 1	
	Brand Name	HMD
	Model No.	HBA5010AA
	Serial No.	N/A
	Capacitance	5000mAh
	Rated Voltage	3.85 V
	Limited Voltage	4.4 V
Ancillary Equipment 2	Headset 1	
	Model No.	N/A
	Length (Approx.)	1.2 m

## 2.5 Technical Information

Network and Wireless connectivity	2G Network GSM/GPRS/EDGE 850/1900 MHz 3G Network WCDMA/HSDPA/HSUPA Band 2/4/5 4G Network LTE FDD Band 2/4/5/7/12/13/17/66 Bluetooth (BR+EDR+BLE) 2.4G WIFI 802.11b, 802.11g, 802.11n(HT20)
<b>Note:</b> The EUT is a mobile phone, which supports dual SIM card under the same transceiver. Each SIM supports GSM, WCDMA and LTE, and both SIM share the same transmitting electro circuit, NV parameters, so only SIM1 was tested in this report.	

The requirement for the following technical information of the EUT was tested in this report:

Operating Mode	GSM, WCDMA, LTE, 2.4G WLAN, 5G WLAN, Bluetooth		
Frequency Range	GSM 850	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	GSM 1900	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	WCDMA Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	LTE Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	LTE Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 7	TX: 2500 ~ 2570 MHz	RX: 2620 ~ 2690 MHz
	LTE Band 12	TX: 699 ~ 716 MHz	RX: 729 ~ 746 MHz
	LTE Band 13	TX: 777 ~ 787 MHz	RX: 746 ~ 756 MHz
	LTE Band 17	TX: 704 ~ 716 MHz	RX: 734 ~ 746 MHz
	LTE Band 66	TX: 1710 ~ 1780 MHz	RX: 2110 ~ 2180 MHz
	802.11b/g/n(HT20)	2412 ~ 2462 MHz	
	Bluetooth	2402 ~ 2480 MHz	
Antenna Type	WWAN: PIFA Antenna WLAN: PIFA Antenna Bluetooth: PIFA Antenna		
DTM	N/A		
Hotspot Function	Support		
Power Reduction	Support		
Exposure Category	General Population/Uncontrolled exposure		
Product Type	Portable Device		
EUT Type	<input checked="" type="checkbox"/> Production unit		<input type="checkbox"/> Identical prototype

### 3 SUMMARY OF TEST RESULT

#### 3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 2.1093	Radiofrequency radiation exposure evaluation: portable devices
2	ANSI C95.1-1992	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz
3	IEEE Std. 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
4	KDB 447498 D04 v01	447498 D04 Interim General RF Exposure Guidance v01
5	KDB 941225 D01 v03r01	3G SAR MEAUREMENT PROCEDURES
6	KDB 941225 D05 v02r05	SAR Evaluation Considerations for LTE Devices
7	KDB 941225 D06 v02r01	SAR EVALUATION PROCEDURES FOR PORTABLE DEVICES WITH WIRELESS ROUTER CAPABILITIES
8	KDB 865664 D01 v01r04	SAR Measurement 100 MHz to 6 GHz
9	KDB 865664 D02 v01r02	RF Exposure Reporting
10	KDB 648474 D04 v01r03	SAR EVALUATION CONSIDERATIONS FOR WIRELESS HANDSETS
11	KDB 248227 D01 v02r02	SAR GUIDANCE FOR IEEE 802.11 (Wi-Fi) TRANSMITTERS



### 3.2 Device Category and SAR Limit

This device belongs to portable device category because its radiating structure is allowed to be used within 20 centimeters of the body of the user.

Limit for General Population/Uncontrolled exposure should be applied for this device, it is 1.6 W/kg as averaged over any 1 gram of tissue.

Table of Exposure Limits:

Body Position	SAR Value (W/Kg)	
	General Population/ Uncontrolled Exposure	Occupational/ Controlled Exposure
Whole-Body SAR (averaged over the entire body)	0.08	0.4
Partial-Body SAR (averaged over any 1 gram of tissue)	1.60	8.0
SAR for hands, wrists, feet and ankles (averaged over any 10 grams of tissue)	4.0	20.0

**NOTE:**

**General Population/Uncontrolled Exposure:** Locations where there is the exposure of individuals who have no knowledge or control of their exposure. General population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

**Occupational/Controlled Exposure:** Locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

### 3.3 Test Result Summary

#### 3.3.1 Highest SAR Values

Equipment Class	Band	Maximum Scaled SAR (W/kg)			Maximum Report SAR (W/kg)		
		Head (0mm)	Body-worn (10mm)	Hotspot (10mm)	Head (0mm)	Body-worn (10mm)	Hotspot (10mm)
		1g SAR			1g SAR		
PCE	GSM 850	1.24	0.38	0.38	1.34	0.69	0.72
	GSM 1900	1.16	0.69	0.72			
	WCDMA Band 2	1.19	0.37	0.40			
	WCDMA Band 4	1.31	0.38	0.38			
	WCDMA Band 5	1.25	0.53	0.53			
	LTE Band 2	1.34	0.48	0.48			
	LTE Band 4	1.31	0.41	0.41			
	LTE Band 5	0.92	0.36	0.36			
	LTE Band 7	1.34	0.43	0.54			
	LTE Band 12	0.41	0.13	0.14			
	LTE Band 13	0.37	0.12	0.12			
	LTE Band 66	1.17	0.39	0.39			
DTS	2.4G WLAN	0.52	0.14	0.16			
DSS	Bluetooth	0.18	0.05	0.05			
Limit (W/kg)		1.6			1.6		
Verdict		PASS					

**Note:**

This device supports LTE B12 and B17. Since the supported frequency span for LTE B17 falls completely within the supports frequency span for LTE B12, these LTE bands have the same target power, and share the same transmission path; therefore, SAR was only assessed for LTE B12.

### 3.3.2 Highest Simultaneous Transmission SAR Values

Equipment Class	Maximum Scaled SAR (W/kg)		
	Head 1g (0mm)	Body-worn 1g (10mm)	Hotspot 1g (10mm)
PCE	1.59	0.82	0.88
DTS	1.59	0.82	0.88
DSS	1.46	0.74	0.77
Limit (W/Kg)	1.60	1.60	1.60
Verdict	Pass		

Note: The highest simultaneous SAR please refer section 12.2

### 3.4 Test Uncertainty

According to KDB 865664 D01, When the highest measured 1 g SAR within a frequency band is  $< 1.5$  W/kg, the extensive SAR measurement uncertainty analysis is not required in SAR reports submitted for equipment approval.

The maximum 1 g SAR for the EUT in this report is 1.34 W/kg, which is lower than 1.5 W/kg, so the extensive SAR measurement uncertainty analysis is not required in this report.

## 4 MEASUREMENT SYSTEM

### 4.1 Specific Absorption Rate (SAR) Definition

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

The SAR definition is the time derivative (rate) of the incremental energy ( $dW$ ) absorbed by (dissipated in) an incremental mass ( $dm$ ) contained in a volume element ( $dv$ ) of a given density ( $\rho$ ). The equation description is as below:

$$\mathbf{SAR} = \frac{d}{dt} \left( \frac{dW}{dm} \right) = \frac{d}{dt} \left( \frac{dW}{\rho dv} \right)$$

SAR is expressed in units of Watts per kilogram (W/kg) SAR measurement can be related to the electrical field in the tissue by

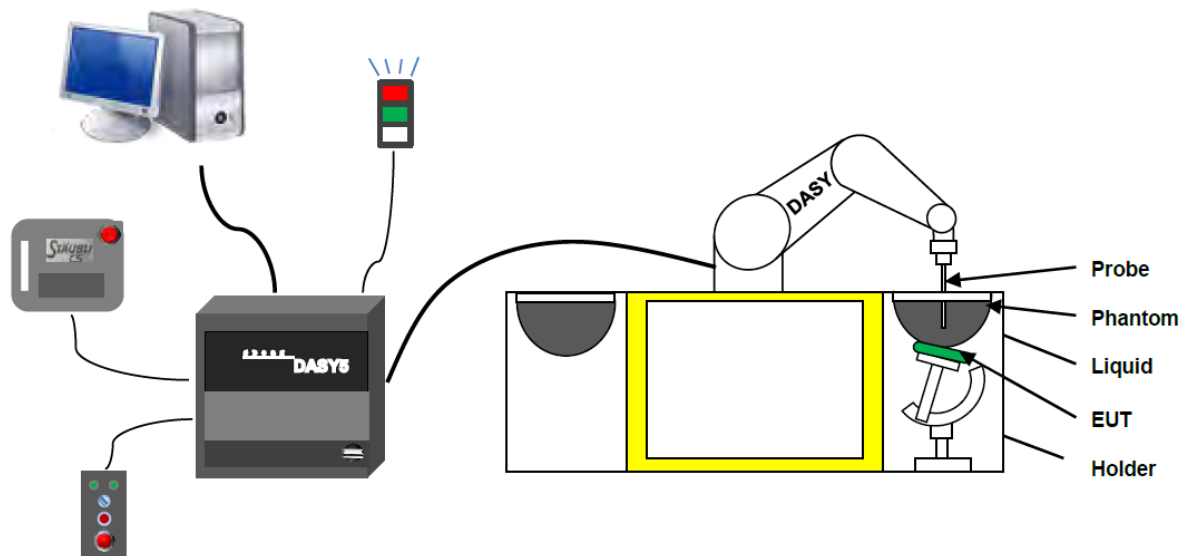
$$\mathbf{SAR} = \frac{\sigma E^2}{\rho}$$

Where:  $\sigma$  is the conductivity of the tissue,

$\rho$  is the mass density of the tissue and  $E$  is the RMS electrical field strength.

## 4.2 DASY SAR System

### 4.2.1 DASY SAR System Diagram



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

1. A standard high precision 6-axis robot (Stäubli RX family) with controller and software. An arm extension for accommodating the data acquisition electronics (DAE).
2. A dosimetric probe, i.e. an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.
3. A data acquisition electronic (DAE) which performs the signal amplification, 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.
4. A unit to operate the optical surface detector which is connected to the EOC.
5. The Electro-Optical Coupler (EOC) performs the conversion from the optical into a digital electric signal of the DAE. The EOC is connected to the DASYS5 measurement server.
6. The DASYS5 measurement server, which performs all real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operation.
7. DASYS5 software and SEMCAD data evaluation software.
8. Remote control with teach panel and additional circuitry for robot safety such as warning lamps, etc.
9. The generic twin phantom enabling the testing of left-hand and right-hand usage.
10. The device holder for handheld mobile phones.
11. Tissue simulating liquid mixed according to the given recipes.
12. System validation dipoles allowing to validate the proper functioning of the system.

#### 4.2.2 Robot

The Dasy SAR system uses the high precision robots. Symmetrical design with triangular core Built-in optical fiber for surface detection system For the 6-axis controller system, Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents). The robot series have many features that are important for our application:



- **High precision**  
(repeatability  $\pm 0.02$  mm)
- **High reliability**  
(industrial design)
- **Low maintenance costs**  
(virtually maintenance free due to direct drive gears; no belt drives)
- **Jerk-free straight movements**  
(brush less synchron motors; no stepper motors)
- **Low ELF interference**  
(motor control \_elds shielded via the closed metallic construction shields)

### 4.2.3 E-Field Probe

The probe is specially designed and calibrated for use in liquids with high permittivities for the measurements the Specific Dosimetric E-Field Probe EX3DV4-SN:7506 with following specifications is used.

Construction	Symmetrical design with triangular core Built-in optical fiber for surface detection system Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., glycolether)
Calibration	ISO/IEC 17025 calibration service available
Frequency	10 MHz to 6 GHz; Linearity: $\pm 0.2$ dB (30 MHz to 6 GHz)
Directivity	$\pm 0.2$ dB in HSL (rotation around probe axis) ; $\pm 0.4$ dB in HSL (rotation normal to probe axis)
Dynamic range	5 $\mu$ W/g to > 100 mW/g; Linearity: $\pm 0.2$ dB
Dimensions	Overall length: 337 mm (Tip: 9 mm) Tip diameter: 2.5 mm (Body: 10 mm) Distance from probe tip to dipole centers: 1.0 mm
Application	General dosimetry up to 3 GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms (EX3DV4)



#### E-Field Probe Calibration Process

Probe calibration is realized, in compliance with CENELEC EN 62209-1/-2 and IEEE 1528 std, with CALISAR, Antenna proprietary calibration system. The calibration is performed with the EN 62209-1/2 annexe technique using reference guide at the five frequencies.



#### 4.2.4 Data Acquisition Electronics

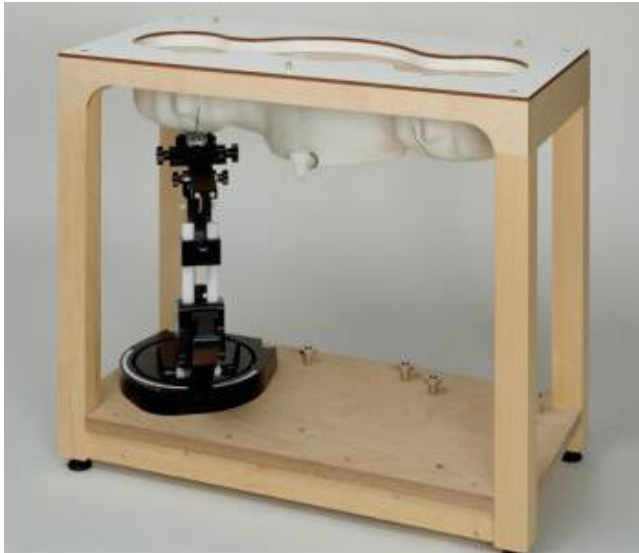
The data acquisition electronics (DAE) consist of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder with a control logic unit. Transmission to the measurement server is accomplished through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



- Input Impedance: 200M $\Omega$ m
- The Inputs: Symmetrical and Floating
- Common Mode Rejection: Above 80dB

#### 4.2.5 Phantoms

For the measurements the Specific Anthropomorphic Mannequin (SAM) defined by the IEEE SCC-34/SC2 group is used. The phantom is a polyurethane shell integrated in a wooden table. The thickness of the phantom amounts to 2mm +/- 0.2mm. It enables the dosimetric evaluation of left and right phone usage and includes an additional flat phantom part for the simplified performance check. The phantom set-up includes a cover, which prevents the evaporation of the liquid.



- Left head
- Right head
- Flat phantom

**Photo of Phantom SN1576**



Serial Number	Material	Length	Height
SN 1576 SAM1	Vinylester, glass fiber reinforced	1000	500

#### 4.2.6 Device Holder

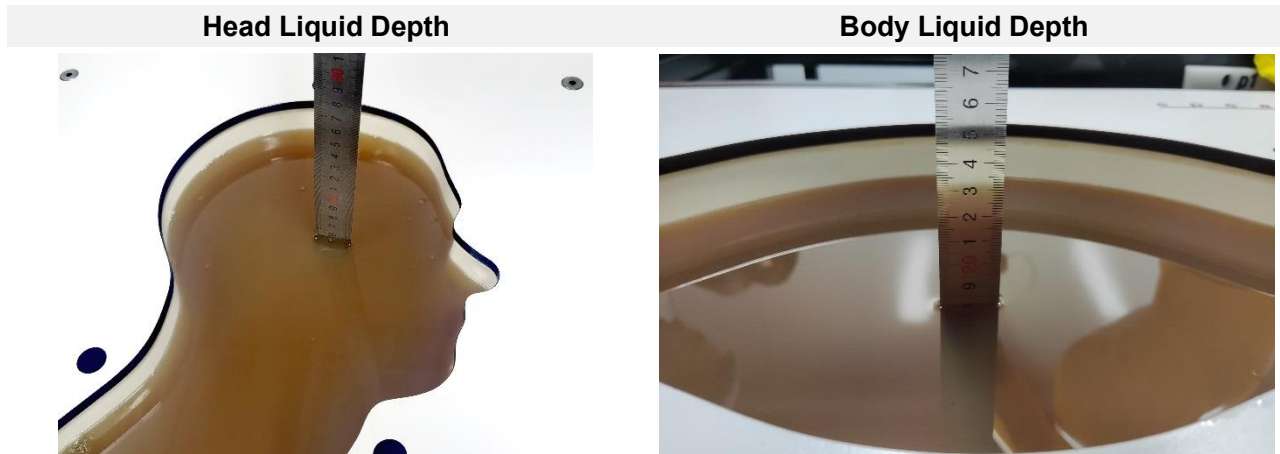
The DASY5 device holder has two scales for device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear openings). The plane between the ear openings and the mouth tip has a rotation angle of  $65^\circ$ . The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. This device holder is used for standard mobile phones or PDA"s only. If necessary an additional support of polystyrene material is used. Larger DUT"s (e.g. notebooks) cannot be tested using this device holder. Instead a support of bigger polystyrene cubes and thin polystyrene plates is used to position the DUT in all relevant positions to find and measure spots with maximum SAR values. Therefore those devices are normally only tested at the flat part of the SAM.



The positioning system allows obtaining cheek and tilting position with a very good accuracy. Incompliance with CENELEC, the tilt angle uncertainty is lower than  $1^\circ$ .

#### 4.2.7 Simulating Liquid

For SAR measurement of the field distribution inside the phantom, the phantom must be filled with homogeneous tissue simulating liquid to a depth of at least 15 cm. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm. The nominal dielectric values of the tissue simulating liquids in the phantom and the tolerance of 5%.



The following table gives the recipes for tissue simulating liquid.

TSL	Manufacturer / Model	Freq Range (MHz)	Main Ingredients
Head WideBand	SPEAG HBBL600-10000V6	600-10000	Ethenediol, Sodium petroleum sulfonate, Hexylene Glycol / 2-Methyl-pentane-2.4-diol, Alkoxylated alcohol

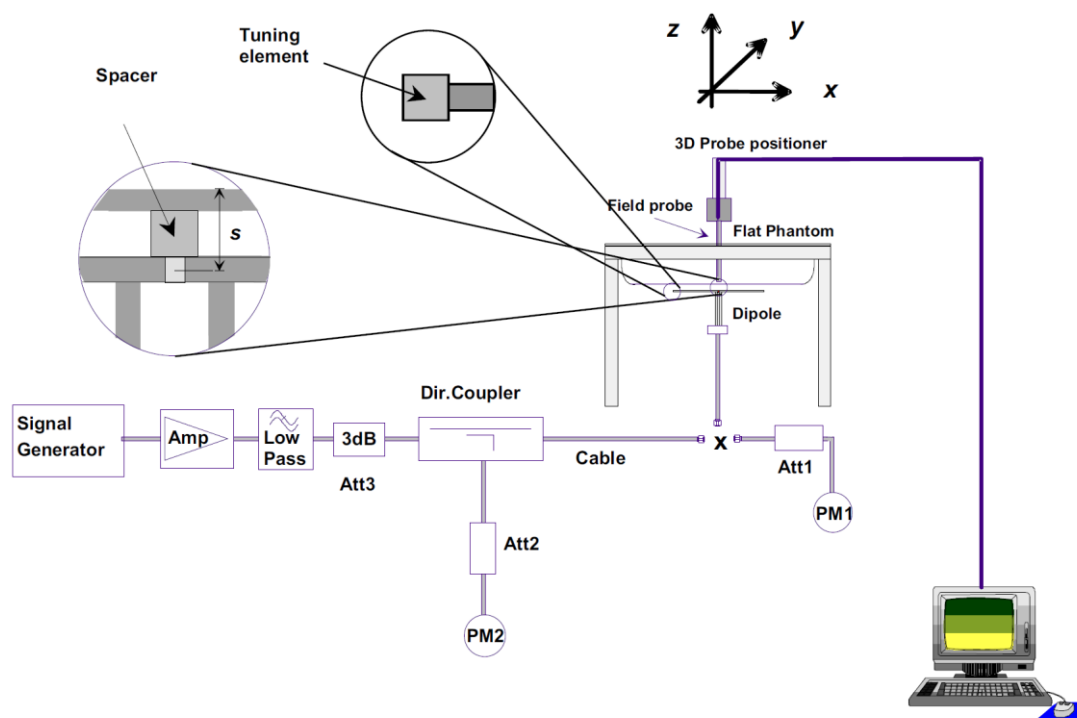
## 5 SYSTEM VERIFICATION

### 5.1 Purpose of System Check

The system performance check verifies that the system operates within its specifications. System and operator errors can be detected and corrected. It is recommended that the system performance check be performed prior to any usage of the system in order to guarantee reproducible results. The system performance check uses normal SAR measurements in a simplified setup with a well characterized source. This setup was selected to give a high sensitivity to all parameters that might fail or vary over time. The system check does not intend to replace the calibration of the components, but indicates situations where the system uncertainty is exceeded due to drift or failure.

### 5.2 System Check Setup

In the simplified setup for system evaluation, the EUT is replaced by a calibrated dipole and the power source is replaced by a continuous wave that comes from a signal generator. The calibrated dipole must be placed beneath the flat phantom section of the SAM twin phantom with the correct distance holder. The distance holder should touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The equipment setup is shown below:



## 6 TEST POSITION CONFIGURATIONS

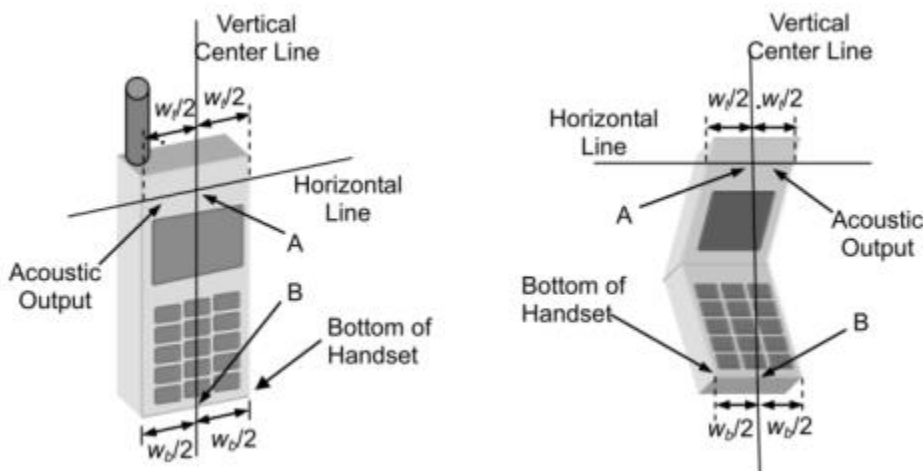
According to KDB 648474 D04 Handset, handsets are tested for SAR compliance in head, body-worn accessory and other use configurations described in the following subsections.

### 6.1 Head Exposure Conditions

Head exposure is limited to next to the ear voice mode operations. Head SAR compliance is tested according to the test positions defined in IEEE Std 1528-2013 using the SAM phantom illustrated as below.

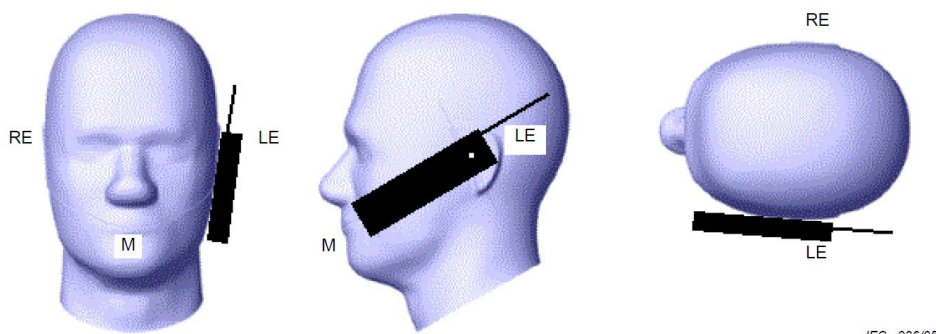
#### 6.1.1 Two Imaginary Lines on the Handset

- The vertical center line passes through two points on the front side of the handset - the midpoint of the width  $w_t$  of the handset at the level of the acoustic output, and the midpoint of the width  $w_b$  of the bottom of the handset.
- The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output. The horizontal line is also tangential to the face of the handset at point A.
- The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical center line is not necessarily parallel to the front face of the handset, especially for clamshell handsets, handsets with flip covers, and other irregularly shaped handsets.



#### 6.1.2 Cheek Position

- To position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing the three ear and mouth reference point (M: Mouth, RE: Right Ear, and LE: Left Ear) and align the center of the ear piece with the line RE-LE.
- To move the device towards the phantom with the ear piece aligned with the line LE-RE until the phone touched the ear. While maintaining the device in the reference plane and maintaining the phone contact with the ear, move the bottom of the phone until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost.



IEC 226/05

### 6.1.3 Tilted Position

- (a) To position the device in the “cheek” position described above.
- (b) While maintaining the device the reference plane described above and pivoting against the ear, moves it outward away from the mouth by an angle of 15 degrees or until contact with the ear is lost.

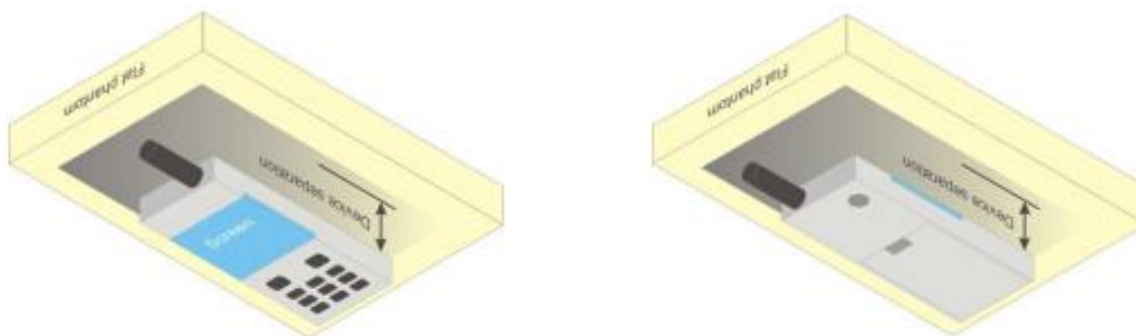


## 6.2 Body-worn Position Conditions

Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in KDB 447498 are used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode. When the reported SAR for a body-worn accessory.

Body-worn accessories that do not contain metallic or conductive components may be tested according to worst-case exposure configurations, typically according to the smallest test separation distance required for the group of body-worn accessories with similar operating and exposure characteristics. All body-worn accessories containing metallic components are tested in conjunction with the host device.

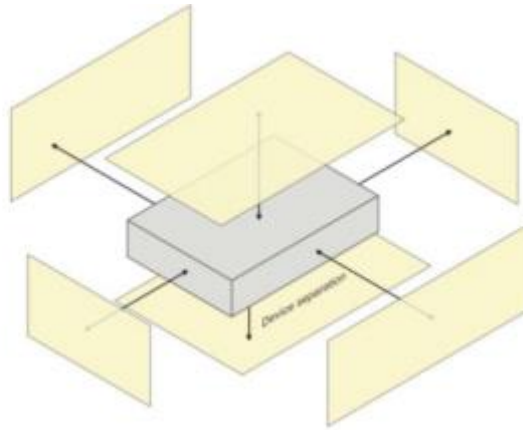
Body-worn accessory SAR compliance is based on a single minimum test separation distance for all wireless and operating modes applicable to each body-worn accessory used by the host, and according to the relevant voice and/or data mode transmissions and operations. If a body-worn accessory supports voice only operations in its normal and expected use conditions, testing of data mode for body-worn compliance is not required. A conservative minimum test separation distance for supporting off-the-shelf body-worn accessories that may be acquired by users of consumer handsets is used to test for body-worn accessory SAR compliance. This distance is determined by the handset manufacturer, according to the requirements of Supplement C 01-01. Devices that are designed to operate on the body of users using lanyards and straps, or without requiring additional body-worn accessories, will be tested using a conservative minimum test separation distance  $\leq 5$  mm to support compliance.





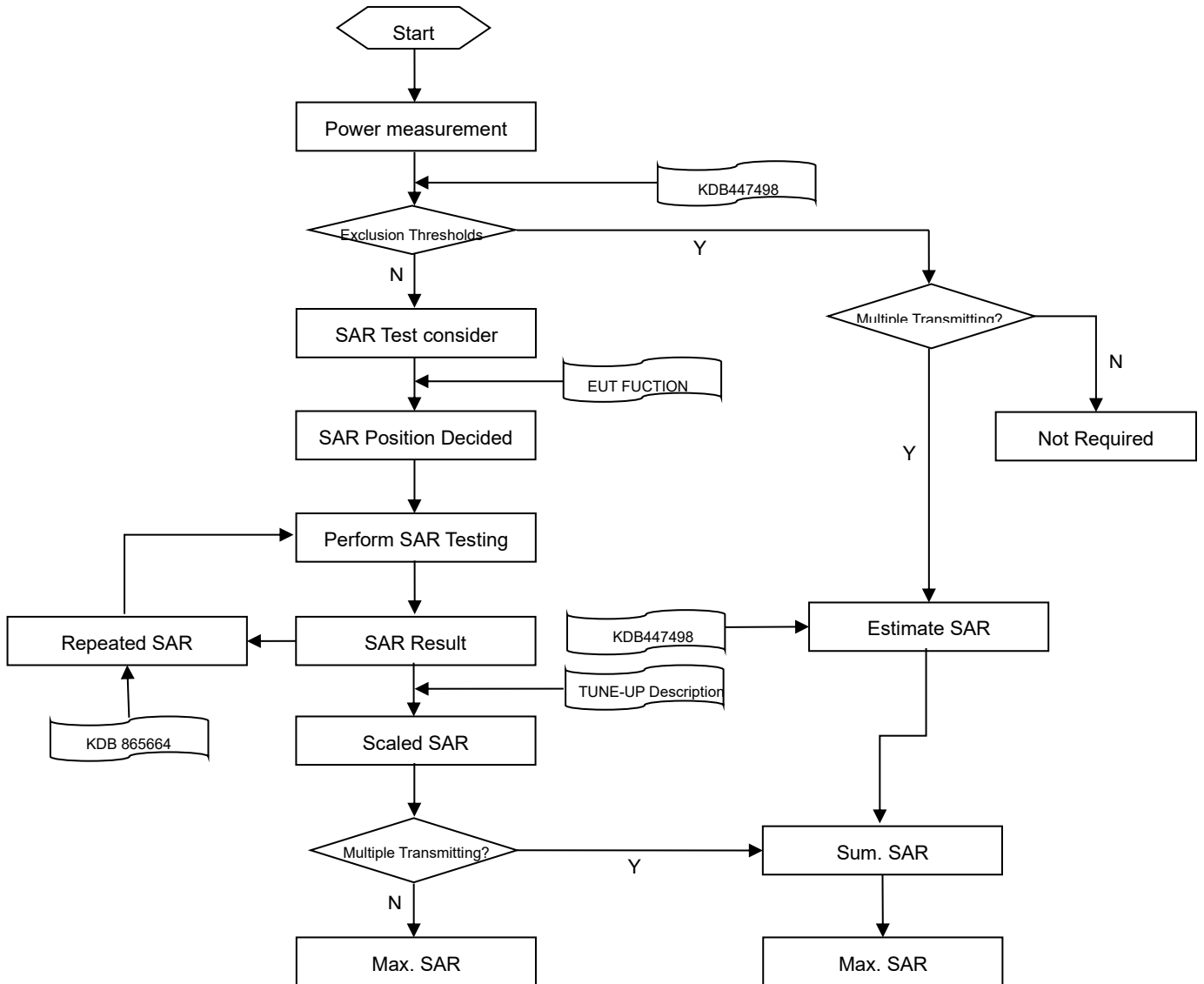
### 6.3 Hotspot Mode Exposure Position Conditions

For handsets that support hotspot mode operations, with wireless router capabilities and various web browsing functions, the relevant hand and body exposure conditions are tested according to the hotspot SAR procedures in KDB 941225. A test separation distance of 10 mm is required between the phantom and all surfaces and edges with a transmitting antenna located within 25 mm from that surface or edge. When the form factor of a handset is smaller than 9 cm x 5 cm, a test separation distance of 5 mm (instead of 10 mm) is required for testing hotspot mode. When the separation distance required for body-worn accessory testing is larger than or equal to that tested for hotspot mode, in the same wireless mode and for the same surface of the phone, the hotspot mode SAR data may be used to support body-worn accessory SAR compliance for that particular configuration (surface).



## 7 MEASUREMENT PROCEDURE

### 7.1 Measurement Process Diagram



## 7.2 SAR Scan General Requirement

Probe boundary effect error compensation is required for measurements with the probe tip closer than half a probe tip diameter to the phantom surface. Both the probe tip diameter and sensor offset distance must satisfy measurement protocols; to ensure probe boundary effect errors are minimized and the higher fields closest to the phantom surface can be correctly measured and extrapolated to the phantom surface for computing 1 g SAR. Tolerances of the post-processing algorithms must be verified by the test laboratory for the scan resolutions used in the SAR measurements, according to the reference distribution functions specified in IEEE Std 1528-2013.

		≤3GHz	>3GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface		5±1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location		30°±1°	20°±1°
Maximum area scan spatial resolution: $\Delta x$ Area , $\Delta y$ Area		≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3–4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
		When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
Maximum zoom scan spatial resolution: $\Delta x$ Zoom , $\Delta y$ Zoom		≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3–4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z$ Zoom (n)	≤ 5 mm	3–4 GHz: ≤ 4 mm
			4–5 GHz: ≤ 3 mm
			5–6 GHz: ≤ 2 mm
	graded grid	$\Delta z$ Zoom (1): between 1st two points closest to phantom surface	≤ 4 mm
4–5 GHz: ≤ 2.5 mm			
	$\Delta z$ Zoom (n>1): between subsequent points	≤ 1.5· $\Delta z$ Zoom (n-1)	
Minimum zoom scan volume	x, y, z	≥30 mm	3–4 GHz: ≥ 28 mm
			4–5 GHz: ≥ 25 mm
			5–6 GHz: ≥ 22 mm

### Note:

1.  $\delta$  is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.
2. \* When zoom scan is required and the reported SAR from the area scan based 1 g SAR estimation procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.

### 7.3 Measurement Procedure

The following steps are used for each test position

- a. Establish a call with the maximum output power with a base station simulator. The connection between the mobile and the base station simulator is established via air interface
- b. Measurement of the local E-field value at a fixed location. This value serves as a reference value for calculating a possible power drift.
- c. Measurement of the SAR distribution with a grid of 8 to 16mm \* 8 to 16 mm and a constant distance to the inner surface of the phantom. Since the sensors cannot directly measure at the inner phantom surface, the values between the sensors and the inner phantom surface are extrapolated. With these values the area of the maximum SAR is calculated by an interpolation scheme.
- d. Around this point, a cube of 30 \* 30 \* 30 mm or 32 \* 32 \* 32 mm is assessed by measuring 5 or 8 \* 5 or 8\*4 or 5 mm. With these data, the peak spatial-average SAR value can be calculated.

### 7.4 Area & Zoom Scan Procedure

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10 g. Area scan and zoom scan resolution setting follows KDB 865664 D01v01r04 quoted below. When the 1 g SAR of the highest peak is within 2 dB of the SAR limit, additional zoom scans are required for other peaks within 2 dB of the highest peak that have not been included in any zoom scan to ensure there is no increase in SAR.

## **8 CONDUCTED RF OUPUT POWER**

### **8.1 GSM**

Please refer the document “BL-SZ2420271-AP Power List.pdf”.

### **8.2 WCDMA**

Please refer the document “BL-SZ2420271-AP Power List.pdf”.

### **8.3 LTE**

Please refer the document “BL-SZ2420271-AP Power List.pdf”.

## 8.4 WIFI

### 8.4.1 2.4G WIFI

Band (GHz)	Mode	Channel	Freq. (MHz)	Conducted Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11b	1	2412	17.15	17.50	Yes
		6	2437	<b>17.45</b>	17.50	Yes
		11	2462	17.44	17.50	Yes
	802.11g	1	2412	13.12	14.00	No
		6	2437	17.44	17.50	No
		11	2462	10.99	11.00	No
	802.11n(HT20)	1	2412	12.25	13.00	No
		6	2437	17.45	17.50	No
		11	2462	10.13	11.00	No

Note: When multiple channel bandwidth configurations in a frequency band have the same maximum tune-up output power, the test configuration is determined by applying the following steps sequentially.

- 1) The largest channel bandwidth configuration is selected between the multiple configurations in a frequency band with the same maximum tune-up output power.
- 2) When multiple transmission modes (802.11b/g/n) have the same maximum tune-up output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11b is chosen over 802.11g, and 802.11g chosen over 802.11n.
- 3) According KDB 247228, when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is  $\leq 1.2$  W/kg, OFDM SAR test is not required.

Adjusted SAR =  $0.516 * (56.23\text{mW}/56.23\text{mW}) = 0.516$  W/Kg, so 2.4G OFDM SAR test is not required.

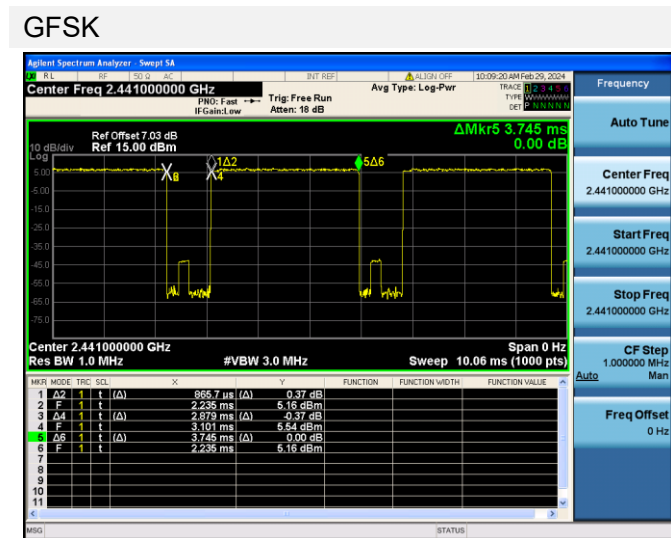
## 8.5 Bluetooth

Mode	GFSK			π/4-DQPSK		
Channel	0	39	78	0	39	78
Frequency (MHz)	2402	2441	2480	2402	2441	2480
AV Power (dBm)	7.95	<b>11.34</b>	9.99	4.85	5.34	4.80
Tune-Up Limit (dBm)	8.00	12.00	10.00	6.00	6.00	6.00
SAR Test Require	NO	YES	NO	NO	NO	NO
Mode	8-DPSK			BLE-1Mbps		
Channel	0	39	78	0	19	39
Frequency (MHz)	2402	2441	2480	2402	2440	2480
AV Power (dBm)	4.87	5.34	4.78	-0.65	3.06	2.59
Tune-Up Limit (dBm)	6.00	6.00	8.00	0.00	4.00	3.00
SAR Test Require	NO	NO	NO	NO	NO	NO

Note 1: Since bluetooth BR mode is the maximum output power mode, SAR measurements were performed with test software using DH5 modulation, and SAR measurement is not required for the EDR and LE. When the secondary mode is  $\leq$  ¼ dB higher than the primary mode.

Note: The Bluetooth duty cycle is 76.88 % as following figure, according to 2016 Oct. TCB workshop for Bluetooth SAR scaling need further consideration and the maximum duty cycle is 100%, therefore the actual duty cycle will be scaled up to 100% for Bluetooth reported SAR calculation.

### Duty Cycle



## 9 TEST EXCLUSION CONSIDERATION

Please refer the document “BL-SZ2420271-AI EUT internal photo.pdf”.

Antenna	Front Side(mm)	Back Side(mm)	Left Edge(mm)	Right Edge(mm)	Top Edge(mm)	Bottom Edge(mm)
Ant.1	<25	<25	>25	<25	<25	>25
Ant.3	<25	<25	<25	>25	<25	>25

Note: 1. Per KDB 941225 D06, When the overall length and width of a device is > 9 cm \*5 cm, a test separation distance of 10 mm is required for hotspot mode SAR measurements and hotspot mode SAR is measured for all edges and surfaces of the device with a transmitting antenna located within 25 mm from that surface or edge.



# 10 TEST RESULT

## 10.1 GSM 850

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>												
Ant.1	voice	Left Cheek	0	128	824.2	0.03	0.420	32.45	33.50	1.274	0.535	/
		Left Tilt	0	128	824.2	0.10	0.380	32.45	33.50	1.274	0.484	/
		Right Cheek	0	128	824.2	-0.08	0.710	32.45	33.50	1.274	0.905	/
		Right Tilt	0	128	824.2	-0.03	0.685	32.45	33.50	1.274	0.873	/
		Right Cheek	0	190	836.6	-0.09	0.883	32.43	33.50	1.279	1.129	/
		Right Cheek	0	251	848.8	-0.02	0.970	32.43	33.50	1.279	<b>1.241</b>	1#
		Right Tilt	0	190	836.6	0.04	0.641	32.43	33.50	1.279	0.820	/
		Right Tilt	0	251	848.8	0.09	0.671	32.43	33.50	1.279	0.858	/
<b>Body-worn&amp;Hotspot</b>												
Ant.1	2Slots	Front Side	10	128	824.2	0.04	0.183	30.41	31.50	1.285	0.235	/
		Back Side	10	128	824.2	-0.08	0.296	30.41	31.50	1.285	<b>0.380</b>	2#
		Right Edge	10	128	824.2	0.07	0.117	30.41	31.50	1.285	0.150	/
		Top Edge	10	128	824.2	0.08	0.233	30.41	31.50	1.285	0.299	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.												

## 10.2 GSM 1900

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>												
Ant.1	voice	Left Cheek	0	661	1880	0.14	0.428	27.26	28.00	1.186	0.508	/
		Left Tilt	0	661	1880	-0.18	0.498	27.26	28.00	1.186	0.591	/
		Right Cheek	0	661	1880	-0.05	0.768	27.26	28.00	1.186	0.911	/
		Right Tilt	0	661	1880	-0.13	0.852	27.26	28.00	1.186	1.010	/
		Right Cheek	0	512	1850.2	0.08	0.725	27.17	28.00	1.211	0.878	/
		Right Cheek	0	810	1909.8	-0.04	0.731	26.89	28.00	1.291	0.944	/
		Right Tilt	0	512	1850.2	-0.12	0.895	27.17	28.00	1.211	1.084	/
		Right Tilt	0	810	1909.8	-0.04	0.901	26.89	28.00	1.291	<b>1.163</b>	<b>3#</b>
<b>Body-worn&amp;Hotspot</b>												
Ant.1	3Slots	Front Side	10	512	1850.2	-0.18	0.349	25.81	27.00	1.315	0.459	/
		Back Side	10	512	1850.2	0.06	0.522	25.81	27.00	1.315	0.686	/
		Right Edge	10	512	1850.2	-0.13	0.151	25.81	27.00	1.315	0.199	/
		Top Edge	10	512	1850.2	-0.04	0.549	25.81	27.00	1.315	<b>0.722</b>	<b>4#</b>
Note: Refer to ANNEX C for the detailed test data for each test configuration.												

## 10.3WCDMA Band 2

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>												
Ant.1	RMC	Left Cheek	0	9538	1907.6	0.15	0.387	17.52	18.00	1.117	0.432	/
		Left Tilt	0	9538	1907.6	-0.01	0.466	17.52	18.00	1.117	0.521	/
		Right Cheek	0	9538	1907.6	-0.04	0.759	17.52	18.00	1.117	0.848	/
		Right Tilt	0	9538	1907.6	-0.05	0.847	17.52	18.00	1.117	0.946	/
		Right Cheek	0	9262	1852.4	-0.04	0.711	17.34	18.00	1.164	0.828	/
		Right Cheek	0	9400	1880	0.08	0.732	17.45	18.00	1.135	0.831	/
		Right Tilt	0	9262	1852.4	-0.11	1.020	17.34	18.00	1.164	<b>1.187</b>	<b>5#</b>
		Right Tilt	0	9400	1880	-0.02	0.832	17.45	18.00	1.135	0.944	/
<b>Body-worn&amp;Hotspot</b>												
Ant.1	RMC	Front Side	10	9538	1907.6	-0.05	0.183	17.52	18.00	1.117	0.204	/
		Back Side	10	9538	1907.6	-0.15	0.335	17.52	18.00	1.117	0.374	/
		Right Edge	10	9538	1907.6	-0.04	0.077	17.52	18.00	1.117	0.086	/
		Top Edge	10	9538	1907.6	-0.10	0.354	17.52	18.00	1.117	<b>0.395</b>	<b>6#</b>
Note: Refer to ANNEX C for the detailed test data for each test configuration.												

## 10.4WCDMA Band 4

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>												
Ant.1	RMC	Left Cheek	0	1412	1732.5	-0.15	0.529	19.71	20.00	1.069	0.566	/
		Left Tilt	0	1412	1732.5	0.09	0.629	19.71	20.00	1.069	0.672	/
		Right Cheek	0	1412	1732.5	0.11	0.889	19.71	20.00	1.069	0.950	/
		Right Tilt	0	1412	1732.5	0.10	1.070	19.71	20.00	1.069	1.144	/
		Right Cheek	0	1312	1712.4	-0.08	0.842	19.46	20.00	1.132	0.953	/
		Right Cheek	0	1513	1752.6	-0.17	1.010	19.67	20.00	1.079	1.090	/
		Right Tilt	0	1312	1712.4	-0.01	0.977	19.46	20.00	1.132	1.106	/
		Right Tilt	0	1513	1752.6	-0.02	1.210	19.67	20.00	1.079	<b>1.306</b>	<b>7#</b>
<b>Body-worn&amp;Hotspot</b>												
Ant.1	RMC	Front Side	10	1412	1732.5	-0.09	0.205	19.71	20.00	1.069	0.219	/
		Back Side	10	1412	1732.5	0.04	0.356	19.71	20.00	1.069	<b>0.381</b>	<b>8#</b>
		Right Edge	10	1412	1732.5	-0.09	0.085	19.71	20.00	1.069	0.091	/
		Top Edge	10	1412	1732.5	0.00	0.319	19.71	20.00	1.069	0.341	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.												

### 10.5WCDMA Band 5

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>												
Ant.1	RMC	Left Cheek	0	4233	846.6	-0.16	0.585	23.17	24.50	1.358	0.794	/
		Left Tilt	0	4233	846.6	-0.13	0.563	23.17	24.50	1.358	0.765	/
		Right Cheek	0	4233	846.6	-0.03	0.918	23.17	24.50	1.358	<b>1.247</b>	9#
		Right Tilt	0	4233	846.6	0.19	0.824	23.17	24.50	1.358	1.119	/
		Right Cheek	0	4132	826.4	-0.10	0.878	23.11	24.50	1.377	1.209	/
		Right Cheek	0	4182	836.4	0.00	0.815	23.15	24.50	1.365	1.112	/
		Right Tilt	0	4132	826.4	0.05	0.845	23.11	24.50	1.377	1.164	/
		Right Tilt	0	4182	836.4	0.08	0.802	23.15	24.50	1.365	1.095	/
<b>Body-worn&amp;Hotspot</b>												
Ant.1	RMC	Front Side	10	4233	846.6	0.03	0.205	23.17	24.50	1.358	0.278	/
		Back Side	10	4233	846.6	-0.03	0.390	23.17	24.50	1.358	<b>0.530</b>	10#
		Right Edge	10	4233	846.6	-0.09	0.129	23.17	24.50	1.358	0.175	/
		Top Edge	10	4233	846.6	0.12	0.285	23.17	24.50	1.358	0.387	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.												

### 10.6LTE Band 2 (20MHz Bandwidth)

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>														
Ant.1	QPSK	Left Cheek	0	18700	1860	1	High	-0.19	0.575	19.44	19.50	1.014	0.583	/
		Left Tilt	0	18700	1860	1	High	-0.19	0.689	19.44	19.50	1.014	0.699	/
		Right Cheek	0	18700	1860	1	High	-0.18	1.050	19.44	19.50	1.014	1.065	/
		Right Tilt	0	18700	1860	1	High	0.05	1.290	19.44	19.50	1.014	1.308	/
		Left Cheek	0	18700	1860	50	High	0.18	0.484	17.94	18.50	1.138	0.551	/
		Left Tilt	0	18700	1860	50	High	0.09	0.607	17.94	18.50	1.138	0.691	/
		Right Cheek	0	18700	1860	50	High	0.07	0.927	17.94	18.50	1.138	1.055	/
		Right Tilt	0	18700	1860	50	High	0.16	1.071	17.94	18.50	1.138	1.219	/
		Right Cheek	0	18900	1880	1	Mid	-0.11	1.020	19.43	19.50	1.016	1.036	/
		Right Cheek	0	19100	1900	1	Mid	0.05	0.985	18.54	19.50	1.247	1.228	/
		Right Cheek	0	18900	1880	50	Mid	0.08	0.895	17.32	18.50	1.312	1.174	/
		Right Cheek	0	19100	1900	50	High	-0.11	0.874	17.61	18.50	1.227	1.072	/
		Right Cheek	0	18700	1860	100	Low	0.08	1.050	17.55	18.50	1.245	1.307	/
		Right Tilt	0	18900	1880	1	Mid	-0.04	1.320	19.43	19.50	1.016	<b>1.341</b>	11#
		Right Tilt	0	19100	1900	1	Mid	-0.04	1.040	18.54	19.50	1.247	1.297	/
		Right Tilt	0	18900	1880	50	Mid	-0.19	1.010	17.32	18.50	1.312	1.325	/
		Right Tilt	0	19100	1900	50	High	-0.12	1.020	17.61	18.50	1.227	1.252	/
		Right Tilt	0	18700	1860	100	Low	-0.12	1.050	17.55	18.50	1.245	1.307	/
<b>Body-worn&amp;Hotspot</b>														
Ant.1	QPSK	Front Side	10	18700	1860	1	High	0.07	0.247	19.44	19.50	1.014	0.250	/
		Back Side	10	18700	1860	1	High	-0.02	0.477	19.44	19.50	1.014	<b>0.484</b>	12#
		Right Edge	10	18700	1860	1	High	0.14	0.109	19.44	19.50	1.014	0.111	/
		Top Edge	10	18700	1860	1	High	-0.11	0.372	19.44	19.50	1.014	0.377	/
		Front Side	10	18700	1860	50	High	0.08	0.195	17.94	18.50	1.138	0.222	/
		Back Side	10	18700	1860	50	High	0.14	0.337	17.94	18.50	1.138	0.384	/
		Right Edge	10	18700	1860	50	High	0.01	0.086	17.94	18.50	1.138	0.098	/
		Top Edge	10	18700	1860	50	High	-0.19	0.297	17.94	18.50	1.138	0.338	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

### 10.7LTE Band 4 (20MHz Bandwidth)

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>														
Ant.1	QPSK	Left Cheek	0	20300	1745	1	Low	0.00	0.579	20.41	20.50	1.021	0.591	/
		Left Tilt	0	20300	1745	1	Low	-0.17	0.661	20.41	20.50	1.021	0.675	/
		Right Cheek	0	20300	1745	1	Low	0.13	1.020	20.41	20.50	1.021	1.041	/
		Right Tilt	0	20300	1745	1	Low	-0.03	1.280	20.41	20.50	1.021	<b>1.307</b>	13#
		Left Cheek	0	20300	1745	50	High	0.04	0.528	19.40	19.50	1.023	0.540	/
		Left Tilt	0	20300	1745	50	High	-0.14	0.619	19.40	19.50	1.023	0.633	/
		Right Cheek	0	20300	1745	50	High	0.07	0.885	19.40	19.50	1.023	0.905	/
		Right Tilt	0	20300	1745	50	High	0.02	1.110	19.40	19.50	1.023	1.136	/
		Right Cheek	0	20050	1720	1	Low	0.05	0.645	19.95	20.50	1.135	0.732	/
		Right Cheek	0	20175	1732.5	1	High	-0.14	0.652	20.07	20.50	1.104	0.720	/
		Right Cheek	0	20050	1720	50	High	0.06	0.711	18.97	19.50	1.130	0.803	/
		Right Cheek	0	20175	1732.5	50	High	0.08	0.623	18.62	19.50	1.225	0.763	/
		Right Cheek	0	20300	1745	100	Low	-0.11	0.656	19.28	19.50	1.052	0.690	/
		Right Tilt	0	20050	1720	1	Low	0.07	0.716	19.95	20.50	1.135	0.813	/
		Right Tilt	0	20175	1732.5	1	High	-0.12	0.801	20.07	20.50	1.104	0.884	/
		Right Tilt	0	20050	1720	50	High	0.16	0.730	18.97	19.50	1.130	0.825	/
		Right Tilt	0	20175	1732.5	50	High	0.03	0.803	18.62	19.50	1.225	0.984	/
Right Tilt	0	20300	1745	100	Low	-0.19	0.789	19.28	19.50	1.052	0.830	/		
<b>Body-worn&amp;Hotspot</b>														
Ant.1	QPSK	Front Side	10	20300	1745	1	Low	0.03	0.236	20.41	20.50	1.021	0.241	/
		Back Side	10	20300	1745	1	Low	0.07	0.403	20.41	20.50	1.021	<b>0.411</b>	14#
		Right Edge	10	20300	1745	1	Low	-0.05	0.098	20.41	20.50	1.021	0.100	/
		Top Edge	10	20300	1745	1	Low	-0.19	0.391	20.41	20.50	1.021	0.399	/
		Front Side	10	20300	1745	50	High	0.08	0.229	19.40	19.50	1.023	0.234	/
		Back Side	10	20300	1745	50	High	0.07	0.398	19.40	19.50	1.023	0.407	/
		Right Edge	10	20300	1745	50	High	-0.17	0.087	19.40	19.50	1.023	0.089	/
		Top Edge	10	20300	1745	50	High	-0.10	0.382	19.40	19.50	1.023	0.391	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

### 10.8LTE Band 5 (10MHz Bandwidth)

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>														
Ant.1	QPSK	Left Cheek	0	20525	836.5	1	High	-0.10	0.610	23.28	23.50	1.052	0.642	/
		Left Tilt	0	20525	836.5	1	High	-0.02	0.573	23.28	23.50	1.052	0.603	/
		Right Cheek	0	20525	836.5	1	High	-0.18	0.835	23.28	23.50	1.052	0.878	/
		Right Tilt	0	20525	836.5	1	High	0.14	0.723	23.28	23.50	1.052	0.761	/
		Left Cheek	0	20525	836.5	25	High	0.09	0.487	22.37	23.00	1.156	0.563	/
		Left Tilt	0	20525	836.5	25	High	0.19	0.459	22.37	23.00	1.156	0.531	/
		Right Cheek	0	20525	836.5	25	High	0.02	0.687	22.37	23.00	1.156	0.794	/
		Right Tilt	0	20525	836.5	25	High	0.01	0.635	22.37	23.00	1.156	0.734	/
		Right Cheek	0	20450	829	1	Mid	0.12	0.844	23.12	23.50	1.091	0.921	/
		Right Cheek	0	20600	844	1	Mid	-0.08	0.866	23.22	23.50	1.067	<b>0.924</b>	15#
		Right Cheek	0	20450	829	25	High	-0.11	0.693	22.35	23.00	1.161	0.805	/
		Right Cheek	0	20600	844	25	Mid	0.06	0.700	22.27	23.00	1.183	0.828	/
		Right Cheek	0	20600	844	50	Low	-0.01	0.688	22.29	23.00	1.178	0.810	/
<b>Body-worn&amp;Hotspot</b>														
Ant.1	QPSK	Front Side	10	20525	836.5	1	High	0.19	0.192	23.28	23.50	1.052	0.202	/
		Back Side	10	20525	836.5	1	High	-0.01	0.339	23.28	23.50	1.052	<b>0.357</b>	16#
		Right Edge	10	20525	836.5	1	High	-0.06	0.097	23.28	23.50	1.052	0.102	/
		Top Edge	10	20525	836.5	1	High	0.04	0.271	23.28	23.50	1.052	0.285	/
		Front Side	10	20525	836.5	25	High	0.14	0.163	22.37	23.00	1.156	0.188	/
		Back Side	10	20525	836.5	25	High	0.12	0.274	22.37	23.00	1.156	0.317	/
		Right Edge	10	20525	836.5	25	High	0.12	0.080	22.37	23.00	1.156	0.092	/
		Top Edge	10	20525	836.5	25	High	-0.04	0.228	22.37	23.00	1.156	0.264	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														



### 10.9LTE Band 7 (20MHz Bandwidth)

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>														
Ant.1	QPSK	Left Cheek	0	20850	2510	1	Mid	0.10	0.290	16.48	16.50	1.005	0.291	/
		Left Tilt	0	20850	2510	1	Mid	-0.16	0.417	16.48	16.50	1.005	0.419	/
		Right Cheek	0	20850	2510	1	Mid	0.11	0.895	16.48	16.50	1.005	0.899	/
		Right Tilt	0	20850	2510	1	Mid	-0.13	1.220	16.48	16.50	1.005	1.226	/
		Left Cheek	0	20850	2510	50	Mid	0.07	0.252	15.33	15.50	1.040	0.262	/
		Left Tilt	0	20850	2510	50	Mid	-0.15	0.385	15.33	15.50	1.040	0.400	/
		Right Cheek	0	20850	2510	50	Mid	0.00	0.789	15.33	15.50	1.040	0.821	/
		Right Tilt	0	20850	2510	50	Mid	0.08	1.050	15.33	15.50	1.040	1.092	/
		Right Cheek	0	21100	2535	1	Mid	-0.14	0.852	16.46	16.50	1.009	0.860	/
		Right Cheek	0	21350	2560	1	Mid	0.08	0.845	16.32	16.50	1.042	0.880	/
		Right Cheek	0	21100	2535	50	Mid	-0.02	0.745	15.32	15.50	1.042	0.776	/
		Right Cheek	0	21350	2560	50	Mid	0.04	0.711	15.13	15.50	1.089	0.774	/
		Right Cheek	0	20850	2510	100	Low	-0.11	0.723	15.31	15.50	1.045	0.756	/
		Right Tilt	0	21100	2535	1	Mid	0.11	1.170	16.46	16.50	1.009	1.181	/
		Right Tilt	0	21350	2560	1	Mid	0.09	1.290	16.32	16.50	1.042	<b>1.344</b>	17#
		Right Tilt	0	21100	2535	50	Mid	0.03	1.040	15.32	15.50	1.042	1.084	/
		Right Tilt	0	21350	2560	50	Mid	-0.01	1.090	15.13	15.50	1.089	1.187	/
Right Tilt	0	20850	2510	100	Low	-0.03	1.010	15.31	15.50	1.045	1.055	/		
<b>Body-worn&amp;Hotspot</b>														
Ant.1	QPSK	Front Side	10	20850	2510	1	Mid	-0.06	0.171	16.48	16.50	1.005	0.172	/
		Back Side	10	20850	2510	1	Mid	-0.14	0.432	16.48	16.50	1.005	0.434	/
		Right Edge	10	20850	2510	1	Mid	-0.02	0.173	16.48	16.50	1.005	0.174	/
		Top Edge	10	20850	2510	1	Mid	0.06	0.539	16.48	16.50	1.005	<b>0.542</b>	18#
		Front Side	10	20850	2510	50	Mid	-0.02	0.142	15.33	15.50	1.040	0.148	/
		Back Side	10	20850	2510	50	Mid	-0.13	0.382	15.33	15.50	1.040	0.397	/
		Right Edge	10	20850	2510	50	Mid	-0.10	0.153	15.33	15.50	1.040	0.159	/
		Top Edge	10	20850	2510	50	Mid	0.01	0.458	15.33	15.50	1.040	0.476	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

### 10.10 LTE Band 12 (10MHz Bandwidth)

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>														
Ant.1	QPSK	Left Cheek	0	23095	707.5	1	High	0.14	0.274	23.42	23.50	1.019	0.279	/
		Left Tilt	0	23095	707.5	1	High	0.01	0.257	23.42	23.50	1.019	0.262	/
		Right Cheek	0	23095	707.5	1	High	-0.05	0.397	23.42	23.50	1.019	<b>0.405</b>	19#
		Right Tilt	0	23095	707.5	1	High	-0.09	0.381	23.42	23.50	1.019	0.388	/
		Left Cheek	0	23095	707.5	25	High	0.00	0.229	22.48	22.50	1.005	0.230	/
		Left Tilt	0	23095	707.5	25	High	-0.03	0.215	22.48	22.50	1.005	0.216	/
		Right Cheek	0	23095	707.5	25	High	0.13	0.336	22.48	22.50	1.005	0.338	/
		Right Tilt	0	23095	707.5	25	High	0.18	0.316	22.48	22.50	1.005	0.318	/
<b>Body-worn&amp;Hotspot</b>														
Ant.1	QPSK	Front Side	10	23095	707.5	1	High	-0.11	0.090	23.42	23.50	1.019	0.092	/
		Back Side	10	23095	707.5	1	High	0.08	0.126	23.42	23.50	1.019	0.128	/
		Right Edge	10	23095	707.5	1	High	-0.03	0.141	23.42	23.50	1.019	<b>0.144</b>	20#
		Top Edge	10	23095	707.5	1	High	-0.04	0.094	23.42	23.50	1.019	0.096	/
		Front Side	10	23095	707.5	25	High	0.10	0.074	22.48	22.50	1.005	0.074	/
		Back Side	10	23095	707.5	25	High	0.11	0.109	22.48	22.50	1.005	0.110	/
		Right Edge	10	23095	707.5	25	High	-0.08	0.129	22.48	22.50	1.005	0.130	/
		Top Edge	10	23095	707.5	25	High	-0.08	0.082	22.48	22.50	1.005	0.082	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

### 10.11 LTE Band 13 (10MHz Bandwidth)

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>														
Ant.1	QPSK	Left Cheek	0	23230	782	1	Low	-0.01	0.255	23.45	23.50	1.012	0.258	/
		Left Tilt	0	23230	782	1	Low	0.05	0.236	23.45	23.50	1.012	0.239	/
		Right Cheek	0	23230	782	1	Low	-0.08	0.366	23.45	23.50	1.012	<b>0.370</b>	21#
		Right Tilt	0	23230	782	1	Low	-0.08	0.341	23.45	23.50	1.012	0.345	/
		Left Cheek	0	23230	782	25	Low	-0.15	0.226	22.33	22.50	1.040	0.235	/
		Left Tilt	0	23230	782	25	Low	-0.18	0.214	22.33	22.50	1.040	0.223	/
		Right Cheek	0	23230	782	25	Low	-0.07	0.328	22.33	22.50	1.040	0.341	/
		Right Tilt	0	23230	782	25	Low	0.11	0.305	22.33	22.50	1.040	0.317	/
<b>Body-worn&amp;Hotspot</b>														
Ant.1	QPSK	Front Side	10	23230	782	1	Low	0.05	0.087	23.45	23.50	1.012	0.088	/
		Back Side	10	23230	782	1	Low	-0.05	0.121	23.45	23.50	1.012	<b>0.122</b>	22#
		Right Edge	10	23230	782	1	Low	-0.01	0.080	23.45	23.50	1.012	0.081	/
		Top Edge	10	23230	782	1	Low	0.13	0.117	23.45	23.50	1.012	0.118	/
		Front Side	10	23230	782	25	Low	-0.01	0.082	22.33	22.50	1.040	0.085	/
		Back Side	10	23230	782	25	Low	0.11	0.112	22.33	22.50	1.040	0.116	/
		Right Edge	10	23230	782	25	Low	0.15	0.073	22.33	22.50	1.040	0.076	/
		Top Edge	10	23230	782	25	Low	-0.17	0.112	22.33	22.50	1.040	0.116	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

### 10.12 LTE Band 66 (20MHz Bandwidth)

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>														
Ant.1	QPSK	Left Cheek	0	132322	1745	1	Mid	0.08	0.504	19.92	20.00	1.019	0.514	/
		Left Tilt	0	132322	1745	1	Mid	0.15	0.569	19.92	20.00	1.019	0.580	/
		Right Cheek	0	132322	1745	1	Mid	-0.15	0.995	19.92	20.00	1.019	1.014	/
		Right Tilt	0	132322	1745	1	Mid	0.02	1.150	19.92	20.00	1.019	<b>1.172</b>	23#
		Left Cheek	0	132322	1745	50	High	-0.01	0.450	18.80	19.00	1.047	0.471	/
		Left Tilt	0	132322	1745	50	High	0.10	0.504	18.80	19.00	1.047	0.528	/
		Right Cheek	0	132322	1745	50	High	-0.13	0.760	18.80	19.00	1.047	0.796	/
		Right Tilt	0	132322	1745	50	High	0.17	0.848	18.80	19.00	1.047	0.888	/
		Right Cheek	0	132072	1720	1	Mid	0.04	0.611	19.84	20.00	1.038	0.634	/
		Right Cheek	0	132572	1770	1	Low	-0.05	0.720	19.80	20.00	1.047	0.754	/
		Right Cheek	0	132072	1720	50	High	0.08	0.602	18.71	19.00	1.069	0.644	/
		Right Cheek	0	132572	1770	50	High	0.04	0.784	18.35	19.00	1.161	0.910	/
		Right Cheek	0	132322	1745	100	Low	0.01	0.711	18.65	19.00	1.084	0.771	/
		Right Tilt	0	132072	1720	1	Mid	0.16	0.683	19.84	20.00	1.038	0.709	/
		Right Tilt	0	132572	1770	1	Low	0.09	0.880	19.80	20.00	1.047	0.921	/
		Right Tilt	0	132072	1720	50	High	0.03	0.644	18.71	19.00	1.069	0.688	/
		Right Tilt	0	132572	1770	50	High	0.04	0.852	18.35	19.00	1.161	0.989	/
Right Tilt	0	132322	1745	100	Low	-0.15	0.837	18.65	19.00	1.084	0.907	/		
<b>Body-worn&amp;Hotspot</b>														
Ant.1	QPSK	Front Side	10	132322	1745	1	Mid	0.18	0.218	19.92	20.00	1.019	0.222	/
		Back Side	10	132322	1745	1	Mid	0.02	0.383	19.92	20.00	1.019	<b>0.390</b>	24#
		Right Edge	10	132322	1745	1	Mid	-0.16	0.099	19.92	20.00	1.019	0.101	/
		Top Edge	10	132322	1745	1	Mid	-0.10	0.345	19.92	20.00	1.019	0.352	/
		Front Side	10	132322	1745	50	High	0.18	0.199	18.80	19.00	1.047	0.208	/
		Back Side	10	132322	1745	50	High	-0.19	0.358	18.80	19.00	1.047	0.375	/
		Right Edge	10	132322	1745	50	High	-0.10	0.085	18.80	19.00	1.047	0.089	/
		Top Edge	10	132322	1745	50	High	0.08	0.314	18.80	19.00	1.047	0.329	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

## 10.13 WIFI 2.4GHZ

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	Duty Cycle (%)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>														
Ant.3	802.11 b	Left Cheek	0	6	2437	0.03	0.507	17.45	17.50	1.012	99.38	1.006	<b>0.516</b>	25#
		Left Tilt	0	6	2437	0.04	0.302	17.45	17.50	1.012	99.38	1.006	0.307	/
		Right Cheek	0	6	2437	-0.12	0.226	17.45	17.50	1.012	99.38	1.006	0.230	/
		Right Tilt	0	6	2437	0.08	0.241	17.45	17.50	1.012	99.38	1.006	0.245	/
<b>Body-worn&amp;Hotspot</b>														
Ant.3	802.11 b	Front Side	10	6	2437	-0.11	0.064	17.45	17.50	1.012	99.38	1.006	0.065	/
		Back Side	10	6	2437	0.09	0.135	17.45	17.50	1.012	99.38	1.006	0.137	/
		Left Edge	10	6	2437	-0.13	0.061	17.45	17.50	1.012	99.38	1.006	0.062	/
		Top Edge	10	6	2437	0.04	0.158	17.45	17.50	1.012	99.38	1.006	<b>0.161</b>	26#
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

## 10.14 Bluetooth

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	Duty Cycle (%)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>														
Ant.3	2DH5	Left Cheek	0	39	2441	0.04	0.118	11.34	12.00	1.164	76.88	1.301	<b>0.179</b>	27#
		Left Tilt	0	39	2441	0.12	0.088	11.34	12.00	1.164	76.88	1.301	0.133	/
		Right Cheek	0	39	2441	0.09	0.063	11.34	12.00	1.164	76.88	1.301	0.095	/
		Right Tilt	0	39	2441	0.03	0.075	11.34	12.00	1.164	76.88	1.301	0.114	/
<b>Body-worn&amp;Hotspot</b>														
Ant.3	2DH5	Front Side	10	39	2441	-0.14	0.02	11.34	12.00	1.164	76.88	1.301	0.023	/
		Back Side	10	39	2441	0.06	0.044	11.34	12.00	1.164	76.88	1.301	<b>0.051</b>	28#
		Left Edge	10	39	2441	0.08	0.015	11.34	12.00	1.164	76.88	1.301	0.017	/
		Top Edge	10	39	2441	-0.05	0.038	11.34	12.00	1.164	76.88	1.301	0.044	/

Note: Refer to ANNEX C for the detailed test data for each test configuration.

## 11 SAR Measurement Variability

According to KDB 865664 D01, SAR measurement variability was assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media are required for SAR measurements in a frequency band, the variability measurement procedures should be applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. Alternatively, if the highest measured SAR for both head and body tissue-equivalent media are  $\leq 1.45$  W/kg and the ratio of these highest SAR values, i.e., largest divided by smallest value, is  $\leq 1.10$ , the highest SAR configuration for either head or body tissue-equivalent medium may be used to perform the repeated measurement. These additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

SAR repeated measurement procedure:

1. When the highest measured SAR is  $< 0.80$  W/kg, repeated measurement is not required.
2. When the highest measured SAR is  $\geq 0.80$  W/kg, repeat that measurement once.
3. If the ratio of largest to smallest SAR for the original and first repeated measurements is  $> 1.20$ , or when the original or repeated measurement is  $\geq 1.45$  W/kg, perform a second repeated measurement.
4. If the ratio of largest to smallest SAR for the original, first and second repeated measurements is  $> 1.20$ , and the original, first or second repeated measurement is  $\geq 1.5$  W/kg, perform a third repeated measurement.

Frequency Band (MHz)	Wireless Band	RF Exposure Conditions	Test Position	Highest Measured SAR (W/kg)	Repeated SAR (Yes/No)	Repeated <sup>1st</sup> Measured SAR (W/kg)	Largest to Smallest SAR Ratio
835	GSM850	Head	Right Cheek	0.970	Yes	0.958	1.01
1900	GSM1900	Head	Right Tilt	0.901	Yes	0.889	1.01
1900	WCDMA Band 2	Head	Right Tilt	1.020	Yes	0.991	1.03
1750	WCDMA Band 4	Head	Right Cheek	1.010	Yes	0.958	1.05
1750	WCDMA Band 4	Head	Right Tilt	1.210	Yes	1.130	1.07
835	WCDMA Band 5	Head	Right Cheek	0.918	Yes	0.884	1.04
835	WCDMA Band 5	Head	Right Tilt	0.845	Yes	0.812	1.04
1900	LTE Band 2	Head	Right Cheek	1.050	Yes	0.986	1.06
1900	LTE Band 2	Head	Right Tilt	1.320	Yes	1.220	1.08
1750	LTE Band 4	Head	Right Cheek	1.020	Yes	1.010	1.01
1750	LTE Band 4	Head	Right Tilt	1.280	Yes	1.250	1.02
835	LTE Band 5	Head	Right Cheek	0.866	Yes	0.854	1.01
2600	LTE Band 7	Head	Right Cheek	0.895	Yes	0.874	1.02
2600	LTE Band 7	Head	Right Tilt	1.290	Yes	1.180	1.09
1750	LTE Band 66	Head	Right Cheek	0.995	Yes	0.956	1.04
1750	LTE Band 66	Head	Right Tilt	1.150	Yes	1.130	1.02

Note: The ratio of largest to smallest SAR for the original and first repeated measurements is < 1.20, the second repeated measurement. is not required.



## 12 SIMULTANEOUS TRANSMISSION

Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneous transmitting antenna. When the sum of SAR 1g of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit (SAR 1g 1.6 W/kg), the simultaneous transmission SAR is not required. When the sum of SAR 1g is greater than the SAR limit (SAR 1g 1.6 W/kg), SAR test exclusion is determined by the SAR to Peak Location Ratio (SPLSR).

### 12.1 Simultaneous Transmission Mode Consider

No.	Simultaneous Tx Combination	Head	Body-worn	Hotspot
1	WWAN + WLAN 2.4GHz	Yes	Yes	Yes
2	WWAN + BT	Yes	Yes	Yes

Note:

1. WWAN antennas can switch automatically, the standards supported by WWAN are(GSM/GPRS/EDGE/WCDMA/LTE).
2. The maximum SAR summation is calculated based on the same configuration and test position.

## 12.2 Sum SAR of Simultaneous Transmission

### 12.2.1 Head Simultaneous Transmission SAR Evaluation for WWAN Antenna with WLAN and Bluetooth

Band	Antenna	Position	Stand alone SAR			SUM SAR	
			1	2	3	Sum SAR (1+2)	Sum SAR (1+3)
			WWAN	2.4GWIFI	BT		
GSM850	ANT1	Left Cheek	0.535	0.516	0.179	1.051	0.714
		Left Tilt	0.484	0.307	0.133	0.791	0.617
		Right Cheek	1.241	0.230	0.095	1.471	1.336
		Right Tilt	0.873	0.245	0.114	1.118	0.987
GSM1900	ANT1	Left Cheek	0.508	0.516	0.179	1.024	0.687
		Left Tilt	0.591	0.307	0.133	0.898	0.724
		Right Cheek	0.911	0.230	0.095	1.141	1.006
		Right Tilt	1.163	0.245	0.114	1.408	1.277
WCDMA B2	ANT1	Left Cheek	0.432	0.516	0.179	0.948	0.611
		Left Tilt	0.521	0.307	0.133	0.828	0.654
		Right Cheek	0.848	0.230	0.095	1.078	0.943
		Right Tilt	1.187	0.245	0.114	1.432	1.301
WCDMA B4	ANT1	Left Cheek	0.566	0.516	0.179	1.082	0.745
		Left Tilt	0.672	0.307	0.133	0.979	0.805
		Right Cheek	1.090	0.230	0.095	1.320	1.185
		Right Tilt	1.306	0.245	0.114	1.551	1.420
WCDMA B5	ANT1	Left Cheek	0.868	0.516	0.179	1.384	1.047
		Left Tilt	0.812	0.307	0.133	1.119	0.945
		Right Cheek	1.247	0.230	0.095	1.477	1.342
		Right Tilt	1.164	0.245	0.114	1.409	1.278
LTE B2	ANT1	Left Cheek	0.583	0.516	0.179	1.099	0.762
		Left Tilt	0.699	0.307	0.133	1.006	0.832
		Right Cheek	1.065	0.230	0.095	1.295	1.160
		Right Tilt	1.341	0.245	0.114	1.586	1.455
LTE B4	ANT1	Left Cheek	0.591	0.516	0.179	1.107	0.770
		Left Tilt	0.675	0.307	0.133	0.982	0.808
		Right Cheek	1.041	0.230	0.095	1.271	1.136
		Right Tilt	1.307	0.245	0.114	1.552	1.421
LTE B5	ANT1	Left Cheek	0.642	0.516	0.179	1.158	0.821
		Left Tilt	0.603	0.307	0.133	0.910	0.736
		Right Cheek	0.924	0.230	0.095	1.154	1.019
		Right Tilt	0.818	0.245	0.114	1.063	0.932
LTE B7	ANT1	Left Cheek	0.291	0.516	0.179	0.807	0.470
		Left Tilt	0.419	0.307	0.133	0.726	0.552
		Right Cheek	0.899	0.230	0.095	1.129	0.994

		Right Tilt	1.344	0.245	0.114	<b>1.589</b>	1.458
LTE B12	ANT1	Left Cheek	0.279	0.516	0.179	0.795	0.458
		Left Tilt	0.262	0.307	0.133	0.569	0.395
		Right Cheek	0.405	0.230	0.095	0.635	0.500
		Right Tilt	0.388	0.245	0.114	0.633	0.502
LTE B13	ANT1	Left Cheek	0.258	0.516	0.179	0.774	0.437
		Left Tilt	0.239	0.307	0.133	0.546	0.372
		Right Cheek	0.370	0.230	0.095	0.600	0.465
		Right Tilt	0.345	0.245	0.114	0.590	0.459
LTE B66	ANT1	Left Cheek	0.514	0.516	0.179	1.030	0.693
		Left Tilt	0.580	0.307	0.133	0.887	0.713
		Right Cheek	1.014	0.230	0.095	1.244	1.109
		Right Tilt	1.172	0.245	0.114	1.417	1.286

Note: The highest Summed 1g SAR is 1.589 W/Kg < 1.6 W/kg, so Simultaneous Transmission SAR test is not required.

## 12.2.2 Body-worn Simultaneous Transmission SAR Evaluation for WWAN Antenna with WLAN and Bluetooth

Band	Antenna	Position	Stand alone SAR			SUM SAR	
			1	2	3	Sum SAR (1+2)	Sum SAR (1+3)
			WWAN	2.4GWIFI	BT		
GSM850	ANT1	Front Side 10mm	0.235	0.065	0.023	0.300	0.258
		Back Side 10mm	0.380	0.137	0.051	0.517	0.431
GSM1900	ANT1	Front Side 10mm	0.459	0.065	0.023	0.524	0.482
		Back Side 10mm	0.686	0.137	0.051	<b>0.823</b>	0.737
WCDMA B2	ANT1	Front Side 10mm	0.204	0.065	0.023	0.269	0.227
		Back Side 10mm	0.374	0.137	0.051	0.511	0.425
WCDMA B4	ANT1	Front Side 10mm	0.219	0.065	0.023	0.284	0.242
		Back Side 10mm	0.381	0.137	0.051	0.518	0.432
WCDMA B5	ANT1	Front Side 10mm	0.278	0.065	0.023	0.343	0.301
		Back Side 10mm	0.530	0.137	0.051	0.667	0.581
LTE B2	ANT1	Front Side 10mm	0.250	0.065	0.023	0.315	0.273
		Back Side 10mm	0.484	0.137	0.051	0.621	0.535
LTE B4	ANT1	Front Side 10mm	0.241	0.065	0.023	0.306	0.264
		Back Side 10mm	0.424	0.137	0.051	0.561	0.475
LTE B5	ANT1	Front Side 10mm	0.202	0.065	0.023	0.267	0.225
		Back Side 10mm	0.357	0.137	0.051	0.494	0.408
LTE B7	ANT1	Front Side 10mm	0.172	0.065	0.023	0.237	0.195
		Back Side 10mm	0.434	0.137	0.051	0.571	0.485
LTE B12	ANT1	Front Side 10mm	0.092	0.065	0.023	0.157	0.115
		Back Side 10mm	0.128	0.137	0.051	0.265	0.179
LTE B13	ANT1	Front Side 10mm	0.088	0.065	0.023	0.153	0.111
		Back Side 10mm	0.122	0.137	0.051	0.259	0.173
LTE B66	ANT1	Front Side 10mm	0.222	0.065	0.023	0.287	0.245
		Back Side 10mm	0.390	0.137	0.051	0.527	0.441

Note: The highest Summed 1g SAR is 0.823 W/Kg < 1.6 W/kg, so Simultaneous Transmission SAR test is not required.

### 12.2.3 Hotspot Simultaneous Transmission SAR Evaluation for WWAN Antenna with WLAN and Bluetooth

Band	Antenna	Position	Stand alone SAR			SUM SAR	
			1	2	3	Sum SAR (1+2)	Sum SAR (1+3)
			WWAN	2.4GWIFI	BT		
GSM850	ANT1	Front Side 10mm	0.235	0.065	0.023	0.300	0.258
		Back Side 10mm	0.380	0.137	0.051	0.517	0.431
		Right Edge 10mm	0.150	0.000	0.017	0.150	0.167
		Top Edge 10mm	0.299	0.161	0.044	0.460	0.343
GSM1900	ANT1	Front Side 10mm	0.459	0.065	0.023	0.524	0.482
		Back Side 10mm	0.686	0.137	0.051	0.823	0.737
		Right Edge 10mm	0.199	0.000	0.017	0.199	0.216
		Top Edge 10mm	0.722	0.161	0.044	<b>0.883</b>	0.766
WCDMA B2	ANT1	Front Side 10mm	0.204	0.065	0.023	0.269	0.227
		Back Side 10mm	0.374	0.137	0.051	0.511	0.425
		Right Edge 10mm	0.086	0.000	0.017	0.086	0.103
		Top Edge 10mm	0.395	0.161	0.044	0.556	0.439
WCDMA B4	ANT1	Front Side 10mm	0.219	0.065	0.023	0.284	0.242
		Back Side 10mm	0.381	0.137	0.051	0.518	0.432
		Right Edge 10mm	0.091	0.000	0.017	0.091	0.108
		Top Edge 10mm	0.341	0.161	0.044	0.502	0.385
WCDMA B5	ANT1	Front Side 10mm	0.278	0.065	0.023	0.343	0.301
		Back Side 10mm	0.530	0.137	0.051	0.667	0.581
		Right Edge 10mm	0.175	0.000	0.017	0.175	0.192
		Top Edge 10mm	0.387	0.161	0.044	0.548	0.431
LTE B2	ANT1	Front Side 10mm	0.250	0.065	0.023	0.315	0.273
		Back Side 10mm	0.484	0.137	0.051	0.621	0.535
		Right Edge 10mm	0.111	0.000	0.017	0.111	0.128
		Top Edge 10mm	0.377	0.161	0.044	0.538	0.421
LTE B4	ANT1	Front Side 10mm	0.241	0.065	0.023	0.306	0.264
		Back Side 10mm	0.424	0.137	0.051	0.561	0.475
		Right Edge 10mm	0.100	0.000	0.017	0.100	0.117
		Top Edge 10mm	0.399	0.161	0.044	0.560	0.443
LTE B5	ANT1	Front Side 10mm	0.202	0.065	0.023	0.267	0.225
		Back Side 10mm	0.357	0.137	0.051	0.494	0.408
		Right Edge 10mm	0.102	0.000	0.017	0.102	0.119
		Top Edge 10mm	0.285	0.161	0.044	0.446	0.329
LTE B7	ANT1	Front Side 10mm	0.172	0.065	0.023	0.237	0.195
		Back Side 10mm	0.434	0.137	0.051	0.571	0.485
		Right Edge 10mm	0.174	0.000	0.017	0.174	0.191
		Top Edge 10mm	0.542	0.161	0.044	0.703	0.586

LTE B12	ANT1	Front Side 10mm	0.092	0.065	0.023	0.157	0.115
		Back Side 10mm	0.128	0.137	0.051	0.265	0.179
		Right Edge 10mm	0.144	0.000	0.017	0.144	0.161
		Top Edge 10mm	0.096	0.161	0.044	0.257	0.140
LTE B13	ANT1	Front Side 10mm	0.088	0.065	0.023	0.153	0.111
		Back Side 10mm	0.122	0.137	0.051	0.259	0.173
		Right Edge 10mm	0.081	0.000	0.017	0.081	0.098
		Top Edge 10mm	0.118	0.161	0.044	0.279	0.162
LTE B66	ANT1	Front Side 10mm	0.222	0.065	0.023	0.287	0.245
		Back Side 10mm	0.390	0.137	0.051	0.527	0.441
		Right Edge 10mm	0.101	0.000	0.017	0.101	0.118
		Top Edge 10mm	0.352	0.161	0.044	0.513	0.396

Note: The highest Summed 1g SAR is 0.883 W/Kg < 1.6 W/kg, so Simultaneous Transmission SAR test is not required.

## 13 TEST EQUIPMENTS LIST

Description	Manufacturer	Model	Serial No./Version	Cal. Date	Cal. Due
PC	Dell	N/A	N/A	N/A	N/A
Test Software	Speag	DASY5	52.8.8.1222	N/A	N/A
750MHz Validation Dipole	Speag	D750V3	SN: 1208	2021/07/05	2024/07/05
835MHz Validation Dipole	Speag	D835V2	SN: 4d187	2021/05/17	2024/05/16
1750MHz Validation Dipole	Speag	D1750V2	SN: 1130	2021/05/17	2024/05/16
1900MHz Validation Dipole	Speag	D1900V2	SN: 5d193	2021/05/20	2024/05/19
2450MHz Validation Dipole	Speag	D2450V2	SN: 952	2021/05/19	2024/05/18
2600MHz Validation Dipole	Speag	D2600V2	SN: 1095	2021/05/19	2024/05/18
E-Field Probe	Speag	EX3DV4	SN: 7506	2023/06/29	2024/06/28
Data Acquisition Electronicsr	Speag	DAE4	SN: 1710	2024/01/03	2025/01/02
Signal Generator	R&S	SMB100A	177746	2023/05/10	2024/05/09
Power Meter	R&S	NRVD-B2	835843/014	2023/09/05	2024/09/04
Power Sensor	R&S	NRV-Z4	100381	2023/09/05	2024/09/04
Power Sensor	R&S	NRV-Z2	100211	2023/09/05	2024/09/04
Wireless Communication Test Set	Anritsu	MT8820C	6201144551	2023/06/29	2024/06/29
Network Analyzer	Agilent	E5071C	MY46103472	2023/11/14	2024/11/14
Thermometer	Elitech	RC-4HC	EF5238001628	2023/10/09	2024/10/09
Thermometer	Elitech	RC-4HC	EF7239002652	2023/11/17	2024/11/17
Power Amplifier	SATIMO	6552B	22374	N/A	N/A
Dielectric Probe Kit	Speag	DAK3.5	SN: 1312	N/A	N/A
Phantom	Speag	SAM	SN: 1576	N/A	N/A
Attenuator	COM-MW	ZA-S1-31	1305003187	N/A	N/A
Directional coupler	AA-MCS	AAMCS-UDC	000272	N/A	N/A

Note: For dipole antennas, BALUN has adopted 3 years as calibration intervals, and on annual basis, every measurement dipole has been evaluated and is in compliance with the following criteria:

1. There is no physical damage on the dipole;
2. System validation with specific dipole is within 10% of calibrated value;
3. Return-loss in within 20% of calibrated measurement.
4. Impedance (real or imaginary parts) in within 5 Ohms of calibrated measurement.

## ANNEX A SIMULATING LIQUID VERIFICATION RESULT

The dielectric parameters of the liquids were verified prior to the SAR evaluation using a DAK3.5 Dielectric Probe Kit.

Head Liquid

Date	Liquid Type	Fre. (MHz)	Temp. (°C)	Meas. Conductivity ( $\sigma$ ) (S/m)	Meas. Permittivity ( $\epsilon$ )	Target Conductivity ( $\sigma$ ) (S/m)	Target Permittivity ( $\epsilon$ )	Conductivity Tolerance (%)	Permittivity Tolerance (%)
2024.03.17	Head	750	21.5	0.90	41.82	0.89	41.94	1.57	-0.28
2024.03.18	Head	835	21.4	0.89	41.64	0.90	41.50	-0.67	0.34
2024.03.19	Head	835	21.6	0.90	41.73	0.90	41.50	-0.56	0.56
2024.03.20	Head	835	21.8	0.89	41.91	0.90	41.50	-0.67	0.99
2024.04.04	Head	1750	21.6	1.38	39.94	1.37	40.08	0.95	-0.35
2024.04.05	Head	1750	21.5	1.38	39.93	1.37	40.08	0.88	-0.37
2024.04.06	Head	1750	21.4	1.38	39.98	1.37	40.08	0.51	-0.26
2024.04.07	Head	1900	21.6	1.39	39.73	1.40	40.00	-0.43	-0.68
2024.04.08	Head	1900	21.4	1.40	39.78	1.40	40.00	-0.29	-0.55
2024.03.22	Head	2450	21.4	1.81	39.62	1.80	39.20	0.28	1.08
2024.04.09	Head	2600	21.3	1.97	38.58	1.96	39.01	0.46	-1.11
2024.04.16	Head	2450	21.4	1.80	39.68	1.80	39.20	0.00	1.21

Note: The tolerance limit of Conductivity and Permittivity is  $\pm 5\%$ .



## ANNEX B SYSTEM CHECK RESULT

Comparing to the original SAR value provided by SPEAG, the validation data should be within its specification of 10 % (for 1 g).

Head liquid 1g

Date	Liquid Type	Freq. (MHz)	Power (mW)	Measured SAR (W/kg)	Normalized SAR (W/kg)	Dipole SAR (W/kg)	Tolerance (%)
2024.03.17	Head	750	100	0.87	8.69	8.29	4.83
2024.03.18	Head	835	100	0.98	9.84	9.76	0.82
2024.03.19	Head	835	100	0.98	9.77	9.76	0.10
2024.03.20	Head	835	100	0.99	9.88	9.76	1.23
2024.04.04	Head	1750	100	3.78	37.80	36.70	3.00
2024.04.05	Head	1750	100	3.66	36.60	36.70	-0.27
2024.04.06	Head	1750	100	3.71	37.10	36.70	1.09
2024.04.07	Head	1900	100	4.02	40.20	40.30	-0.25
2024.04.08	Head	1900	100	4.04	40.40	40.30	0.25
2024.03.21	Head	1900	100	3.96	39.60	40.30	-1.74
2024.03.22	Head	2450	100	5.44	54.40	53.00	2.64
2024.04.16	Head	2450	100	5.36	53.60	53.00	1.13

Note: The tolerance limit of System validation  $\pm 10\%$ .

## System Performance Check Data (750MHz)

Date: 2024.03.17

Communication System Band: D750 (750.0 MHz); Frequency: 750 MHz; Duty Cycle: 1:1

Medium parameters used (extrapolated):  $f = 750$  MHz;  $\sigma = 0.904$  S/m;  $\epsilon_r = 41.822$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.4°C Liquid Temperature: 21.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(10.54, 10.54, 10.54); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW 750/Area Scan (61x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.866 W/kg

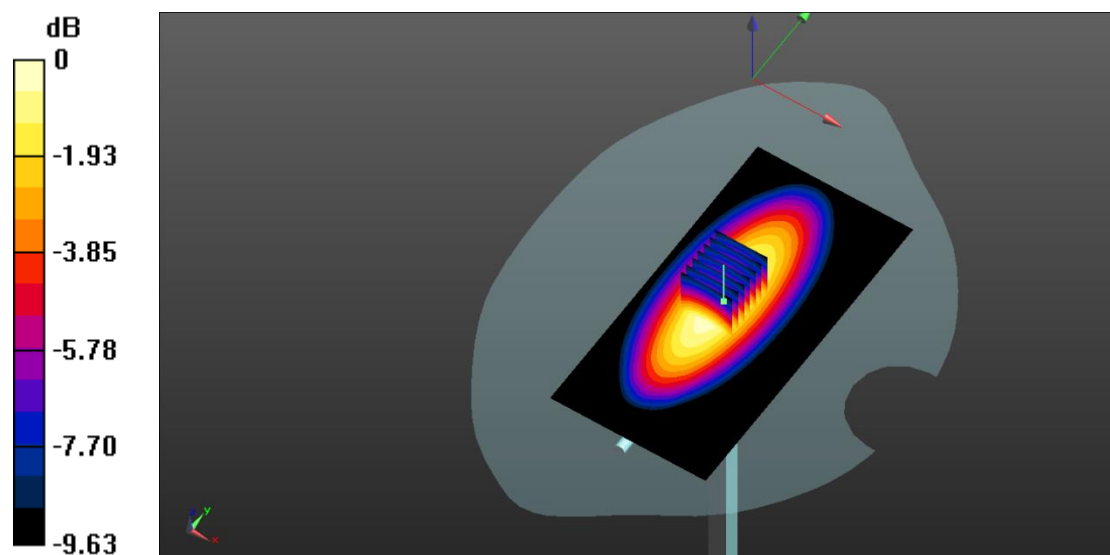
**CW 750/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 29.91 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.14 W/kg

**SAR(1 g) = 0.869 W/kg; SAR(10 g) = 0.571 W/kg**

Maximum value of SAR (measured) = 0.872 W/kg



0 dB = 0.872 W/kg

## System Performance Check Data (835MHz)

Date: 2024.03.18

Communication System Band: D835 (835.0 MHz); Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.894$  S/m;  $\epsilon_r = 41.642$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.5°C Liquid Temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(10.35, 10.35, 10.35); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW 835/Area Scan (61x101x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.938 W/kg

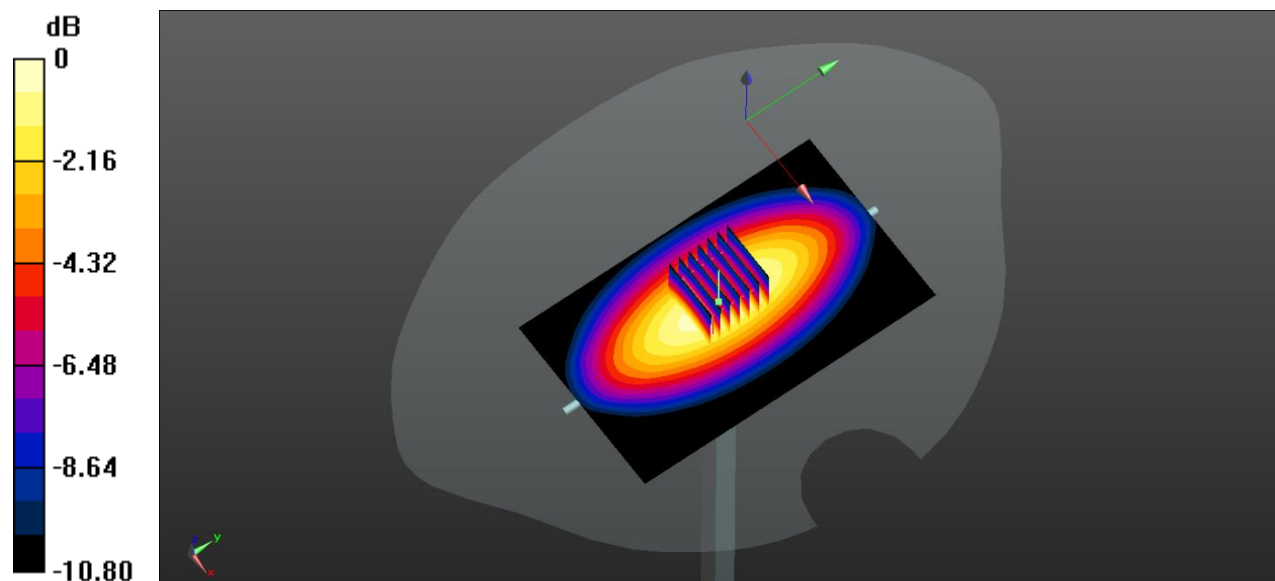
**CW 835/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 33.84 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 1.34 W/kg

**SAR(1 g) = 0.984 W/kg; SAR(10 g) = 0.640 W/kg**

Maximum value of SAR (measured) = 0.974 W/kg



0 dB = 0.974 W/kg

## System Performance Check Data (835MHz)

Date: 2024.03.19

Communication System Band: D835 (835.0 MHz); Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.895$  S/m;  $\epsilon_r = 41.642$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.4°C Liquid Temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(10.35, 10.35, 10.35); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW835/Area Scan (61x101x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.975 W/kg

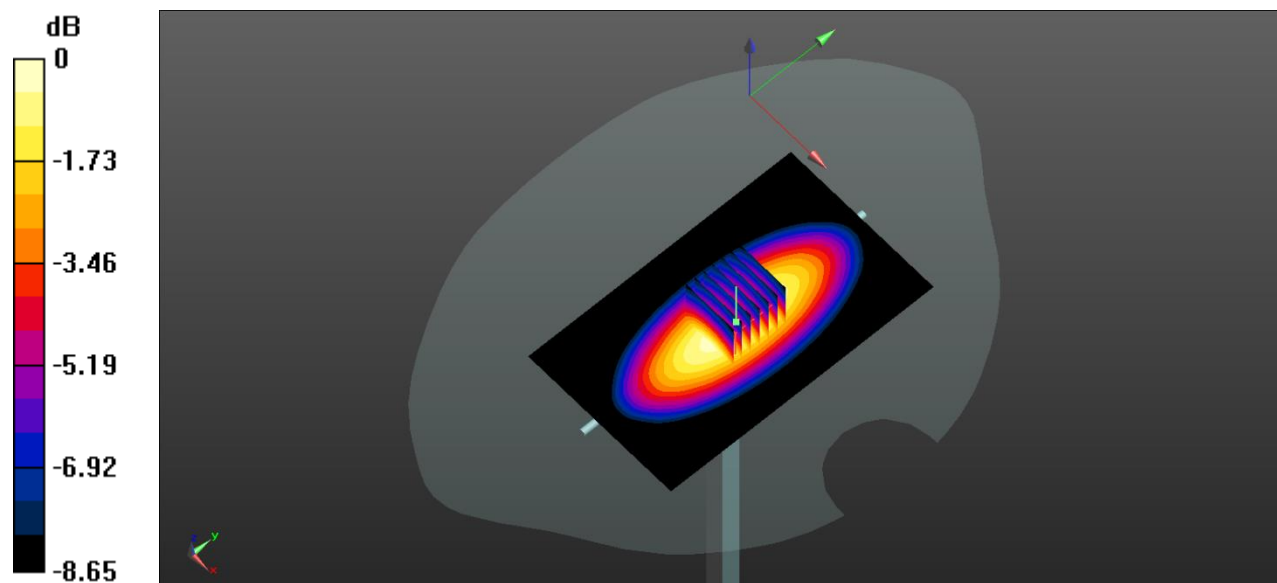
**CW835/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 31.05 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.48 W/kg

**SAR(1 g) = 0.977 W/kg; SAR(10 g) = 0.631 W/kg**

Maximum value of SAR (measured) = 0.965 W/kg



0 dB = 0.965 W/kg

## System Performance Check Data (835MHz)

Date: 2024.03.20

Communication System Band: D835 (835.0 MHz); Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.894$  S/m;  $\epsilon_r = 41.91$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.7°C Liquid Temperature: 21.8°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(10.35, 10.35, 10.35); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW 835/Area Scan (61x101x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.987 W/kg

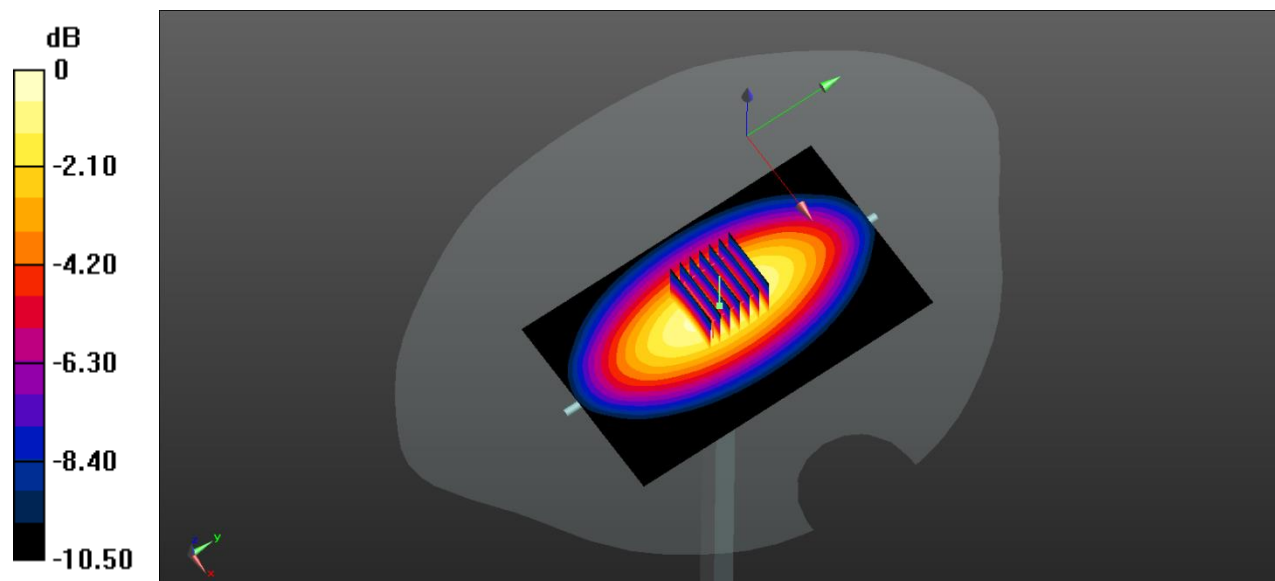
**CW 835/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 34.52V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 1.41 W/kg

**SAR(1 g) = 0.988 W/kg; SAR(10 g) = 0.645 W/kg**

Maximum value of SAR (measured) = 1.08 W/kg



0 dB = 1.08 W/kg

# System Performance Check Data (1750MHz)

Date: 2024.04.04

Communication System Band: D1750 (1750.0 MHz); Frequency: 1750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.383$  S/m;  $\epsilon_r = 39.941$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.4°C Liquid Temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(8.99, 8.99, 8.99); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW 1750/Area Scan (101x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 4.31 W/kg

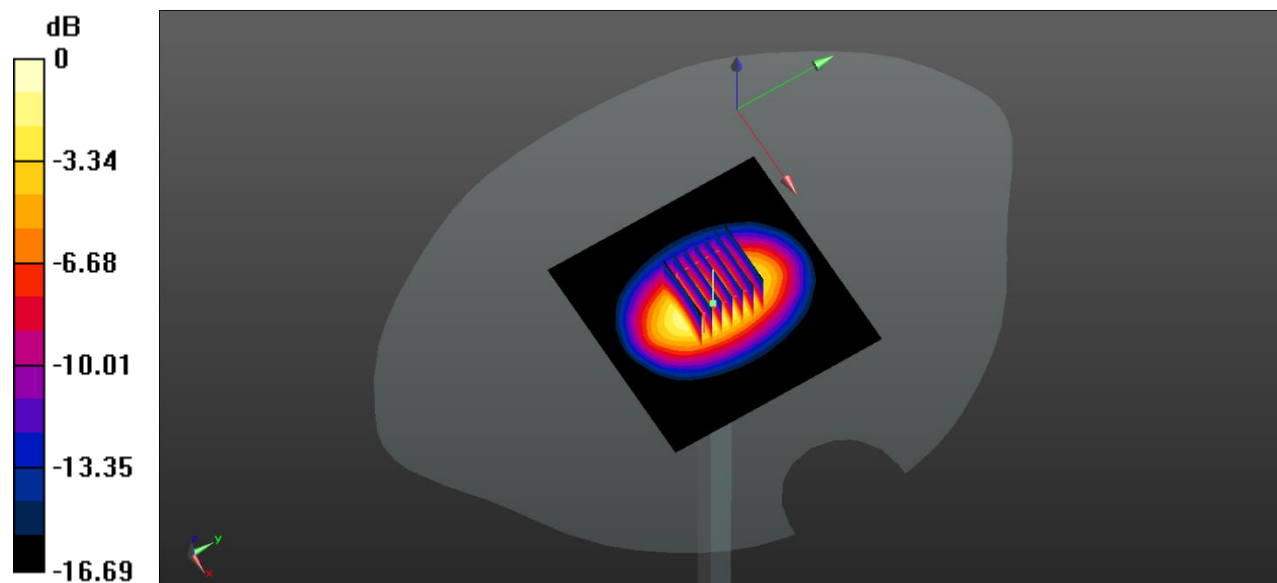
**CW 1750/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 56.32 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 7.08 W/kg

**SAR(1 g) = 3.78 W/kg; SAR(10 g) = 1.95 W/kg**

Maximum value of SAR (measured) = 4.24 W/kg



0 dB = 4.24 W/kg

# System Performance Check Data (1750MHz)

Date: 2024.04.05

Communication System Band: D1750 (1750.0 MHz); Frequency: 1750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.382$  S/m;  $\epsilon_r = 39.933$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.4°C Liquid Temperature: 21.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(8.99, 8.99, 8.99); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW 1750/Area Scan (101x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 4.19 W/kg

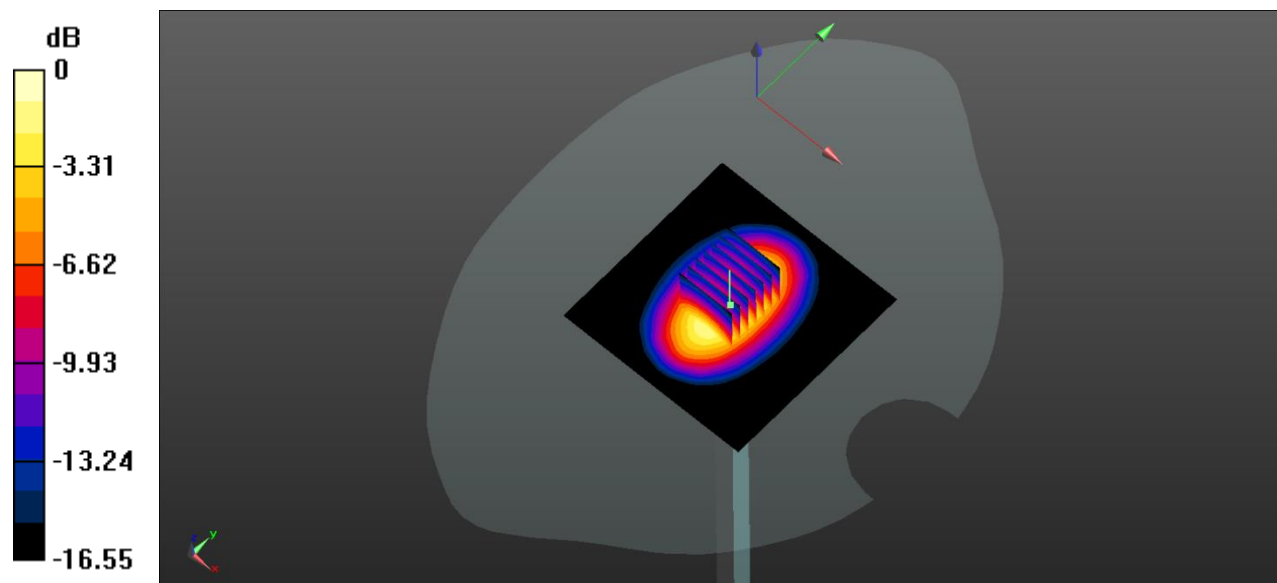
**CW 1750/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 48.38 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 6.72 W/kg

**SAR(1 g) = 3.66 W/kg; SAR(10 g) = 1.88 W/kg**

Maximum value of SAR (measured) = 4.12 W/kg



0 dB = 4.12 W/kg

## System Performance Check Data (1750MHz)

Date: 2024.04.06

Communication System Band: D1750 (1750.0 MHz); Frequency: 1750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.377$  S/m;  $\epsilon_r = 39.976$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.5°C Liquid Temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(8.99, 8.99, 8.99); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW 1750/Area Scan (101x101x1):** Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

Maximum value of SAR (interpolated) = 4.13 W/kg

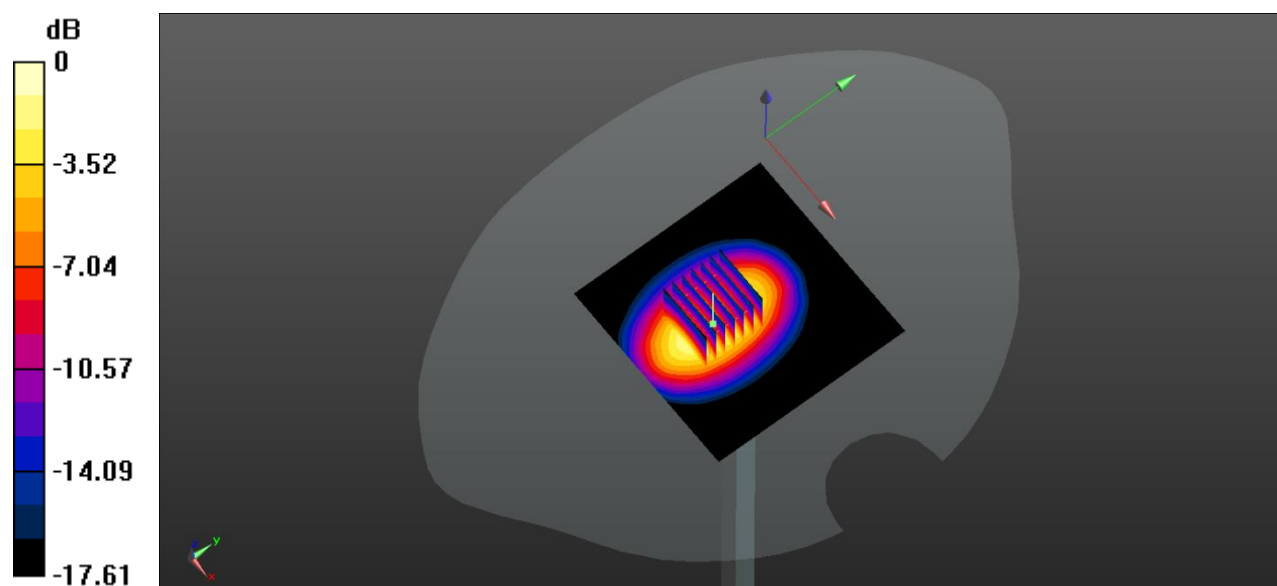
**CW 1750/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 48.22 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 6.71 W/kg

**SAR(1 g) = 3.71 W/kg; SAR(10 g) = 1.92 W/kg**

Maximum value of SAR (measured) = 4.21 W/kg



0 dB = 4.21 W/kg



# System Performance Check Data (1900MHz)

Date: 2024.04.07

Communication System Band: D1900 (1900.0 MHz); Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.394$  S/m;  $\epsilon_r = 39.73$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.4°C Liquid Temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(8.56, 8.56, 8.56); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW 1900/Area Scan (101x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 4.68 W/kg

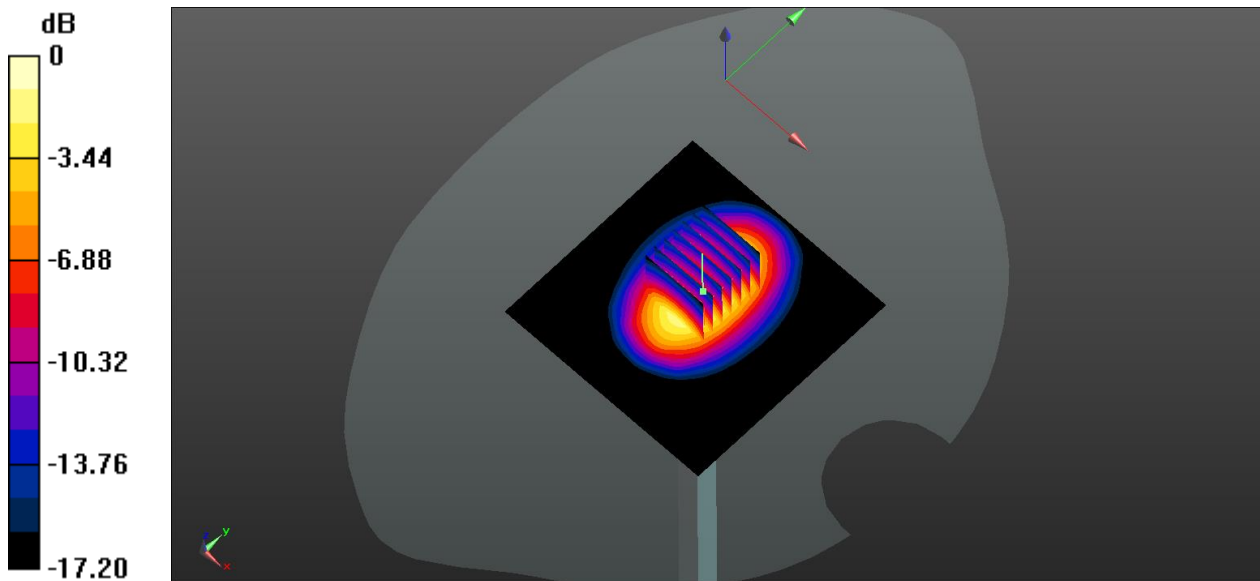
**CW 1900/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 55.72 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 7.28 W/kg

**SAR(1 g) = 4.02 W/kg; SAR(10 g) = 2.01 W/kg**

Maximum value of SAR (measured) = 4.74 W/kg



0 dB = 4.74 W/kg

# System Performance Check Data (1900MHz)

Date: 2024.04.08

Communication System Band: D1900 (1900.0 MHz); Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.396$  S/m;  $\epsilon_r = 39.779$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.3°C Liquid Temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(8.56, 8.56, 8.56); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW 1900/Area Scan (101x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 4.37 W/kg

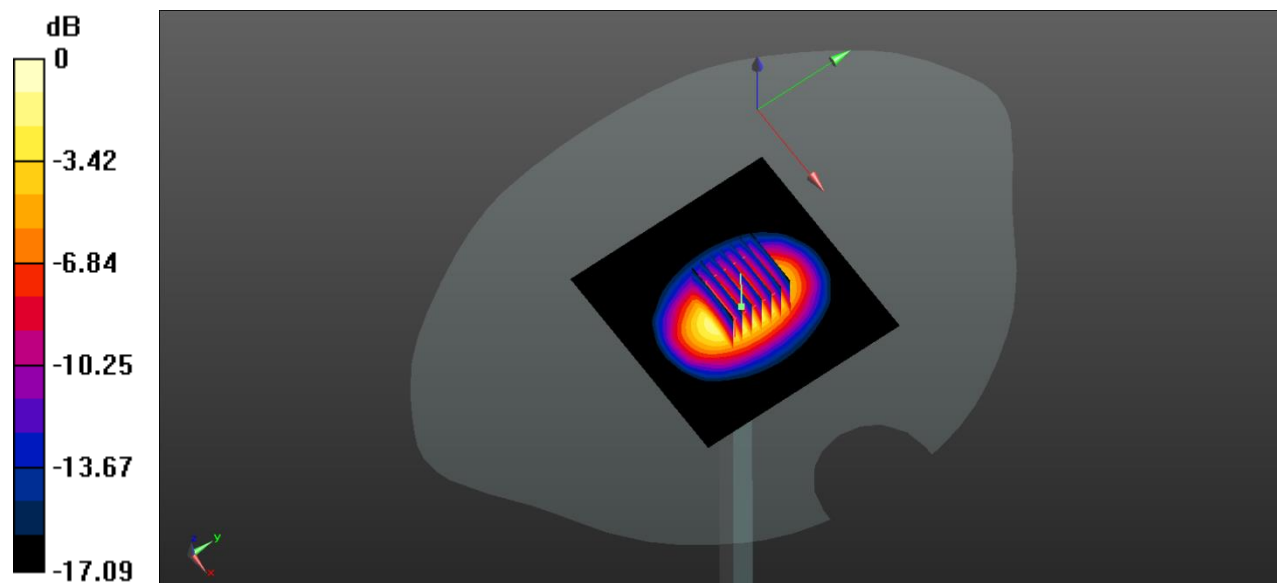
**CW 1900/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 53.74 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 7.22 W/kg

**SAR(1 g) = 4.04 W/kg; SAR(10 g) = 2.04 W/kg**

Maximum value of SAR (measured) = 4.68 W/kg



0 dB = 4.68 W/kg

# System Performance Check Data (1900MHz)

Date: 2024.03.21

Communication System Band: D1900 (1900.0 MHz); Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.394 \text{ S/m}$ ;  $\epsilon_r = 39.82$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient Temperature: 22.6°C Liquid Temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(8.56, 8.56, 8.56); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW 1900/Area Scan (101x101x1):** Interpolated grid:  $dx=1.000 \text{ mm}$ ,  $dy=1.000 \text{ mm}$

Maximum value of SAR (interpolated) = 4.77 W/kg

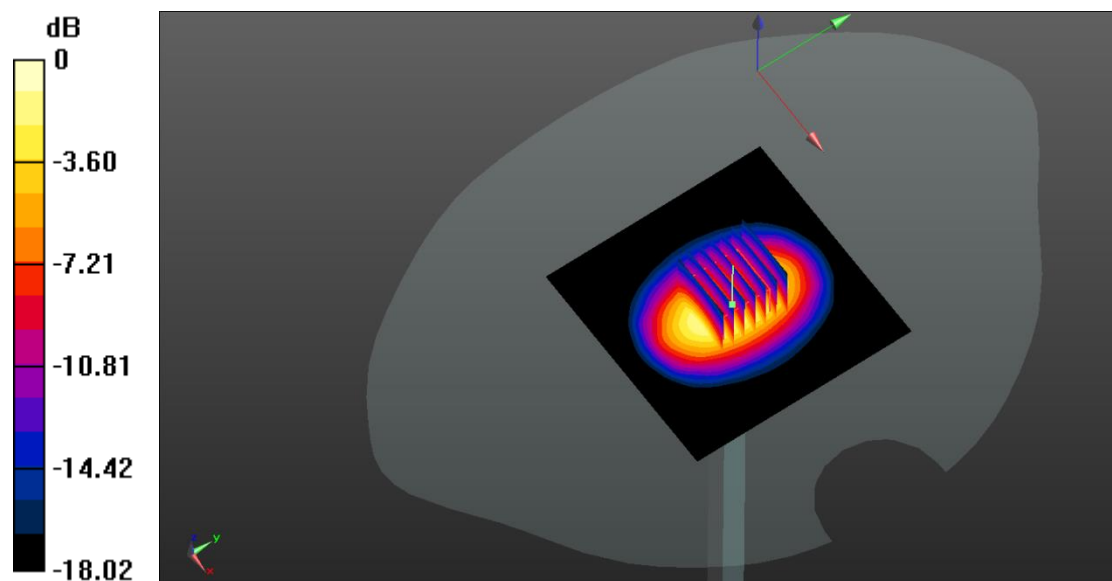
**CW 1900/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 55.82 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 7.41 W/kg

**SAR(1 g) = 3.96 W/kg; SAR(10 g) = 1.96 W/kg**

Maximum value of SAR (measured) = 4.32 W/kg



0 dB = 4.32 W/kg

# System Performance Check Data (2450MHz)

Date: 2024.03.22

Communication System Band: D2450 (2450.0 MHz); Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.805$  S/m;  $\epsilon_r = 39.623$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.4°C Liquid Temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(7.98, 7.98, 7.98); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW 2450/Area Scan (101x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 6.27 W/kg

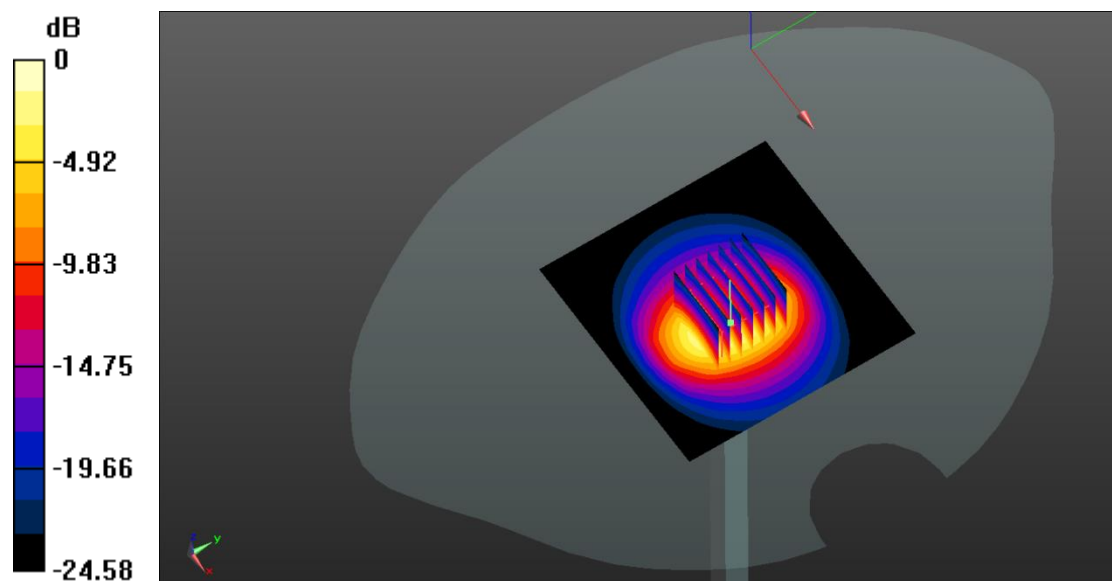
**CW 2450/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 45.41 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 12.2 W/kg

**SAR(1 g) = 5.44 W/kg; SAR(10 g) = 2.45 W/kg**

Maximum value of SAR (measured) = 5.64 W/kg



0 dB = 5.64 W/kg

# System Performance Check Data (2600MHz)

Date: 2024.04.09

Communication System Band: D2600 (2600.0 MHz); Frequency: 2600 MHz; Duty Cycle: 1:1

Medium parameters used (extrapolated):  $f = 2600$  MHz;  $\sigma = 1.969$  S/m;  $\epsilon_r = 38.577$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.3°C Liquid Temperature: 21.3°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(7.64, 7.64, 7.64); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW 2600/Area Scan (101x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 6.73 W/kg

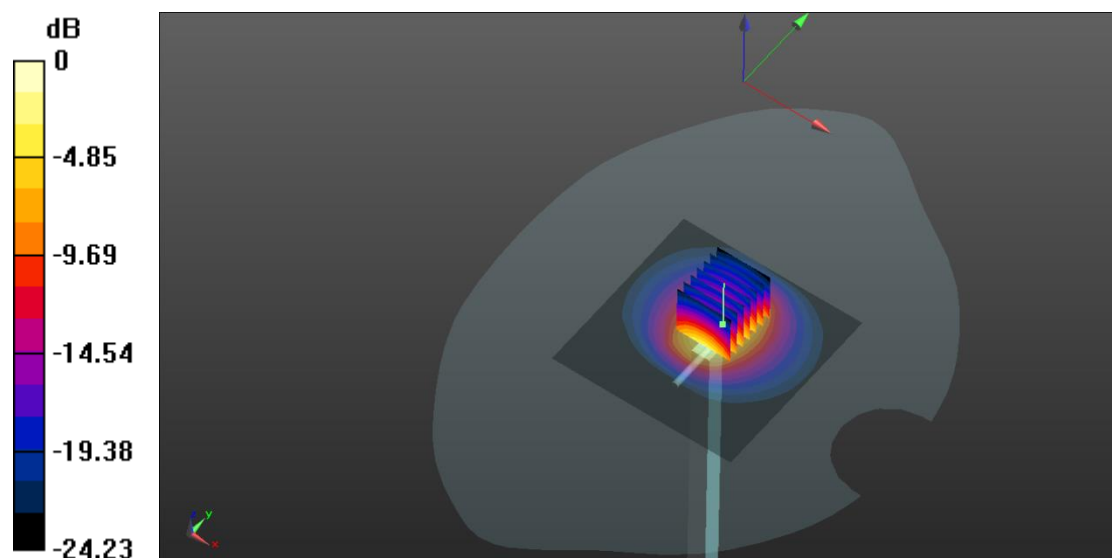
**CW 2600/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 48.32 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 13.2 W/kg

**SAR(1 g) = 5.84 W/kg; SAR(10 g) = 2.62 W/kg**

Maximum value of SAR (measured) = 6.74 W/kg



0 dB = 6.74 W/kg

## System Performance Check Data (2450MHz)

Date: 2024.04.16

Communication System Band: D2450 (2450.0 MHz); Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.8$  S/m;  $\epsilon_r = 39.676$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.8°C Liquid Temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(7.98, 7.98, 7.98); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW 2450/Area Scan (101x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 5.78 W/kg

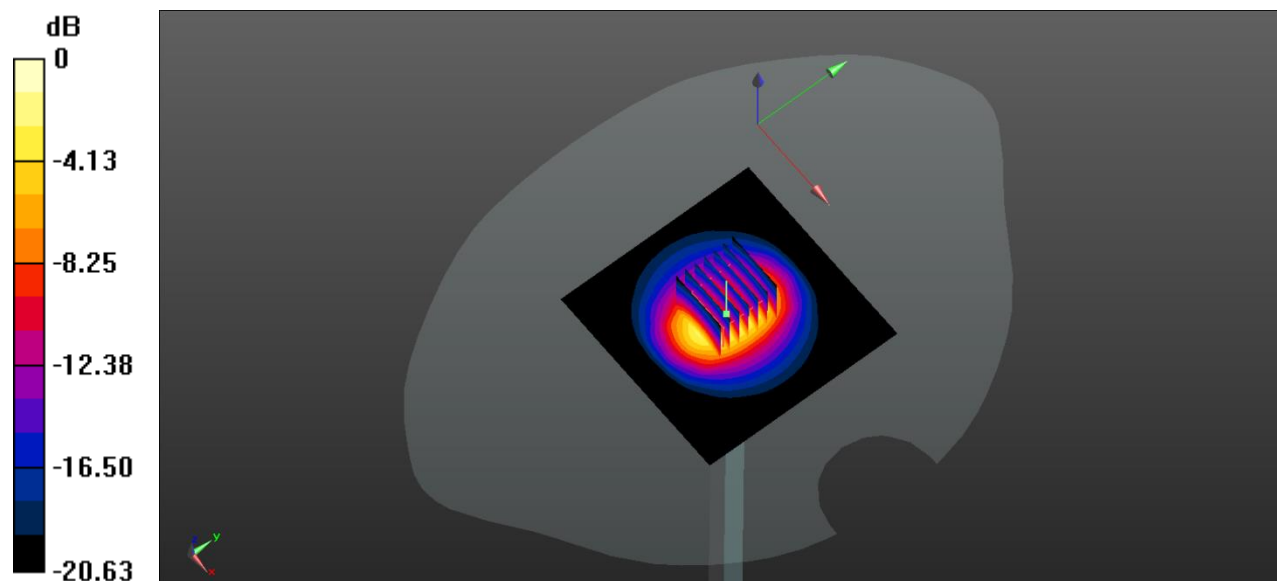
**CW 2450/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 56.78 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 11.1 W/kg

**SAR(1 g) = 5.36 W/kg; SAR(10 g) = 2.42 W/kg**

Maximum value of SAR (measured) = 5.88 W/kg



0 dB = 5.88 W/kg

## ANNEX C TEST DATA

### Meas.1 Right Head with Cheek on High Channel GSM850 Voice mode with Antenna 1

Date: 2024.03.18

Communication System Band: GSM850(824.0-849.0MHz); Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium parameters used (interpolated):  $f = 848.8$  MHz;  $\sigma = 0.908$  S/m;  $\epsilon_r = 41.239$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Ambient Temperature: 22.5°C Liquid Temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(10.35, 10.35, 10.35); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch251/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.19 W/kg

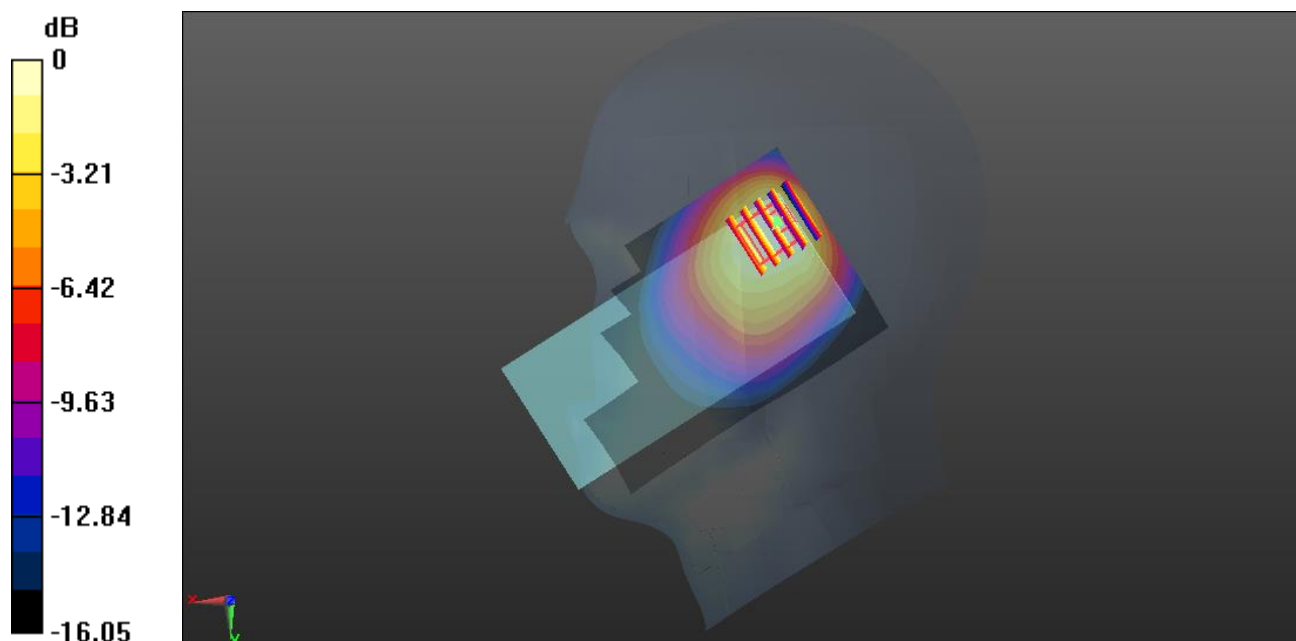
**Ch251/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.98 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 1.80 W/kg

**SAR(1 g) = 0.970 W/kg; SAR(10 g) = 0.610 W/kg**

Maximum value of SAR (measured) = 1.01 W/kg



0 dB = 1.01 W/kg

## Meas.2 Body Plane with Back Side 10mm on Middle Channel in GPRS850 2Slots mode with Antenna 1

Date: 2024.03.18

Communication System Band: GPRS850; Frequency: 836.6 MHz; Duty Cycle: 1:4.1

Medium parameters used (interpolated):  $f = 836.6$  MHz;  $\sigma = 0.896$  S/m;  $\epsilon_r = 41.595$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.5°C Liquid Temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(10.35, 10.35, 10.35); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.10 (7331)

**Ch190/Area Scan (71x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.372 W/kg

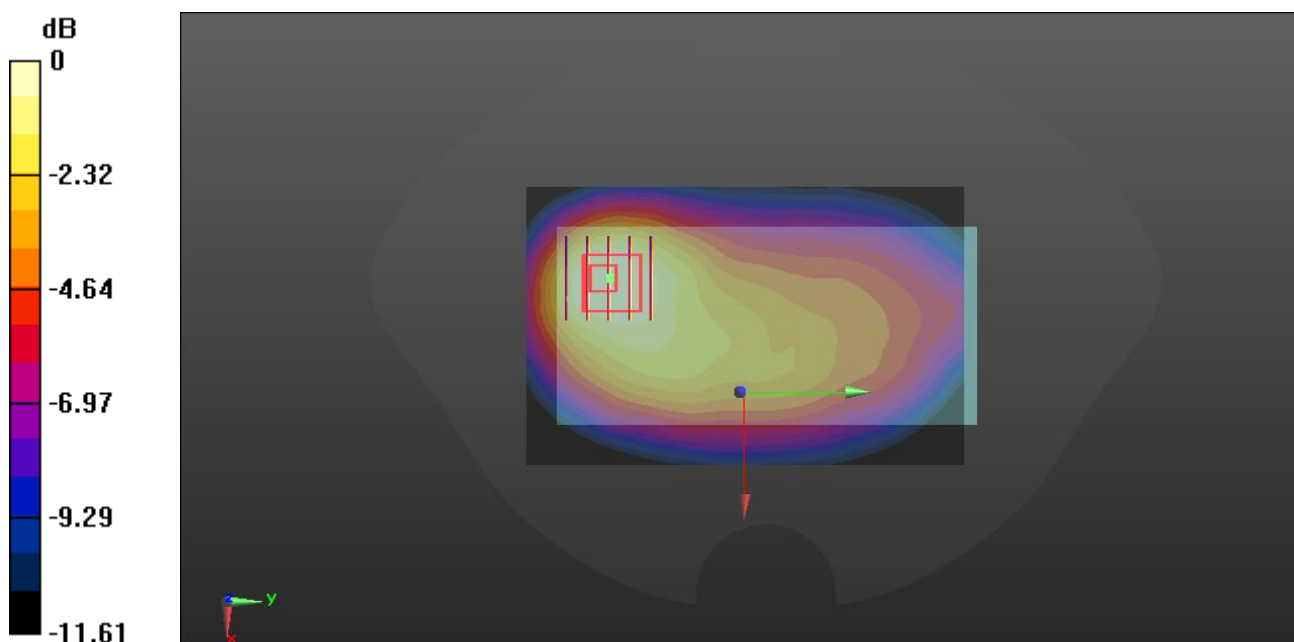
**Ch190/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.13 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.417 W/kg

**SAR(1 g) = 0.296 W/kg; SAR(10 g) = 0.197 W/kg**

Maximum value of SAR (measured) = 0.318 W/kg



0 dB = 0.318 W/kg



**Meas.3 Right Head with Cheek on High Channel GSM1900 Voice mode with Antenna 1**

Date: 2024.03.21

Communication System Band: PCS1900(1850.0-1910.0MHz); Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium parameters used (interpolated):  $f = 1909.8$  MHz;  $\sigma = 1.398$  S/m;  $\epsilon_r = 39.646$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Ambient Temperature: 22.6°C Liquid Temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(8.56, 8.56, 8.56); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch810/Area Scan (71x131x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.964 W/kg

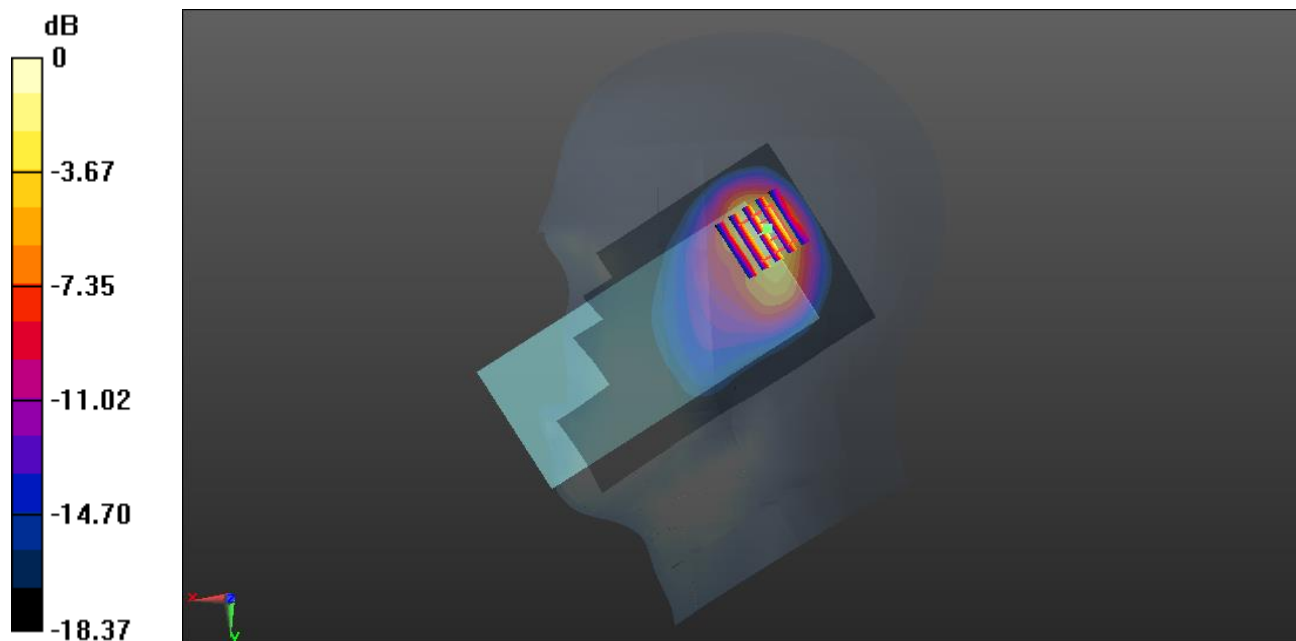
**Ch810/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 19.57 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 1.78 W/kg

**SAR(1 g) = 0.901 W/kg; SAR(10 g) = 0.424 W/kg**

Maximum value of SAR (measured) = 1.07 W/kg



0 dB = 1.07 W/kg

## Meas.4 Body Plane with Top Edge 10mm on Low Channel in GPRS1900 3Slots mode with Antenna 1

Date: 2024.03.21

Communication System Band: GPRS 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:2.77

Medium parameters used (interpolated):  $f = 1850.2$  MHz;  $\sigma = 1.368$  S/m;  $\epsilon_r = 40.496$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.6°C Liquid Temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(8.56, 8.56, 8.56); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.10 (7331)

**Ch512/Area Scan (61x61x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.676 W/kg

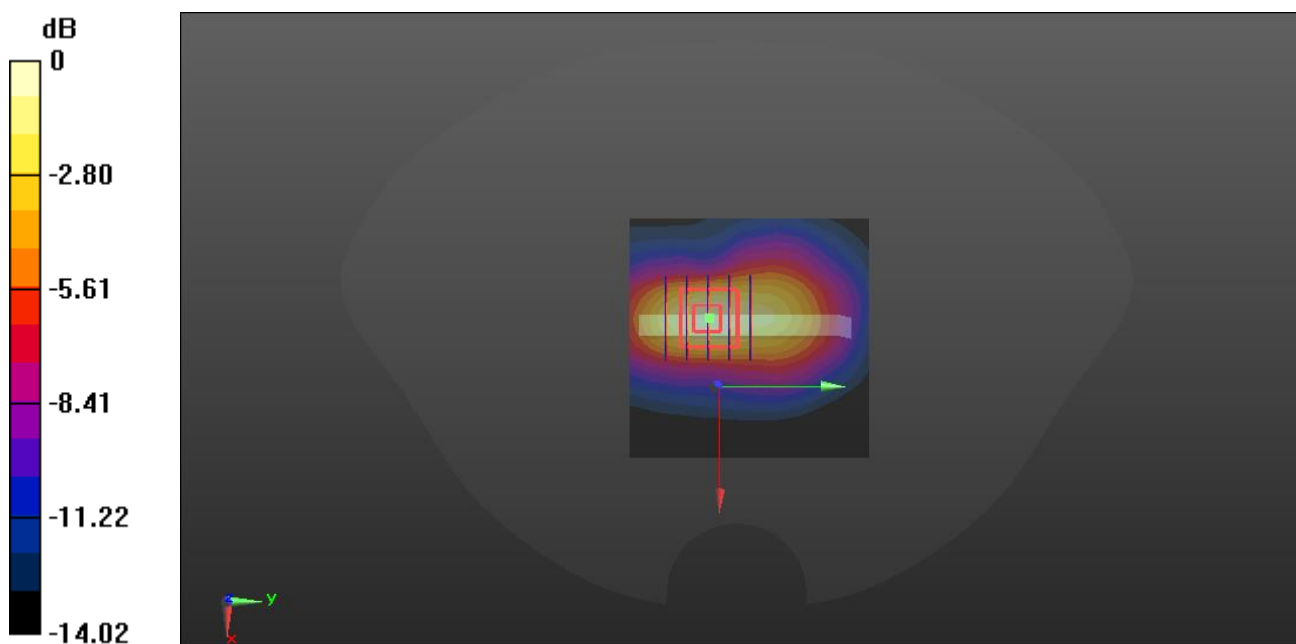
**Ch512/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 19.44 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.840 W/kg

**SAR(1 g) = 0.549 W/kg; SAR(10 g) = 0.304 W/kg**

Maximum value of SAR (measured) = 0.632 W/kg



0 dB = 0.632 W/kg

**Meas.5 Right Head with Tilt on Low Channel WCDMA Band2 mode with Antenna 1**

Date: 2024.04.07

Communication System Band: BAND 2; Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 1852.4$  MHz;  $\sigma = 1.369$  S/m;  $\epsilon_r = 40.363$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Ambient Temperature: 22.4°C Liquid Temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(8.56, 8.56, 8.56); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch9262/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.23 W/kg

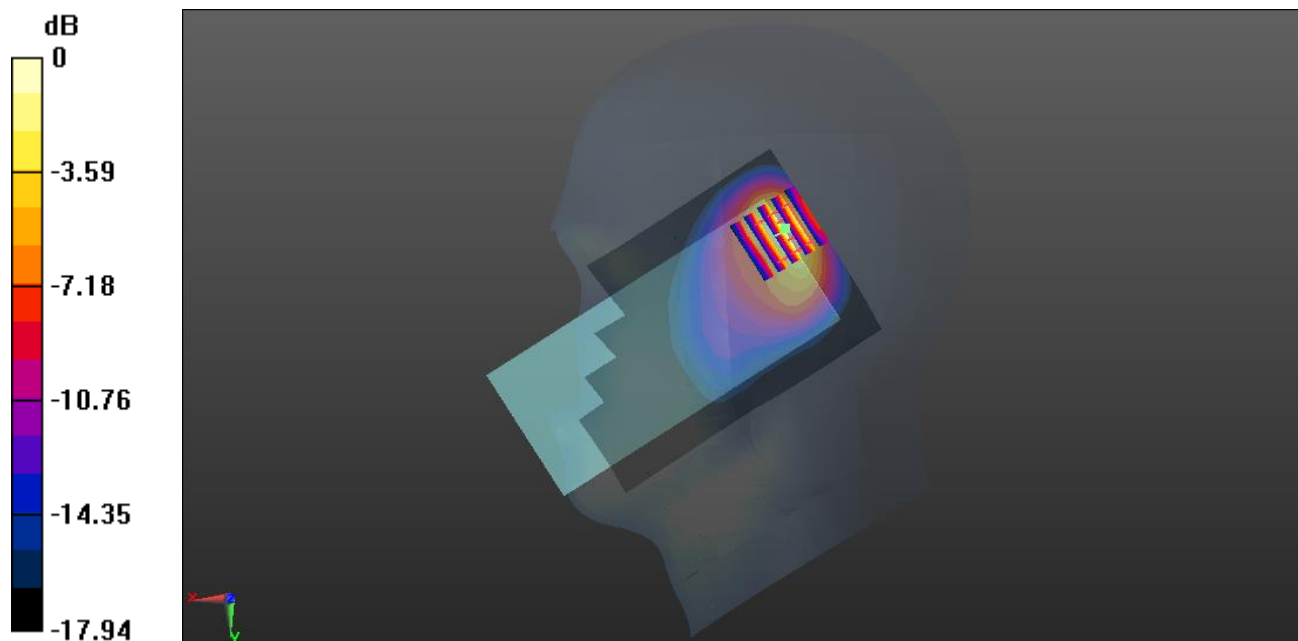
**Ch9262/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 21.09 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 2.02 W/kg

**SAR(1 g) = 1.02 W/kg; SAR(10 g) = 0.481 W/kg**

Maximum value of SAR (measured) = 1.18 W/kg



0 dB = 1.18 W/kg

## Meas.6 Body Plane with Top Edge 10mm on High Channel in WCDMA Band2 mode with Antenna 1

Date: 2024.04.07

Communication System Band: BAND 2; Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 1907.6$  MHz;  $\sigma = 1.397$  S/m;  $\epsilon_r = 39.594$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.4°C Liquid Temperature: 21.6°C

DASY5 Configuration:

- Probe: EEX3DV4 - SN7506; ConvF(8.56, 8.56, 8.56); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch9538/Area Scan (71x131x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.373 W/kg

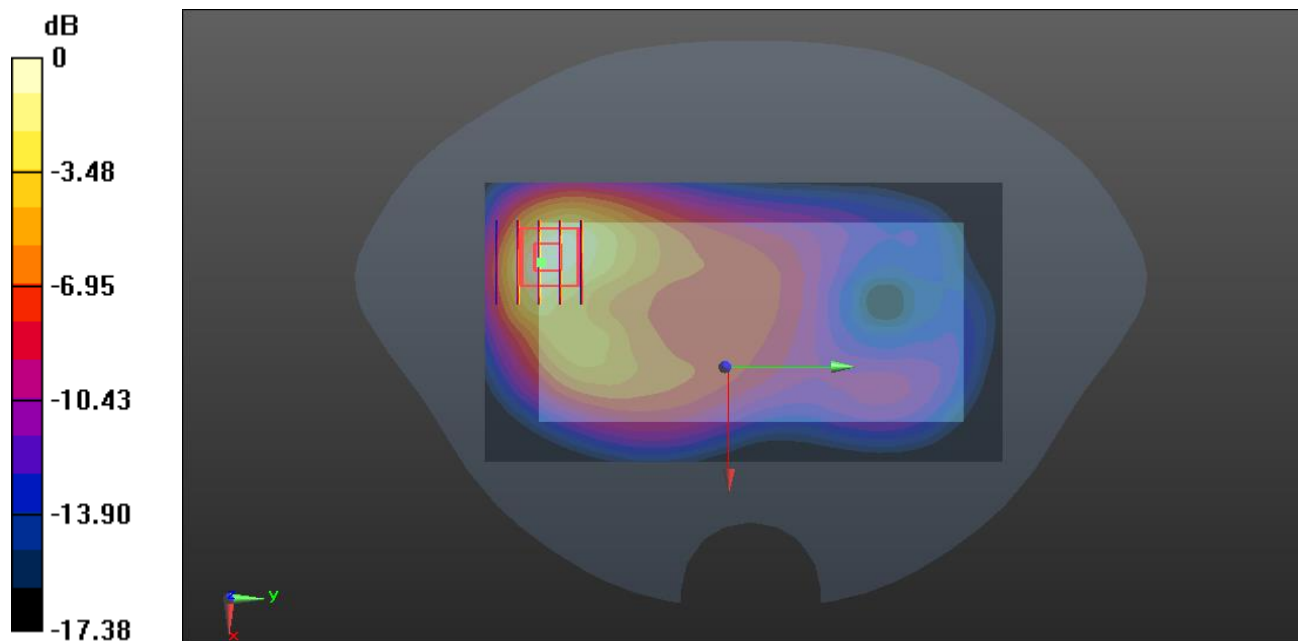
**Ch9538/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.094 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.614 W/kg

**SAR(1 g) = 0.354 W/kg; SAR(10 g) = 0.192 W/kg**

Maximum value of SAR (measured) = 0.391 W/kg



0 dB = 0.391 W/kg

**Meas.7 Right Head with Tilt on High Channel WCDMA Band4 mode with Antenna 1**

Date: 2024.04.04

Communication System Band: BAND 4; Frequency: 1752.6 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 1752.6$  MHz;  $\sigma = 1.386$  S/m;  $\epsilon_r = 39.887$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Ambient Temperature: 22.4°C Liquid Temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(8.99, 8.99, 8.99); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch1513/Area Scan (71x131x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.54 W/kg

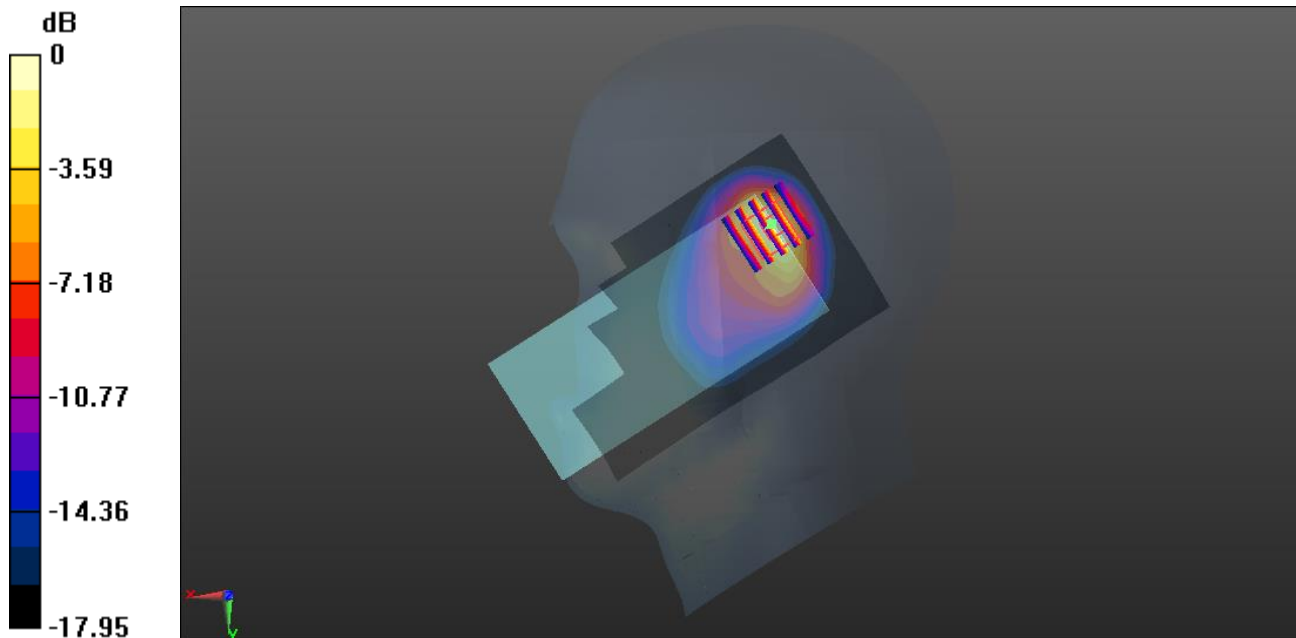
**Ch1513/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 24.70 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 2.36 W/kg

**SAR(1 g) = 1.21 W/kg; SAR(10 g) = 0.579 W/kg**

Maximum value of SAR (measured) = 1.44 W/kg



0 dB = 1.44 W/kg

## Meas.8 Body Plane with Top Edge 10mm on Middle Channel in WCDMA Band4 mode with Antenna 1

Date: 2024.04.04

Communication System Band: BAND 4; Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 1732.4$  MHz;  $\sigma = 1.362$  S/m;  $\epsilon_r = 40.21$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.4°C Liquid Temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(8.99, 8.99, 8.99); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch1412/Area Scan (71x131x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.364 W/kg

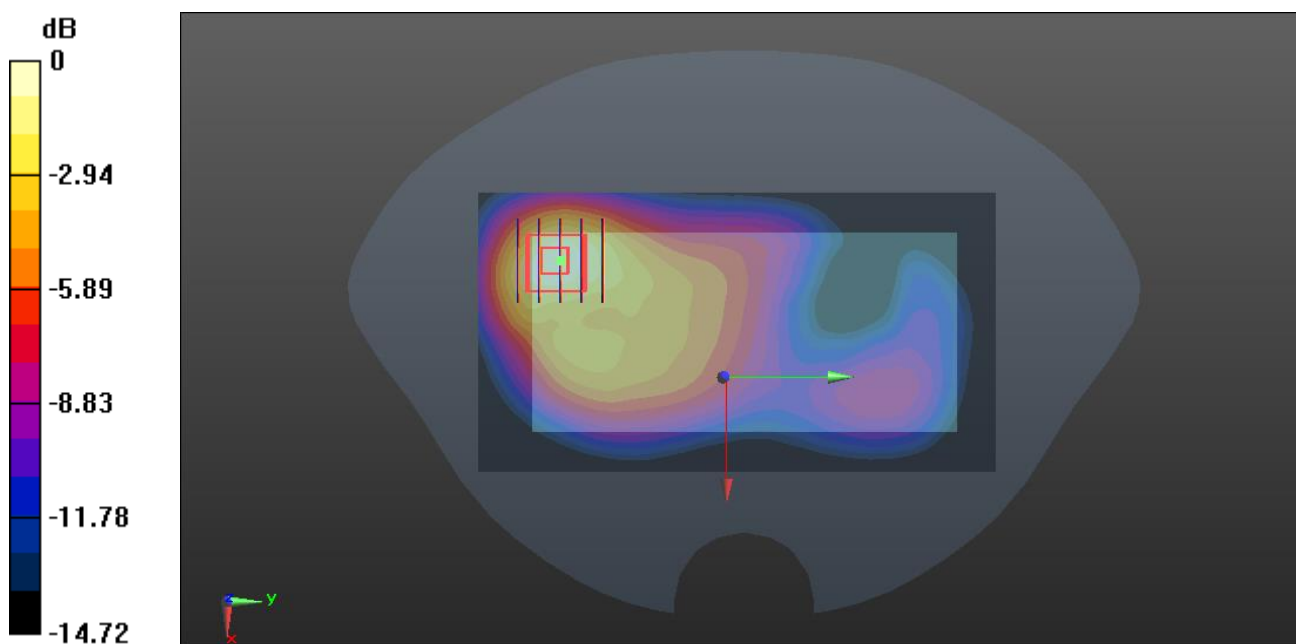
**Ch1412/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.606 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.597 W/kg

**SAR(1 g) = 0.356 W/kg; SAR(10 g) = 0.200 W/kg**

Maximum value of SAR (measured) = 0.389 W/kg



0 dB = 0.389 W/kg

## Meas.9 Right Head with Cheek on High Channel WCDMA Band5 mode with Antenna 1

Date: 2024.03.19

Communication System Band: V; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 846.6$  MHz;  $\sigma = 0.906$  S/m;  $\epsilon_r = 41.425$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Ambient Temperature: 22.4°C Liquid Temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(10.35, 10.35, 10.35); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.10 (7331)

**Ch4233/Area Scan (61x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.24 W/kg

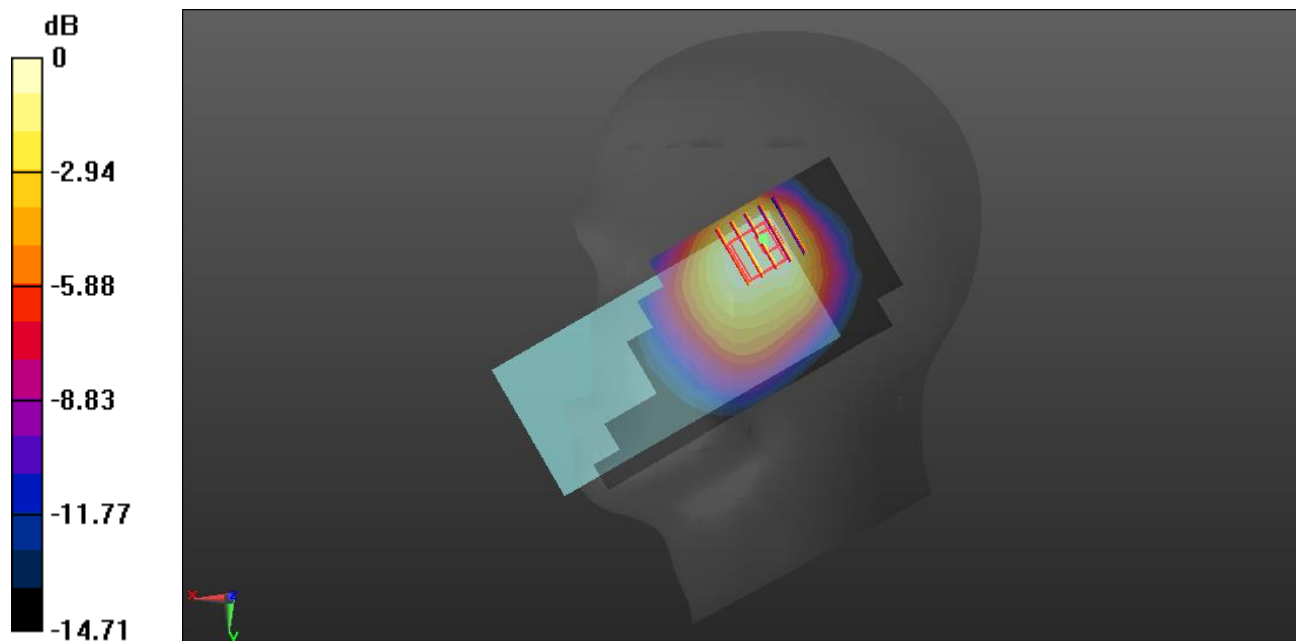
**Ch4233/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.91 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.49 W/kg

**SAR(1 g) = 0.918 W/kg; SAR(10 g) = 0.609 W/kg**

Maximum value of SAR (measured) = 0.947 W/kg



0 dB = 0.947 W/kg

## Meas.10 Body Plane with Back Side 10mm on High Channel in WCDMA Band5 mode with Antenna 1

Date: 2024.03.19

Communication System Band: V; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 846.6$  MHz;  $\sigma = 0.906$  S/m;  $\epsilon_r = 41.425$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.4°C Liquid Temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(10.35, 10.35, 10.35); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.10 (7331)

**Ch4233/Area Scan (71x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.519 W/kg

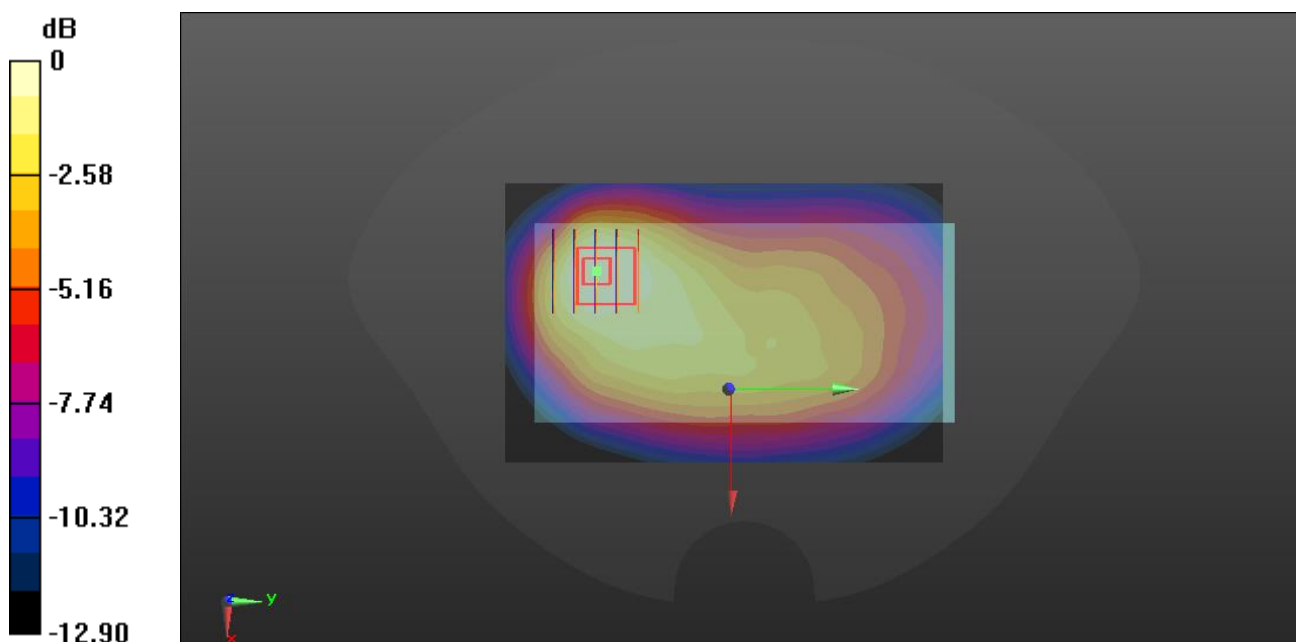
**Ch4233/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.02 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.567 W/kg

**SAR(1 g) = 0.390 W/kg; SAR(10 g) = 0.255 W/kg**

Maximum value of SAR (measured) = 0.425 W/kg



0 dB = 0.425 W/kg



**Meas.11 Right Head with Tilt on Middle Channel LTE Band2 mode with Antenna 1**

Date: 2024.04.08

Communication System Band: BAND 2; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 1880$  MHz;  $\sigma = 1.386$  S/m;  $\epsilon_r = 40.032$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Ambient Temperature:22.3°C Liquid Temperature:21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(8.56, 8.56, 8.56); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch18900/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.47 W/kg

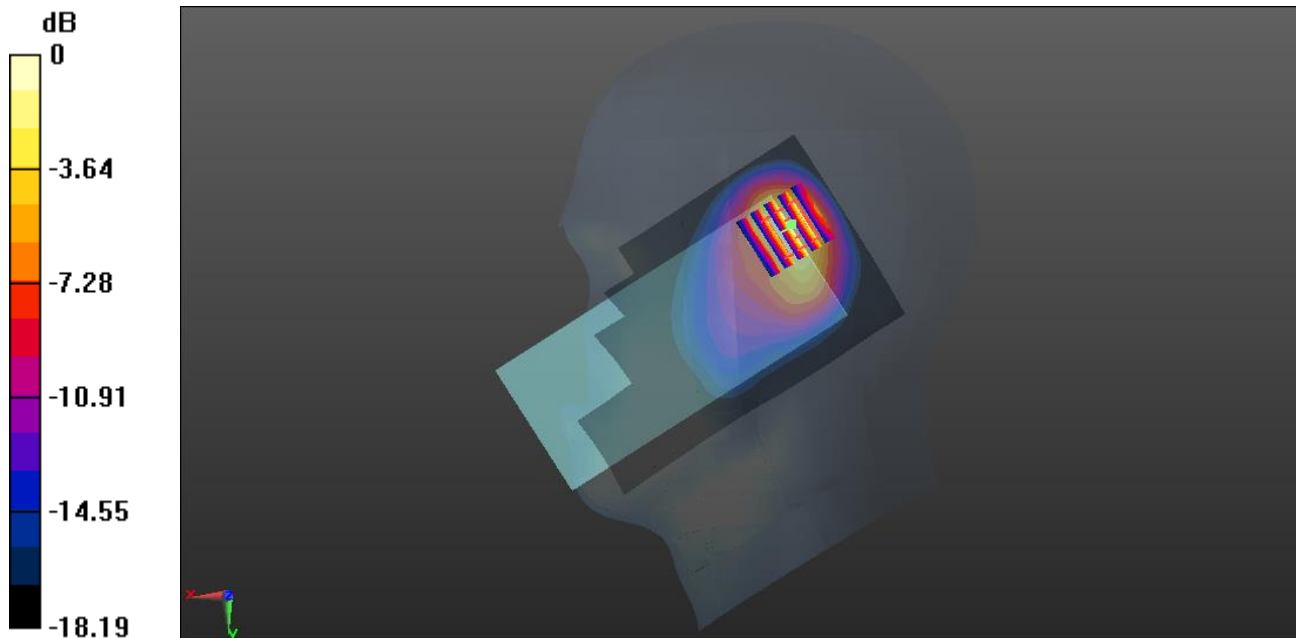
**Ch18900/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 24.68 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 2.59 W/kg

**SAR(1 g) = 1.32 W/kg; SAR(10 g) = 0.622 W/kg**

Maximum value of SAR (measured) = 1.50 W/kg



0 dB = 1.50 W/kg

**Meas.12 Body Plane with Back Side 10mm on Low Channel in LTE Band2 mode with Antenna 1**

Date: 2024.04.08

Communication System Band: BAND 2; Frequency: 1860 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 1860$  MHz;  $\sigma = 1.376$  S/m;  $\epsilon_r = 40.256$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.3°C Liquid Temperature:21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(8.56, 8.56, 8.56); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch18700/Area Scan (71x131x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.494 W/kg

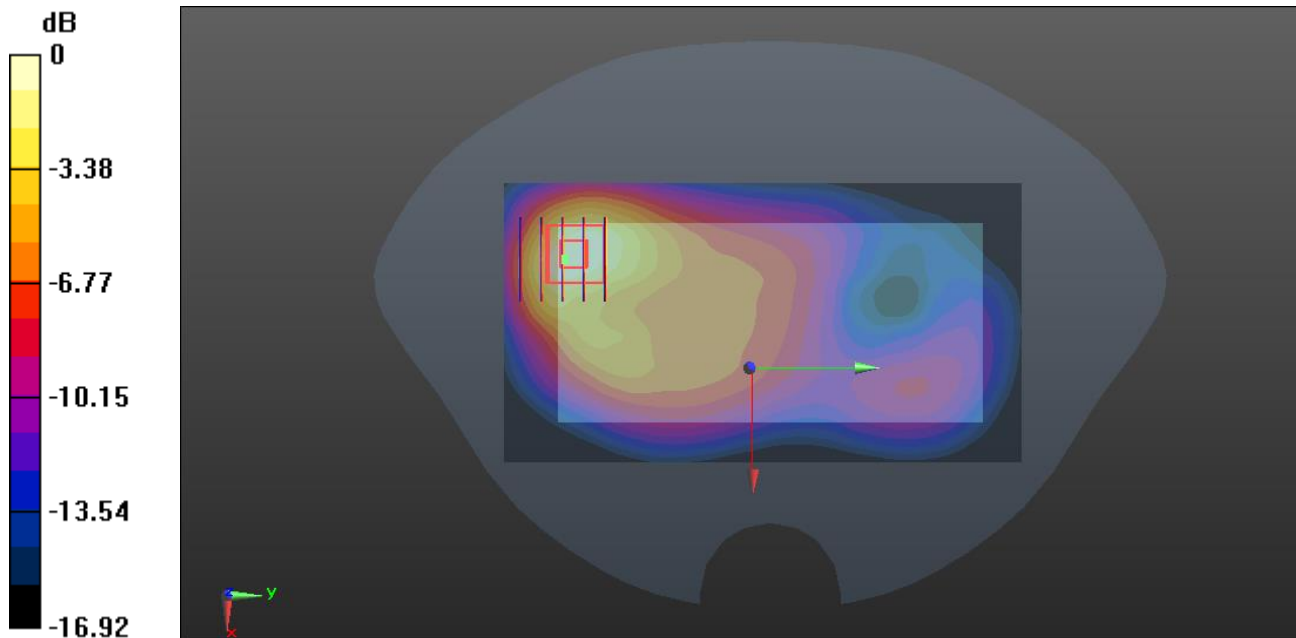
**Ch18700/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.833 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.824 W/kg

**SAR(1 g) = 0.477 W/kg; SAR(10 g) = 0.262 W/kg**

Maximum value of SAR (measured) = 0.525 W/kg



0 dB = 0.525 W/kg

**Meas.13 Right Head with Tilt on High Channel LTE Band4 mode with Antenna 1**

Date: 2024.04.05

Communication System Band: BAND 4; Frequency: 1745 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 1745$  MHz;  $\sigma = 1.376$  S/m;  $\epsilon_r = 40.039$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Ambient Temperature:22.4°C Liquid Temperature:21.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(8.99, 8.99, 8.99); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch20300/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.43 W/kg

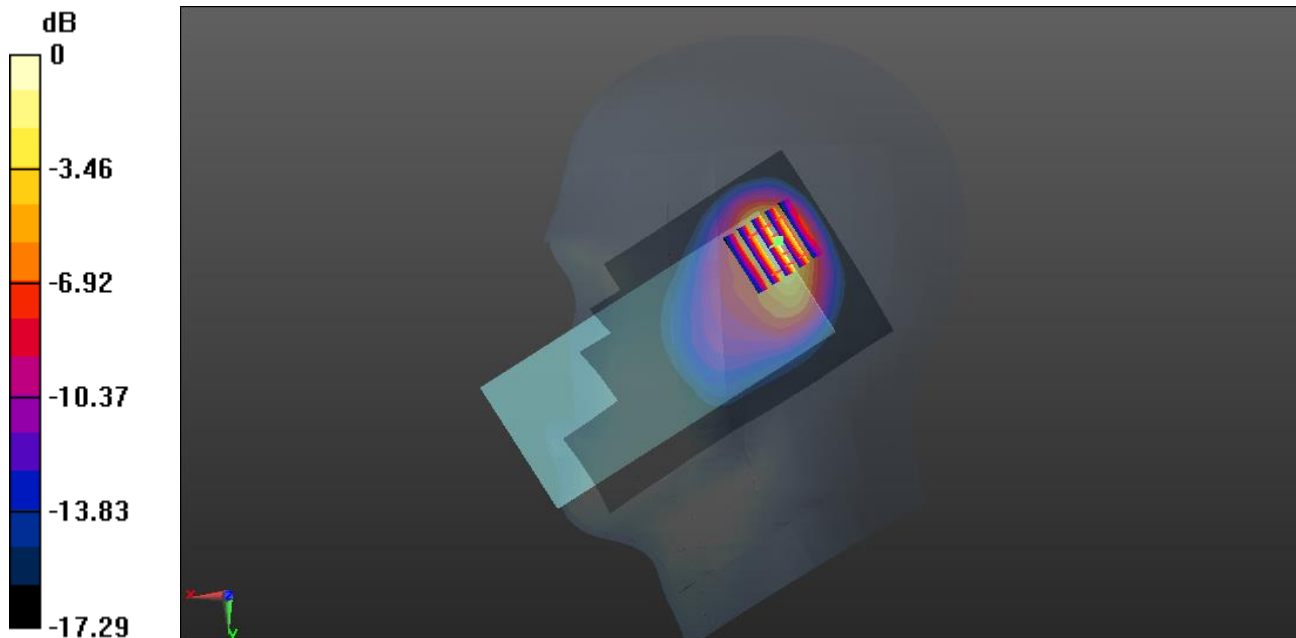
**Ch20300/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 25.35 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 2.44 W/kg

**SAR(1 g) = 1.28 W/kg; SAR(10 g) = 0.620 W/kg**

Maximum value of SAR (measured) = 1.49 W/kg



0 dB = 1.49 W/kg

**Meas.14 Body Plane with Back Side 10mm on High Channel in LTE Band4 mode with Antenna 1**

Date: 2024.04.05

Communication System Band: BAND 4; Frequency: 1745 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 1745 \text{ MHz}$ ;  $\sigma = 1.376 \text{ S/m}$ ;  $\epsilon_r = 40.039$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient Temperature:22.4°C Liquid Temperature:21.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(8.99, 8.99, 8.99); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch20300/Area Scan (71x131x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 0.416 W/kg

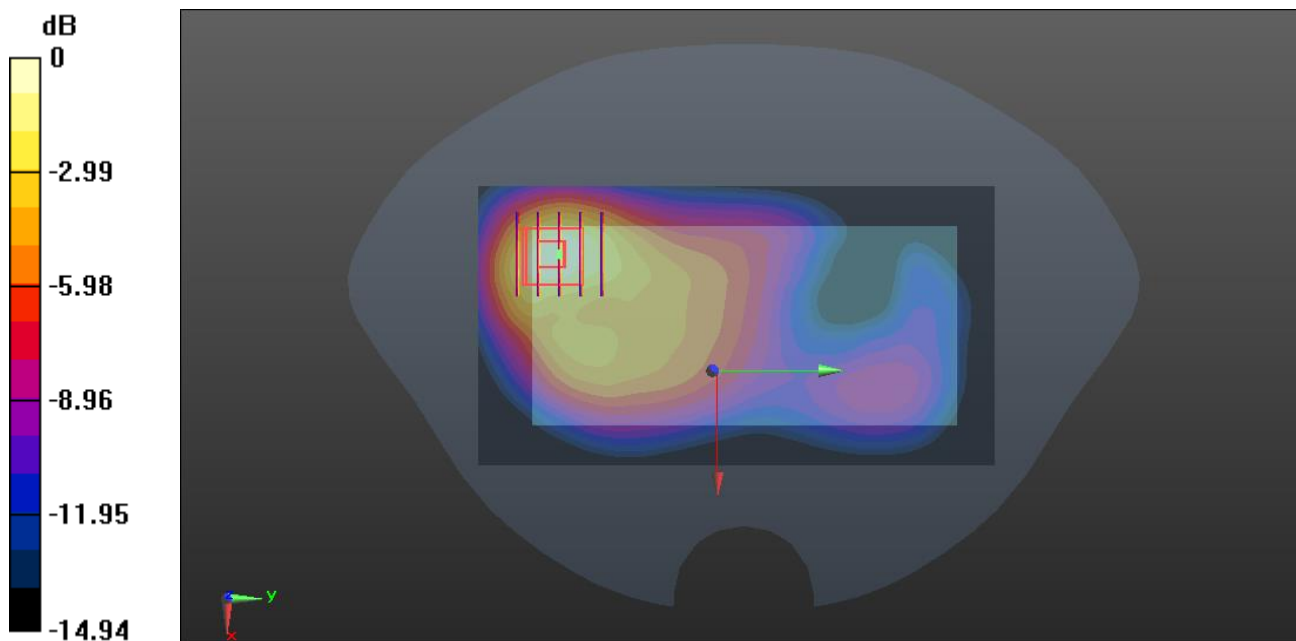
**Ch20300/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 8.096 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.678 W/kg

**SAR(1 g) = 0.403 W/kg; SAR(10 g) = 0.226 W/kg**

Maximum value of SAR (measured) = 0.439 W/kg



0 dB = 0.439 W/kg

**Meas.15 Right Head with Cheek on High Channel in LTE Band5 mode with Antenna 1**

Date: 2024.03.20

Communication System Band: Band 5, E-UTRA/FDD (824.0 - 849.0 MHz); Frequency: 844 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 844$  MHz;  $\sigma = 0.903$  S/m;  $\epsilon_r = 41.668$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Ambient Temperature:22.7°C Liquid Temperature:21.8°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(10.35, 10.35, 10.35); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.10 (7331)

**Ch20600/Area Scan (61x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.16 W/kg

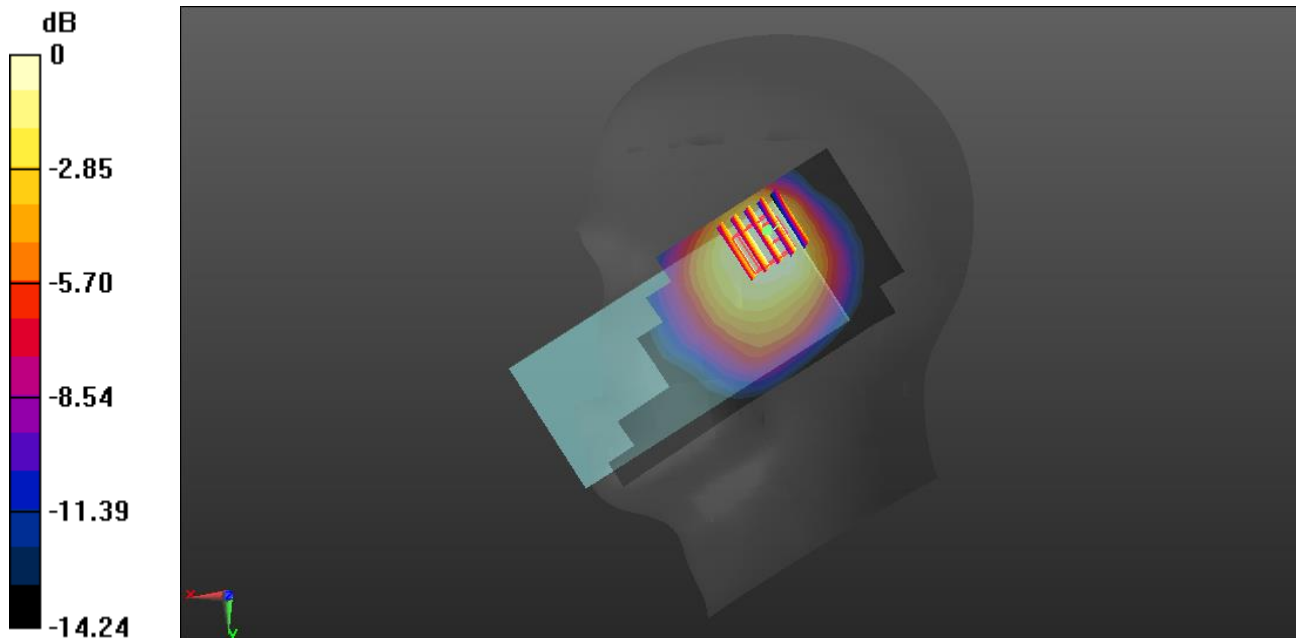
**Ch20600/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 22.94 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 1.40 W/kg

**SAR(1 g) = 0.866 W/kg; SAR(10 g) = 0.575 W/kg**

Maximum value of SAR (measured) = 0.890 W/kg



0 dB = 0.890 W/kg

## Meas.16 Body Plane with Back Side 10mm on High Channel in LTE Band5 mode

Date: 2024.03.20

Communication System Band: Band 5, E-UTRA/FDD (824.0 - 849.0 MHz); Frequency: 836.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 836.5$  MHz;  $\sigma = 0.896$  S/m;  $\epsilon_r = 42.867$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.7°C Liquid Temperature: 21.8°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(10.35, 10.35, 10.35); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.10 (7331)

**Ch20525/Area Scan (71x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.426 W/kg

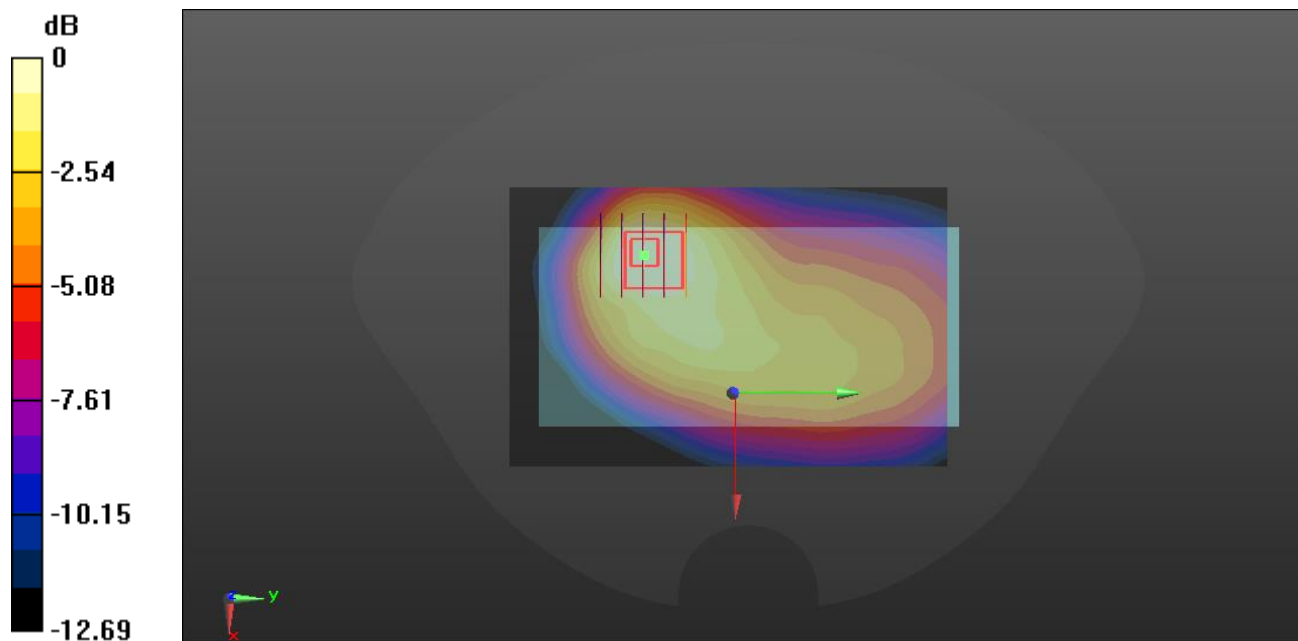
**Ch20525/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.80 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.490 W/kg

**SAR(1 g) = 0.339 W/kg; SAR(10 g) = 0.223 W/kg**

Maximum value of SAR (measured) = 0.370 W/kg



0 dB = 0.370 W/kg

## Meas.17 Right Head with Tilted on High Channel in LTE7 mode with Antenna 1

Date: 2024.04.09

Communication System Band: BAND 7; Frequency: 2560 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 2560$  MHz;  $\sigma = 1.926$  S/m;  $\epsilon_r = 38.887$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Ambient Temperature: 22.3°C Liquid Temperature: 21.3°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(7.64, 7.64, 7.64); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch21350 2/Area Scan (81x101x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 1.37 W/kg

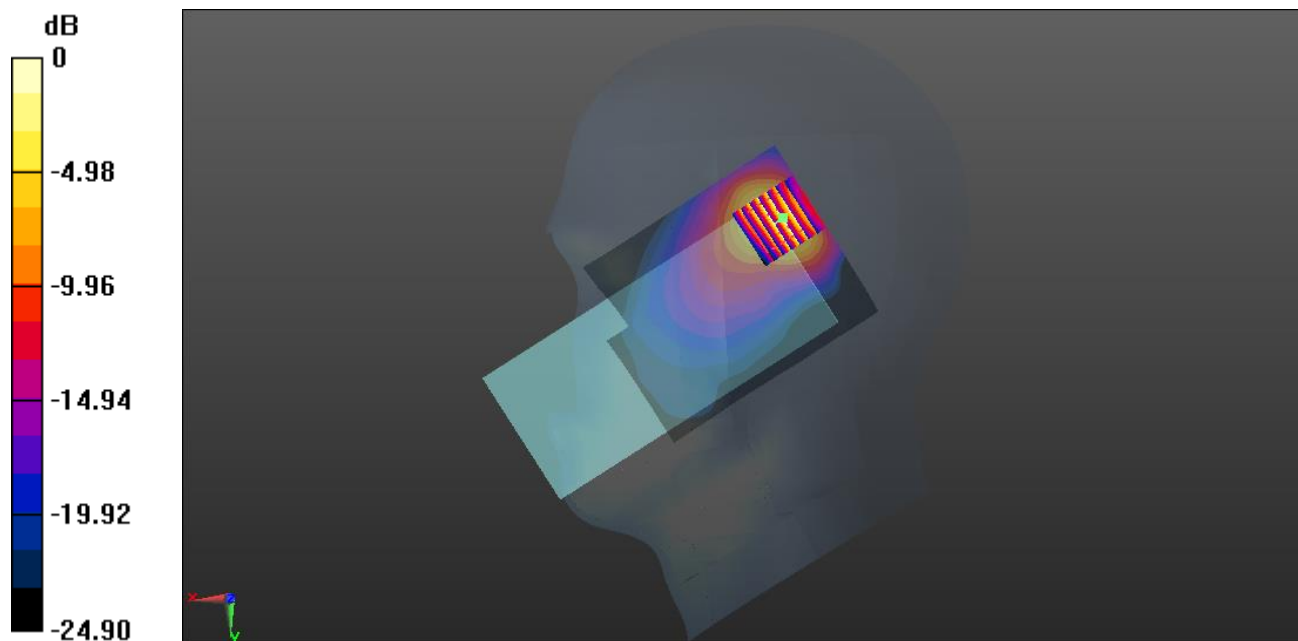
**Ch21350 2/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.450 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 3.28 W/kg

**SAR(1 g) = 1.29 W/kg; SAR(10 g) = 0.512 W/kg**

Maximum value of SAR (measured) = 1.51 W/kg



0 dB = 1.51 W/kg

**Meas.18 Body Plane with Top Edge 10mm on Low Channel in LTE B7 mode with Antenna 1**

Date: 2024.04.09

Communication System Band: BAND 7; Frequency: 2510 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 2510$  MHz;  $\sigma = 1.867$  S/m;  $\epsilon_r = 39.253$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.3°C Liquid Temperature: 21.3°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(7.64, 7.64, 7.64); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch20850/Area Scan (61x101x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.716 W/kg

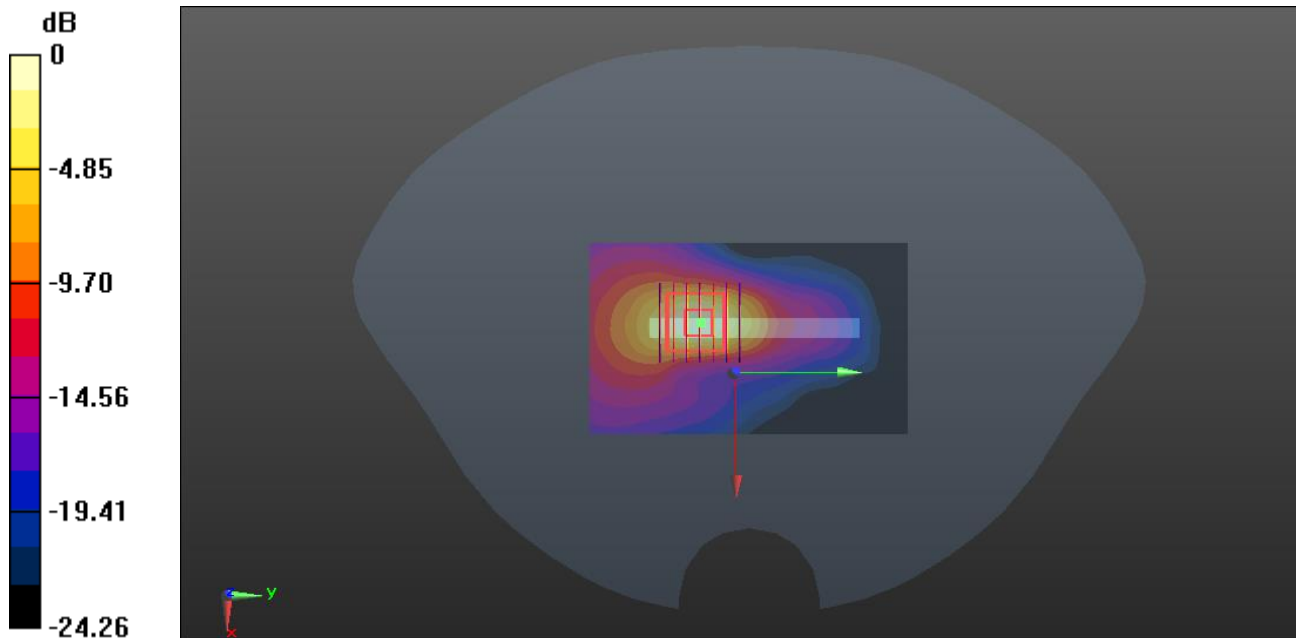
**Ch20850/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 9.497 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 1.12 W/kg

**SAR(1 g) = 0.539 W/kg; SAR(10 g) = 0.230 W/kg**

Maximum value of SAR (measured) = 0.641 W/kg



0 dB = 0.641 W/kg



## Meas.19 Right Head with Cheek on Middle Channel in LTE Band12 mode with Antenna 1

Date: 2024.03.17

Communication System Band: Band 12, E-UTRA/FDD (698.0 - 716.0 MHz); Frequency: 707.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 707.5$  MHz;  $\sigma = 0.885$  S/m;  $\epsilon_r = 42.402$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Ambient Temperature: 22.4°C Liquid Temperature: 21.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(10.54, 10.54, 10.54); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.10 (7331)

**Ch23095/Area Scan (61x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.503 W/kg

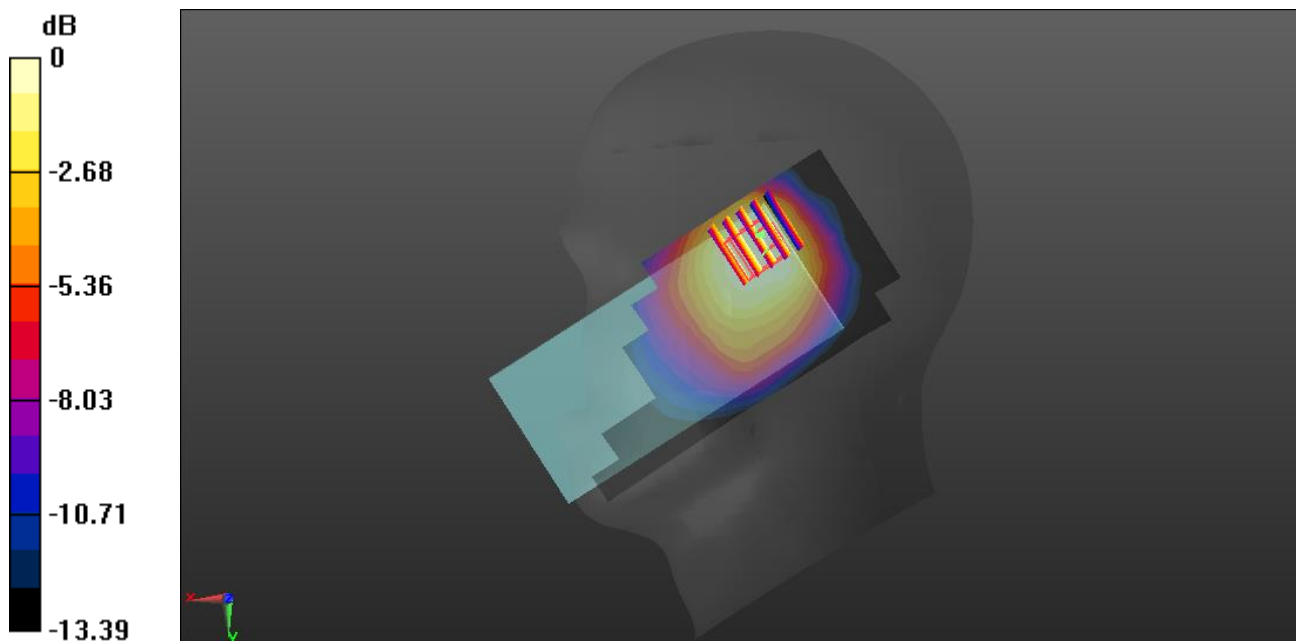
**Ch23095/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.84 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.671 W/kg

**SAR(1 g) = 0.397 W/kg; SAR(10 g) = 0.263 W/kg**

Maximum value of SAR (measured) = 0.404 W/kg



0 dB = 0.404 W/kg

**Meas.20 Body Plane with Right Edge 10mm on Middle Channel in LTE B12 mode with Antenna 1**

Date: 2024.03.17

Communication System Band: Band 12, E-UTRA/FDD (698.0 - 716.0 MHz); Frequency: 707.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 707.5$  MHz;  $\sigma = 0.885$  S/m;  $\epsilon_r = 42.402$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.4°C Liquid Temperature: 21.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(10.54, 10.54, 10.54); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.10 (7331)

**Ch23095/Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.159 W/kg

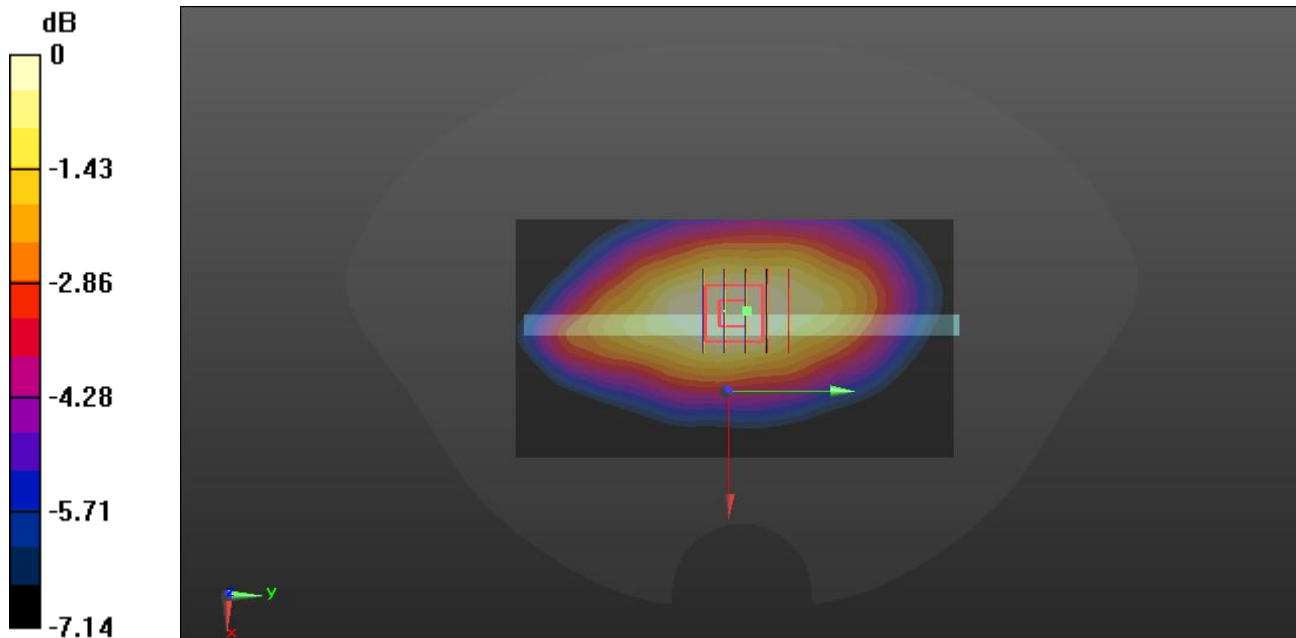
**Ch23095/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.64 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.171 W/kg

**SAR(1 g) = 0.141 W/kg; SAR(10 g) = 0.106 W/kg**

Maximum value of SAR (measured) = 0.149 W/kg



0 dB = 0.149 W/kg

## Meas.21 Right Head with Cheek on Middle Channel in LTE Band13 mode with Antenna 1

Date: 2024.03.17

Communication System Band: BAND 13; Frequency: 782 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 782$  MHz;  $\sigma = 0.909$  S/m;  $\epsilon_r = 41.689$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Ambient Temperature: 22.4°C Liquid Temperature: 21.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(10.54, 10.54, 10.54); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch23230/Area Scan (71x131x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.489 W/kg

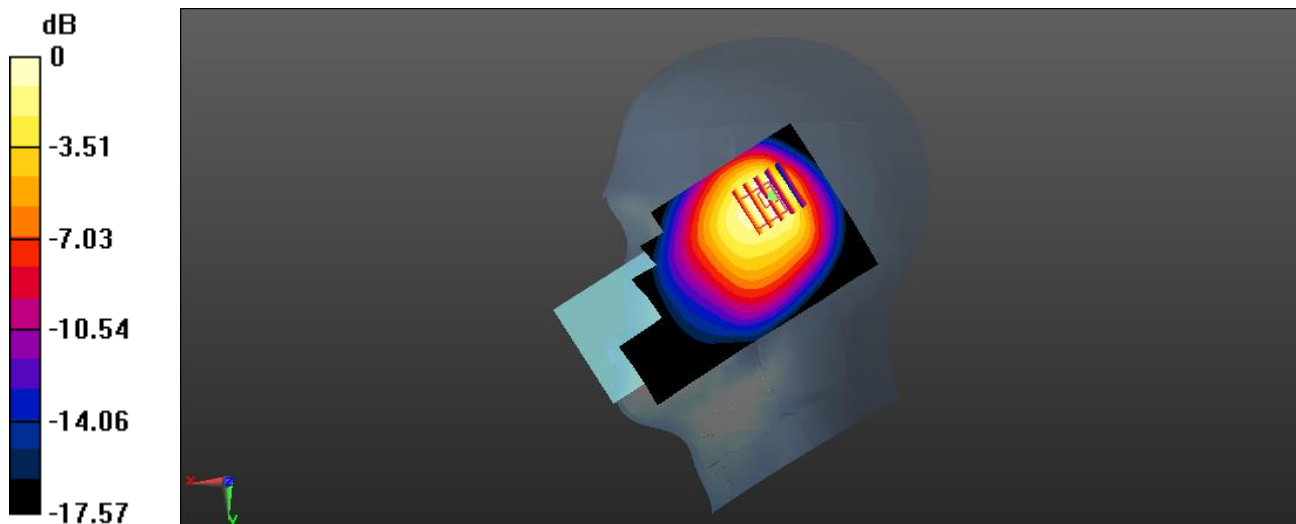
**Ch23230/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.29 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.692 W/kg

**SAR(1 g) = 0.366 W/kg; SAR(10 g) = 0.232 W/kg**

Maximum value of SAR (measured) = 0.388 W/kg



0 dB = 0.388 W/kg

**Meas.22 Body Plane with Back Side 10mm on Middle Channel in LTE Band13 mode with Antenna 1**

Date: 2024.03.17

Communication System Band: Band 13, E-UTRA/FDD (777.0 - 787.0 MHz); Frequency: 782 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 782$  MHz;  $\sigma = 0.909$  S/m;  $\epsilon_r = 41.689$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.4°C Liquid Temperature: 21.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(10.54, 10.54, 10.54); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.10 (7331)

**Ch23230/Area Scan (71x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.151 W/kg

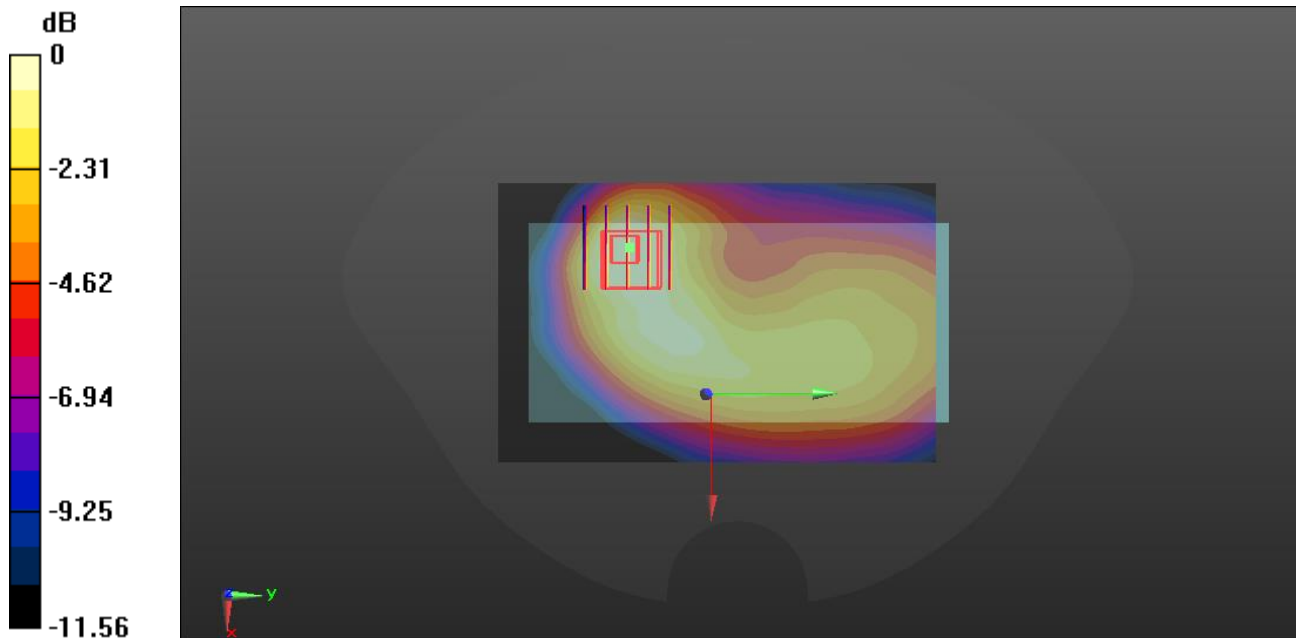
**Ch23230/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.178 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.177 W/kg

**SAR(1 g) = 0.121 W/kg; SAR(10 g) = 0.080 W/kg**

Maximum value of SAR (measured) = 0.131 W/kg



0 dB = 0.131 W/kg

**Meas.23 Right Head with Tilted on Middle Channel in LTE Band66 mode with Antenna 1**

Date: 2024.04.06

Communication System Band: BAND 66; Frequency: 1745 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 1745 \text{ MHz}$ ;  $\sigma = 1.371 \text{ S/m}$ ;  $\epsilon_r = 40.078$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Ambient Temperature: 22.5°C Liquid Temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(8.99, 8.99, 8.99); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch132322/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 1.28 W/kg

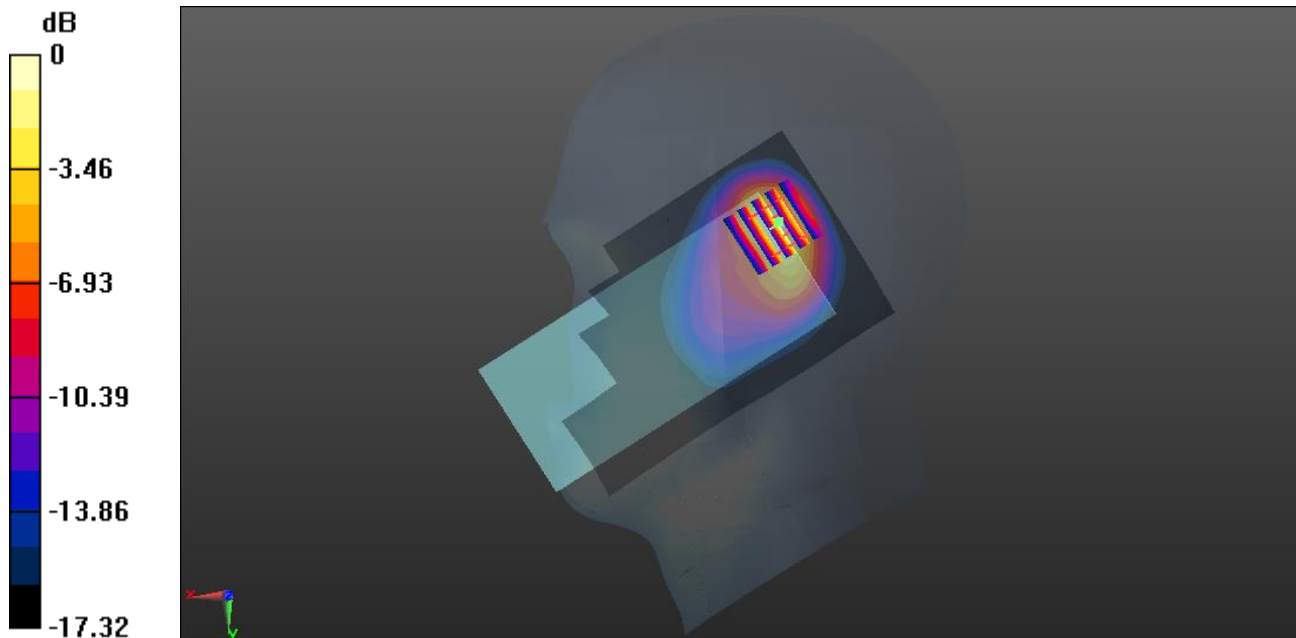
**Ch132322/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 23.04 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 2.21 W/kg

**SAR(1 g) = 1.15 W/kg; SAR(10 g) = 0.560 W/kg**

Maximum value of SAR (measured) = 1.35 W/kg



0 dB = 1.35 W/kg

## Meas.24 Body Plane with Back Side 10mm on Middle Channel in LTE Band66 mode with Antenna 1

Date: 2024.04.06

Communication System Band: BAND 66; Frequency: 1745 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 1745$  MHz;  $\sigma = 1.371$  S/m;  $\epsilon_r = 40.078$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.5°C Liquid Temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(8.99, 8.99, 8.99); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch1323222/Area Scan (71x131x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.384 W/kg

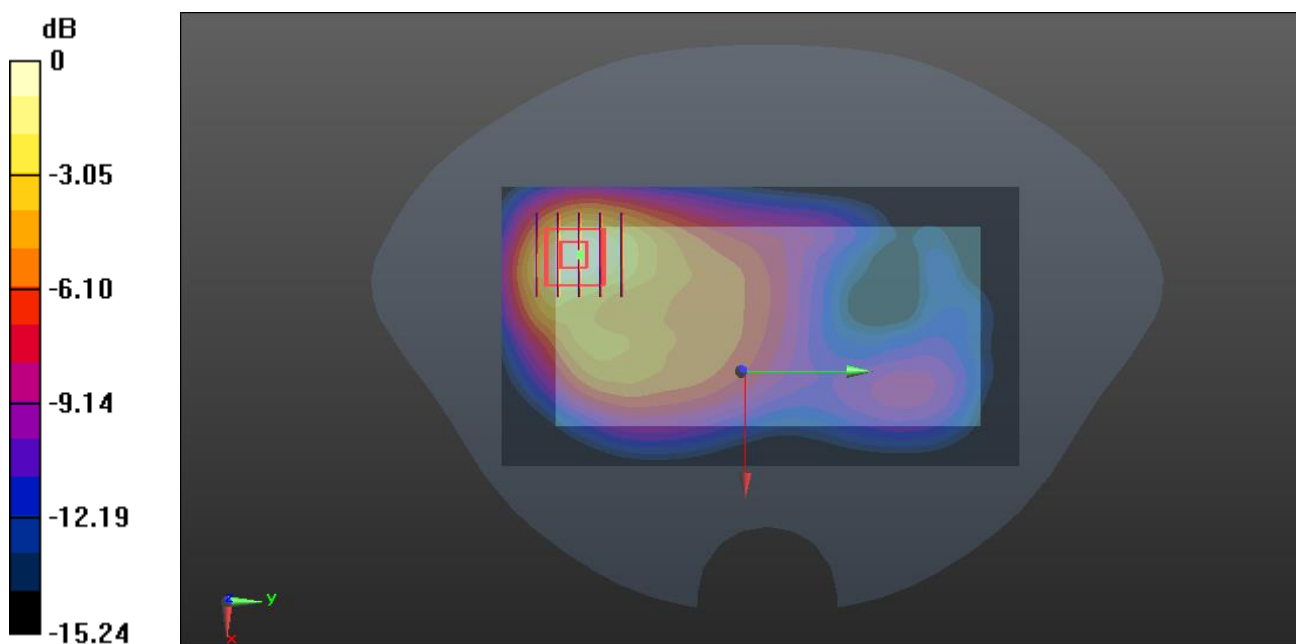
**Ch132322/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.798 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.645 W/kg

**SAR(1 g) = 0.383 W/kg; SAR(10 g) = 0.215 W/kg**

Maximum value of SAR (measured) = 0.422 W/kg



0 dB = 0.422 W/kg

**Meas.25 Left Head with Cheek on Middle Channel IEEE 802.11b mode with Antenna 3**

Date: 2024.03.22

Communication System Band: 2.4G; Frequency: 2437 MHz; Duty Cycle: 1:1.006

Medium parameters used (interpolated):  $f = 2437$  MHz;  $\sigma = 1.787$  S/m;  $\epsilon_r = 39.695$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Ambient Temperature: 22.4°C Liquid Temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(7.98, 7.98, 7.98); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch6/Area Scan (81x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.617 W/kg

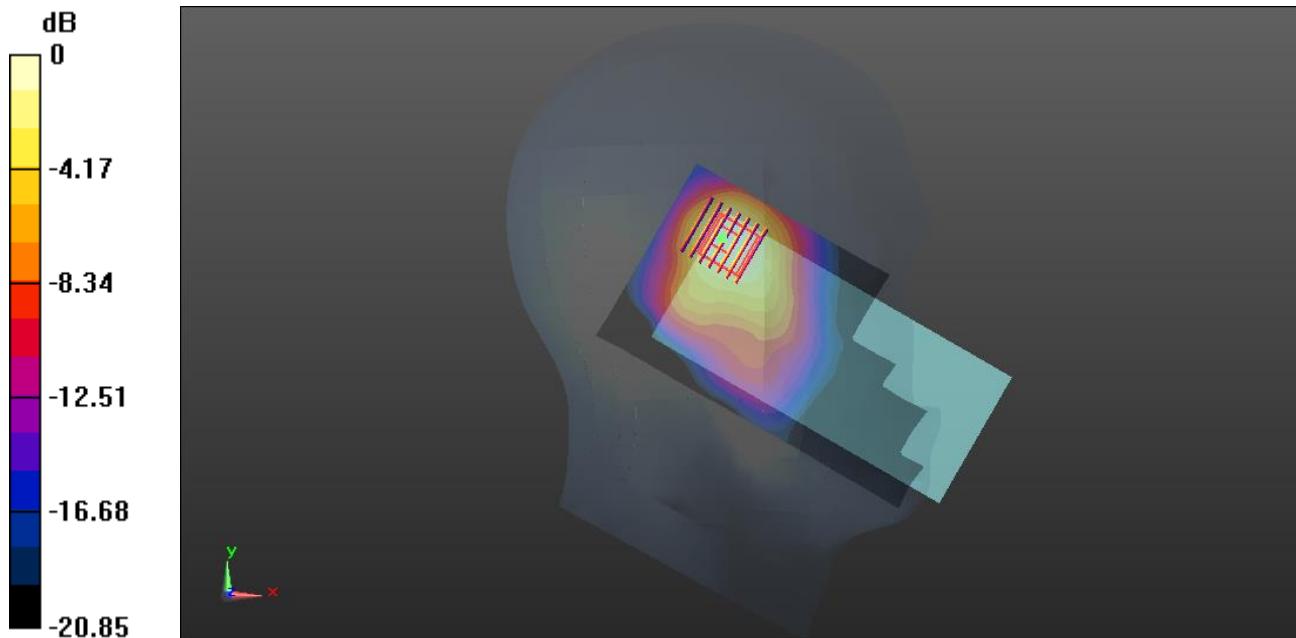
**Ch6/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 10.11 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.932 W/kg

**SAR(1 g) = 0.507 W/kg; SAR(10 g) = 0.279 W/kg**

Maximum value of SAR (measured) = 0.550 W/kg



0 dB = 0.550 W/kg

## Meas.26 Body Plane with Top Edge 10mm on Middle Channel in IEEE 802.11b mode with Antenna 3

Date: 2024.03.22

Communication System Band: 2.4G; Frequency: 2437 MHz; Duty Cycle: 1:1.006

Medium parameters used (interpolated):  $f = 2437$  MHz;  $\sigma = 1.798$  S/m;  $\epsilon_r = 39.35$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.4°C Liquid Temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(7.98, 7.98, 7.98); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch6/Area Scan (81x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.177 W/kg

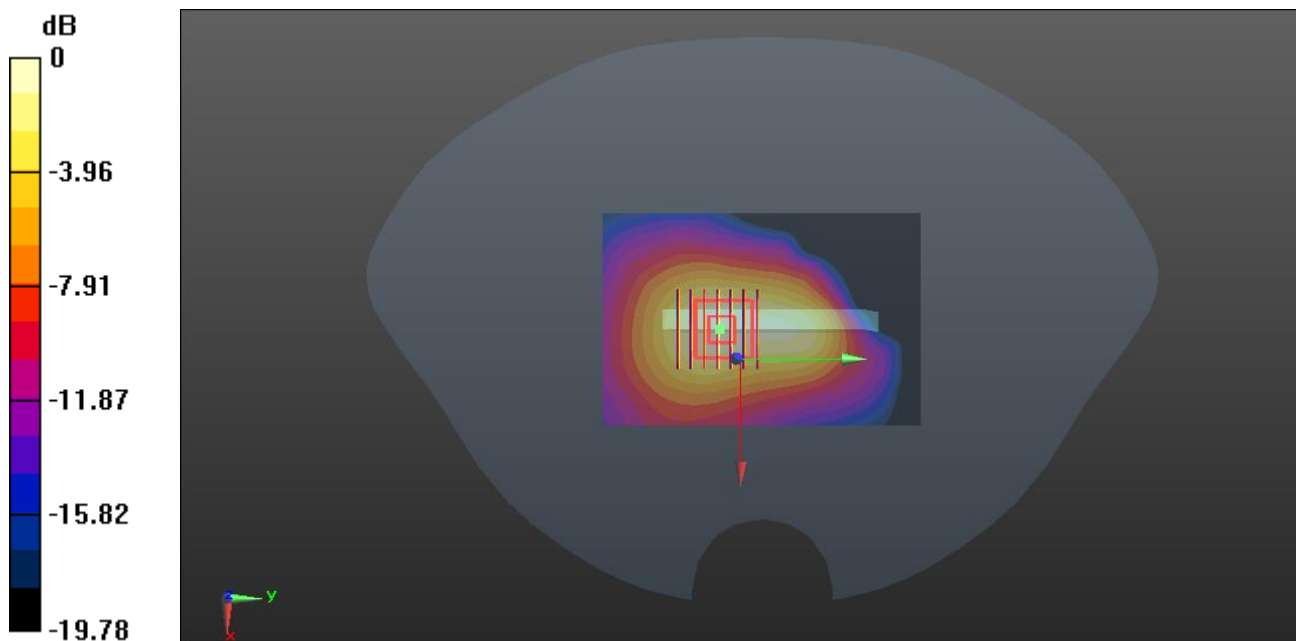
**Ch6/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 9.010 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.291 W/kg

**SAR(1 g) = 0.158 W/kg; SAR(10 g) = 0.086 W/kg**

Maximum value of SAR (measured) = 0.175 W/kg



0 dB = 0.175 W/kg



**Meas.27 Left Head with Cheek on Middle Channel Bluetooth mode with Antenna 3**

Date: 2024.04.16

Communication System Band: BT; Frequency: 2441 MHz; Duty Cycle: 1:1.301

Medium parameters used (interpolated):  $f = 2441$  MHz;  $\sigma = 1.79$  S/m;  $\epsilon_r = 39.749$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Ambient Temperature: 22.8°C Liquid Temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(7.98, 7.98, 7.98); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch39/Area Scan (81x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.148 W/kg

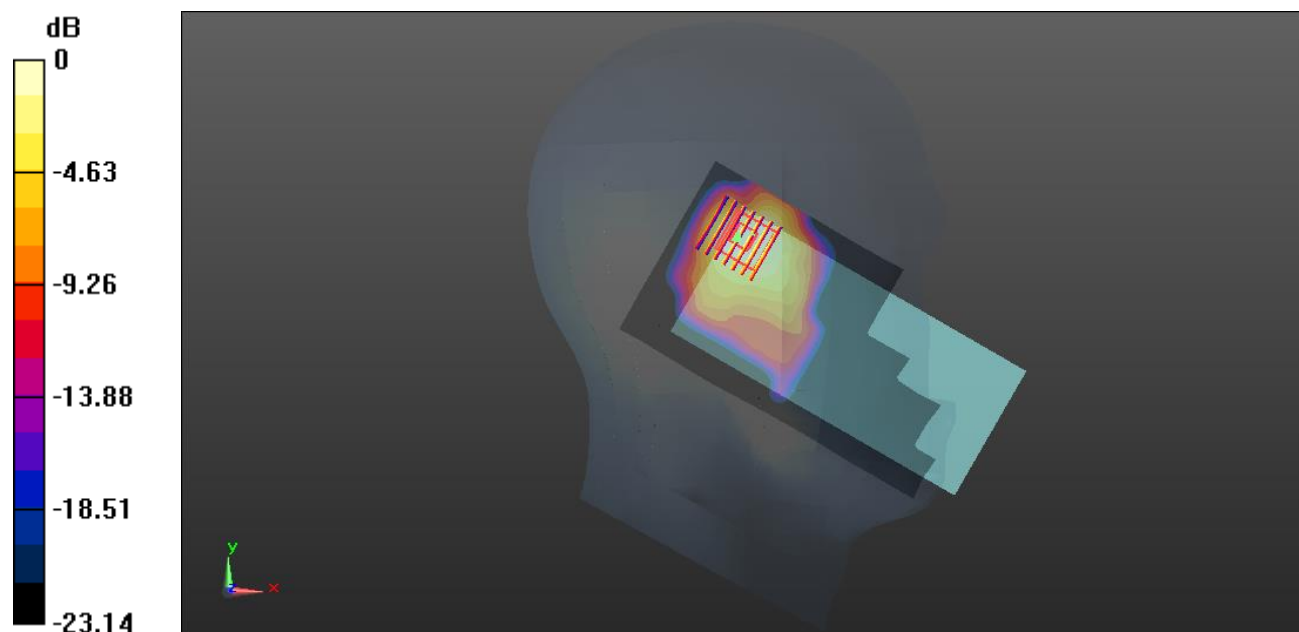
**Ch39/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.131 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.219 W/kg

**SAR(1 g) = 0.118 W/kg; SAR(10 g) = 0.064 W/kg**

Maximum value of SAR (measured) = 0.127 W/kg



0 dB = 0.127 W/kg

## Meas.28 Body Plane with Back Side 10mm on Middle Channel in Bluetooth mode with Antenna 3

Date: 2024.04.16

Communication System Band: BT; Frequency: 2441 MHz; Duty Cycle: 1:1.301

Medium parameters used (interpolated):  $f = 2441$  MHz;  $\sigma = 1.79$  S/m;  $\epsilon_r = 39.749$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.8°C Liquid Temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7506; ConvF(7.98, 7.98, 7.98); Calibrated: 2023.06.29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2024.01.03
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch39/Area Scan (81x161x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.0577 W/kg

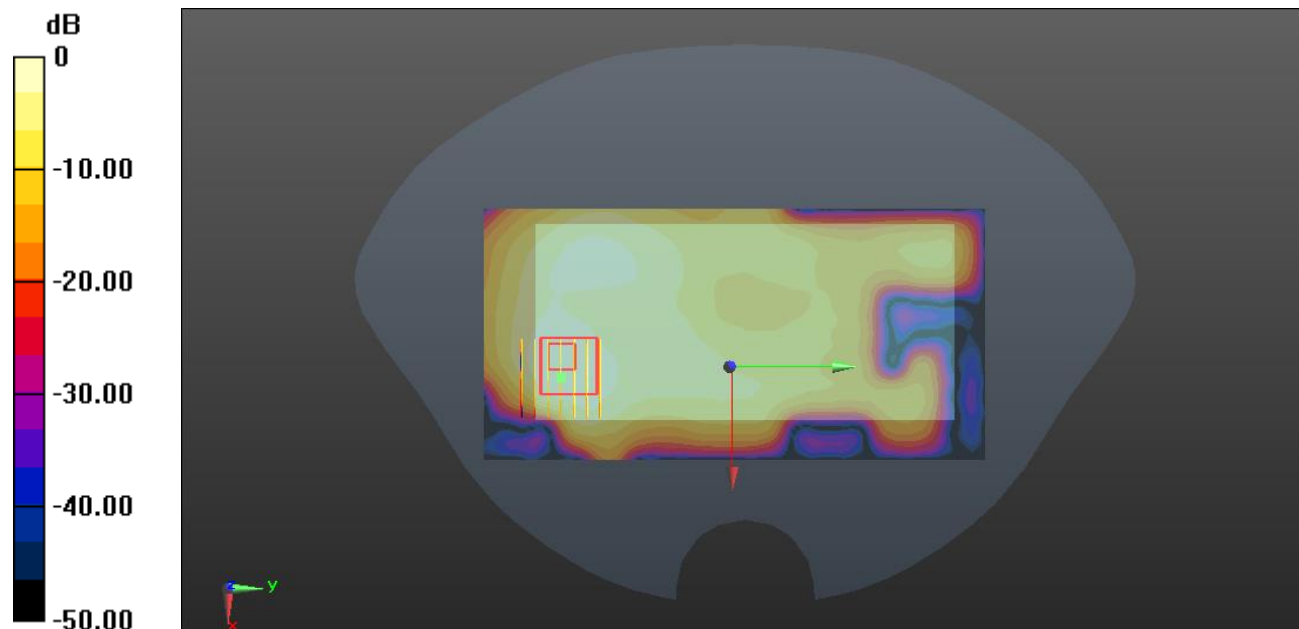
**Ch39/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.335 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.0870 W/kg

**SAR(1 g) = 0.044 W/kg; SAR(10 g) = 0.022 W/kg**

Maximum value of SAR (measured) = 0.0514 W/kg



0 dB = 0.0514 W/kg

## **ANNEX D EUT EXTERNAL PHOTOS**

Please refer the document “BL-SZ2420271-AW.pdf”.

## **ANNEX E SAR TEST SETUP PHOTOS**

Please refer the document “BL-SZ2420271-AS.pdf”.

## **ANNEX F CALIBRATION REPORT**

Please refer the document “BL-SZ2420271-AC.pdf”.

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