TEST REPORT

Applicant:	Mudita Sp. z o.o.
Address:	Jana Czeczota 6, 02-607 Warszawa, Poland
Equipment Type:	GSM/WCDMA/LTE Mobile Phone
Model Name:	Kompakt
Brand Name:	Mudita
FCC ID:	2BCWI-KOMPAKT
Test Standard:	FCC 47 CFR Part 2.1093 (refer to section 3.1)
Maximum SAR:	Head (1 g@0mm): 0.97 W/kg Body-worn (1 g@10mm): 0.78 W/kg Hotspot (1 g@10mm): 1.17 W/kg Specific (10 g@0mm): 0.58 W/kg
Sample Arrival Date:	Nov. 02, 2023
Test Date:	Nov. 12, 2023 - Nov. 23, 2023
Date of Issue:	Mar. 22, 2024

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Xiong Lining **Checked by:** Xu Rui **Approved by:** Tolan Tu

(Testing Director)

Revision History

Version	Issue Date	Revisions Content
Rev. 01	Dec. 21, 2023	Initial Issue
Rev. 02	Mar. 22, 2024	Updated title in table of simultaneous transmission in section 12.2 and updated the cal. date of EX3DV4 & DAE4 in section 13

TABLE OF CONTENTS

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	☑ Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
	☐ 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℃ to 25℃
Ambient Relative Humidity	30% to 70%

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Mudita Sp. z o.o.
Address	Jana Czeczota 6, 02-607 Warszawa, Poland

2.2 Manufacturer Information

Manufacturer	Mudita Sp. z o.o.
Address	Jana Czeczota 6, 02-607 Warszawa, Poland

2.3 General Description for Equipment under Test (EUT)

EUT Name	GSM/WCDMA/LTE Mobile Phone
Model Name Under Test	Kompakt
Series Model Name	/
Description of Model name differentiation	/
Hardware Version	V0.3
Software Version	/
Dimensions (Approx.)	/
Weight (Approx.)	/
Note: The product is available in three different appearance colours (black, white and gray), the software and hardware are identical, only the color is different.	

2.4 Ancillary Equipment

Ancillary Equipment 1	Battery	
	Brand Name	/
	Model No.	LS061A
	Serial No.	N/A
	Capacity	3300 mAh
	Rated Voltage	3.87 V
	Limit Charge Voltage	4.45 V

2.5 Technical Information

Network and Wireless connectivity	2G Network GSM/GPRS 850 MHz 3G Network WCDMA/HSDPA/HSUPA Band 5 4G Network LTE FDD Band 5/7/12/13/18/19/26 LTE TDD Band 38/41 Bluetooth (BR+EDR+BLE) 2.4G WIFI 802.11b, 802.11g, 802.11n(HT20) 5G WIFI 802.11a, 802.11n(HT20/40), 802.11ac(VHT20/40/80) U-NII-1/2A/2C/3, GPS, GLONASS, FM Receiver, NFC, WPT(receiver only)
Note: 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
	WCDMA Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 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 ~ 787MHz	RX: 746 ~ 756 MHz
	LTE Band 18	TX: 815 ~ 824 MHz	RX: 860 ~ 869 MHz
		TX: 824 ~ 830 MHz	RX: 869 ~ 875 MHz
	LTE Band 19	TX: 830 ~ 845 MHz	RX: 875 ~ 890 MHz
	LTE Band 26	TX:814 ~ 824 MHz	RX: 859 ~ 869 MHz
		TX:824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 38	TX: 2570 ~ 2620 MHz	RX: 2570 ~ 2620 MHz
	LTE Band 41	TX: 2496 ~ 2690 MHz	RX: 2496 ~ 2690 MHz
	802.11b/g /n(HT20)	2412 ~ 2462 MHz	
	802.11a/ /n(HT20/HT40) /ac(VHT20/VHT40 /VHT80)	5150 ~ 5250 MHz	
		5250 ~ 5350 MHz	
		5470 ~ 5725 MHz	
		5725 ~ 5850 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	General Population/Uncontrolled exposure		

Category		
Product Type	Portable Device	
EUT Type	☒ Production unit	☐ Identical prototype
Note: 1. The device utilizes independent power reduction mechanisms for SAR compliance for the 2/3/4G transmitter for held-to-ear exposure conditions. 2. The device utilizes independent power reduction mechanisms for SAR compliance for the 2/3/4G transmitter for near to body exposure conditions. 3. The reduction power details please refer section 8.6.		

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/ ControlledExposure
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)	Specific (0mm)	Head (0mm)	Body-worn (10mm)	Hotspot (10mm)	Specific (0mm)
		1g SAR			10g SAR	1g SAR			10g SAR
PCE	GSM 850	0.57	0.78	0.81	/	0.97	0.78	1.17	0.58
	WCDMA Band 5	0.41	0.72	0.72	/				
	LTE Band 5	0.41	0.56	0.56	/				
	LTE Band 7	0.92	0.58	1.17	/				
	LTE Band 12	0.28	0.45	0.45	/				
	LTE Band 13	0.38	0.61	0.61	/				
	LTE Band 26	0.40	0.59	0.59	/				
	LTE Band 38	0.83	0.47	0.93	/				
	LTE Band 41	0.97	0.50	1.12	/				
DTS	2.4G WLAN	0.39	0.10	0.10	/				
NII	5.2G WLAN	/	/	0.24	/				
	5.3G WLAN	0.48	0.21	/	0.52				
	5.6G WLAN	0.69	0.30	/	0.58				
	5.8G WLAN	0.45	0.24	0.24	/				
DSS	Bluetooth	0.17	0.04	0.04	/				
Limit (W/kg)		1.6			4.0	1.6			4.0
Verdict		PASS							

Note: This device supports both LTE Band 18/19 and Band 26. Since the supported frequency span for LTE Band 18/19 falls completely within the supports frequency span for LTE Band 26, three LTE bands have the same target power, and three LTE bands share the same transmission path; therefore, SAR was only assessed for LTE Band 26.

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 1.17 W/kg, which is lower than 1.5 W/kg, so the extensive SAR measurement uncertainty analysis is not required in this report.
The maximum 10 g SAR for the EUT in this report is 0.58 W/kg, which is lower than 3.75 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 (ρ). The equation description is as below:

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

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

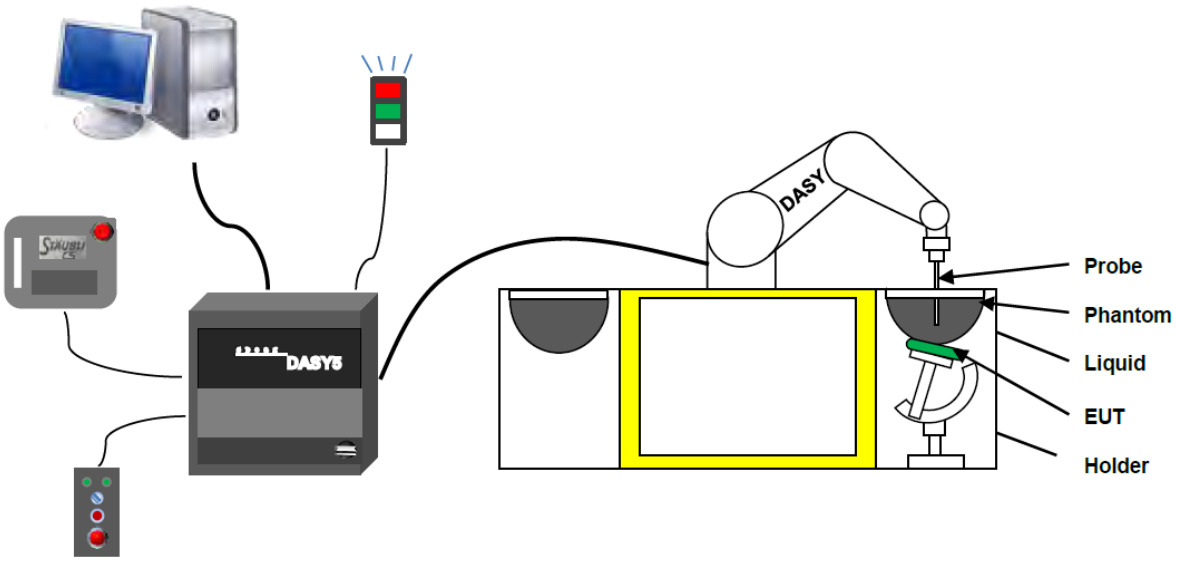
$$\mathbf{SAR} = \frac{\boldsymbol{\sigma}\mathbf{E}^{2}}{\boldsymbol{\rho}}$$

Where: σ is the conductivity of the tissue,

ρ 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 DASY5 measurement server.
6. The DASY5 measurement server, which performs all real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operation.
7. DASY5 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 ±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:7510 with following specifications is used.

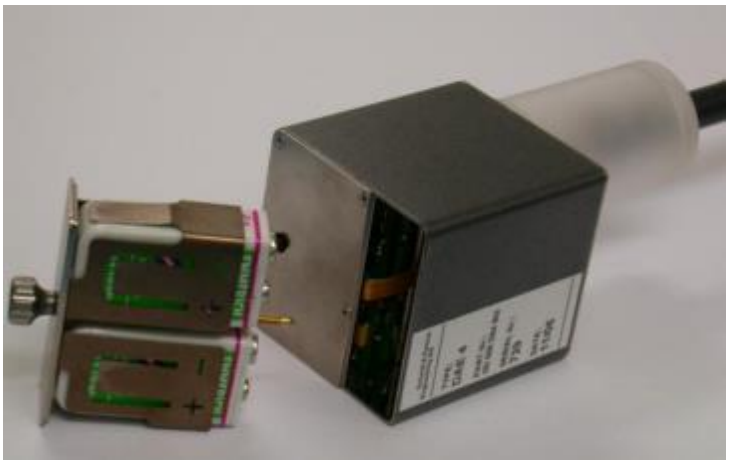
Construction	Symmetrical design with triangular core Built-in optical fiber for surface detection systemBuilt-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., glycolether)
Calibration	ISO/IEC 17025 calibration service available
Frequency	10 MHz to 6 GHz; Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.2 dB in HSL (rotation around probe axis) ; ± 0.4 dB in HSL (rotation normal to probe axis)
Dynamic range	5 μW/g to > 100 mW/g; Linearity: ± 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, Antennessa 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

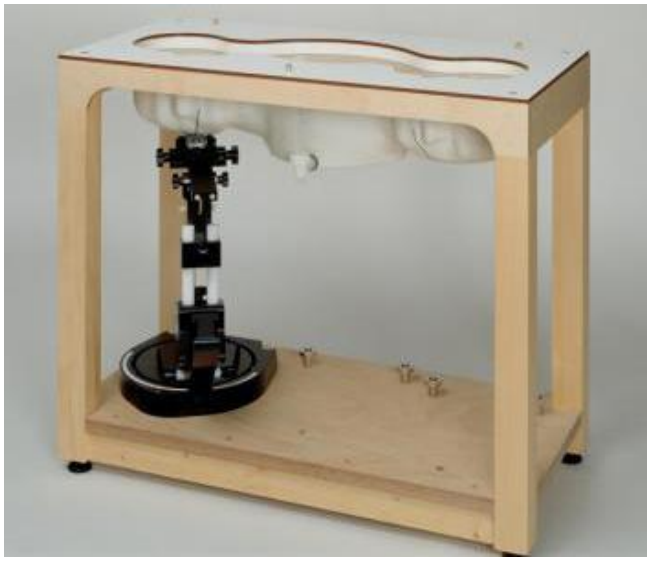
The data acquisition electronics (DAE) consist of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converte and a command decoder with a control logic unit. Transmission to the measurement server is accomplished through an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



- Input Impedance: 200MOhm
- The Inputs: Symmetrical and Floating
- Commom 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 SN1859

Serial Number	Material	Length	Height
SN 1859 SAM2	Vinylester, glass fiber reinforced	1000	500

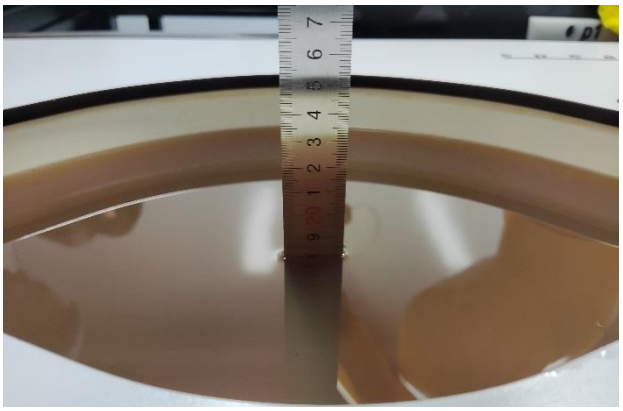
4.2.6 Device Holder

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°. 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°.

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%.

Head Liquid Depth	Body Liquid Depth
	

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	Ethanediol, Sodium petroleum sulfonate, Hexylene Glycol / 2-Methyl-pentane-2.4-diol, Alkoxylated alcohol

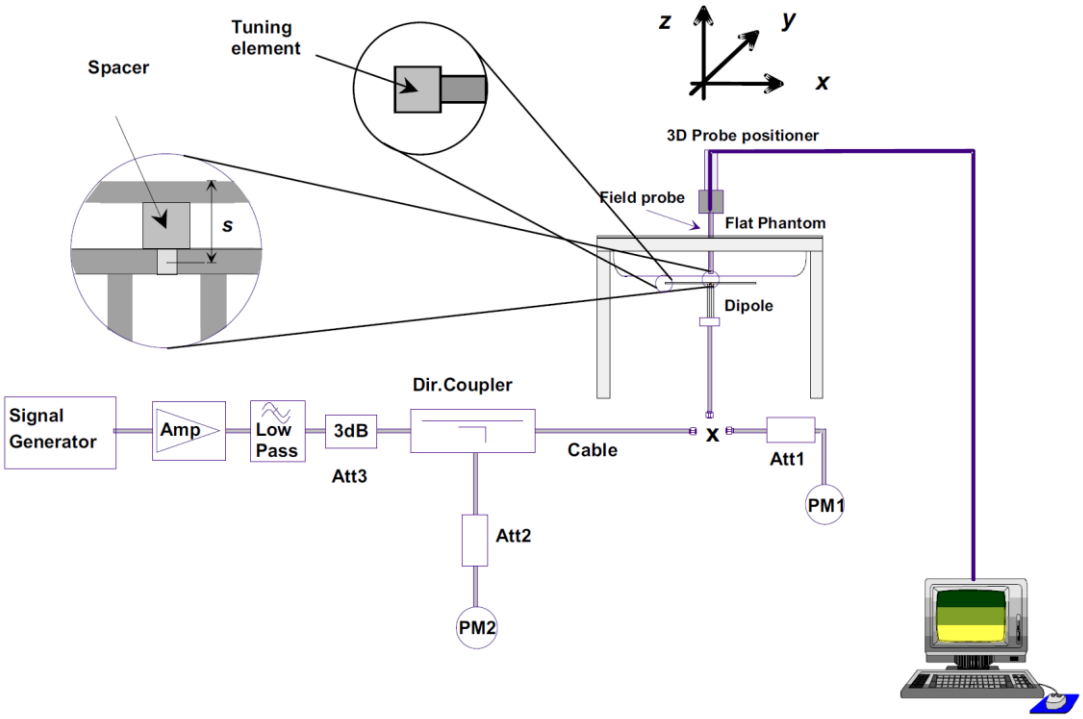
5 SYSTEM VERIFICATION

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

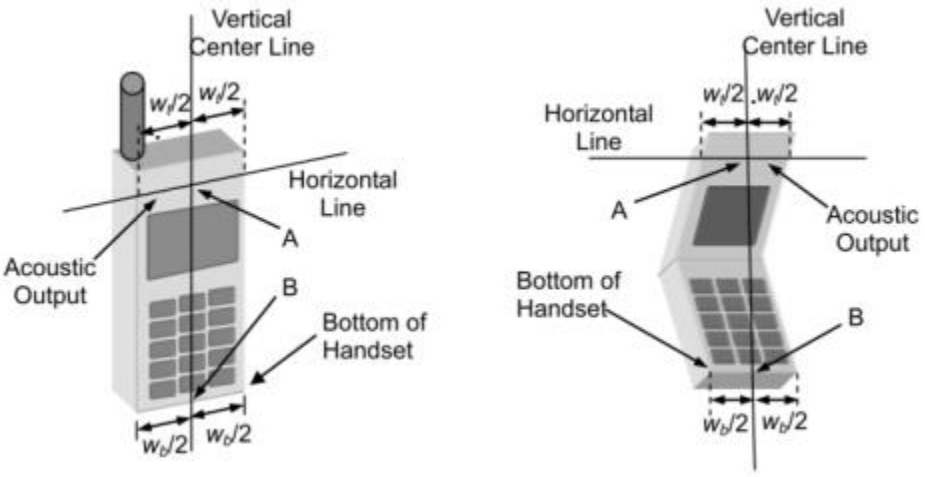
Head exposure is limited to next to the ear voice mode operations. Head SAR compliance is tested according to the test positions defined in IEEE Std 1528-2013 using the SAM phantom illustrated as below.

6.1.1 Two Imaginary Lines on the Handset

(a) 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.

(b) 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.

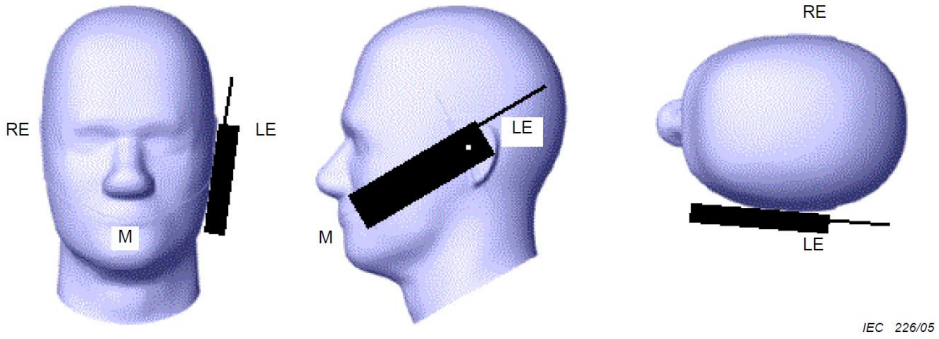
(c) The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical center line is not necessarily parallel to the front face of the handset, especially for clamshell handsets, handsets with flip covers, and other irregularly shaped handsets.



6.1.2 Cheek Position

(a) 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.

(b) 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.



6.1.3 Tilted Position

(a) To position the device in the “cheek” position described above.

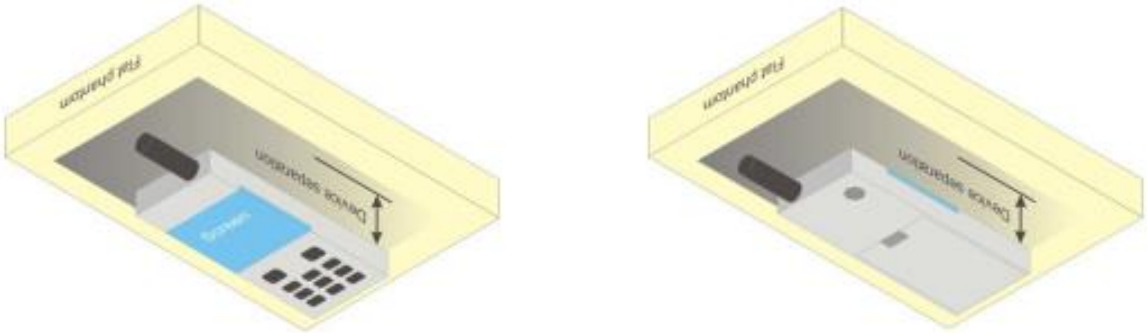
(b) While maintaining the device the reference plane described above and pivoting against the ear, moves it outward away from the mouth by an angle of 15 degrees or until contact with the ear is lost.

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.

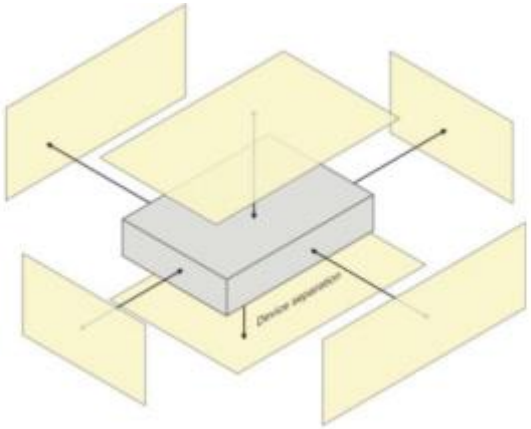
Body-worn accessories that do not contain metallic or conductive components may be tested according to worst-case exposure configurations, typically according to the smallest test separation distance required for the group of body-worn accessories with similar operating and exposure characteristics. 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 <= 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).



6.4 Product Specific 10g Exposure Consideration

According with FCC KDB 648474 D04, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, unless it is confirmed otherwise through KDB inquiries, the following phablet procedures should be applied to evaluate SAR compliance for each applicable wireless modes and frequency band. Devices marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance;

The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge, in direct contact with a flat phantom, for 10-g extremity SAR according to the body-equivalent tissue dielectric parameters in KDB 865664 to address interactive hand use exposure conditions. The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg.

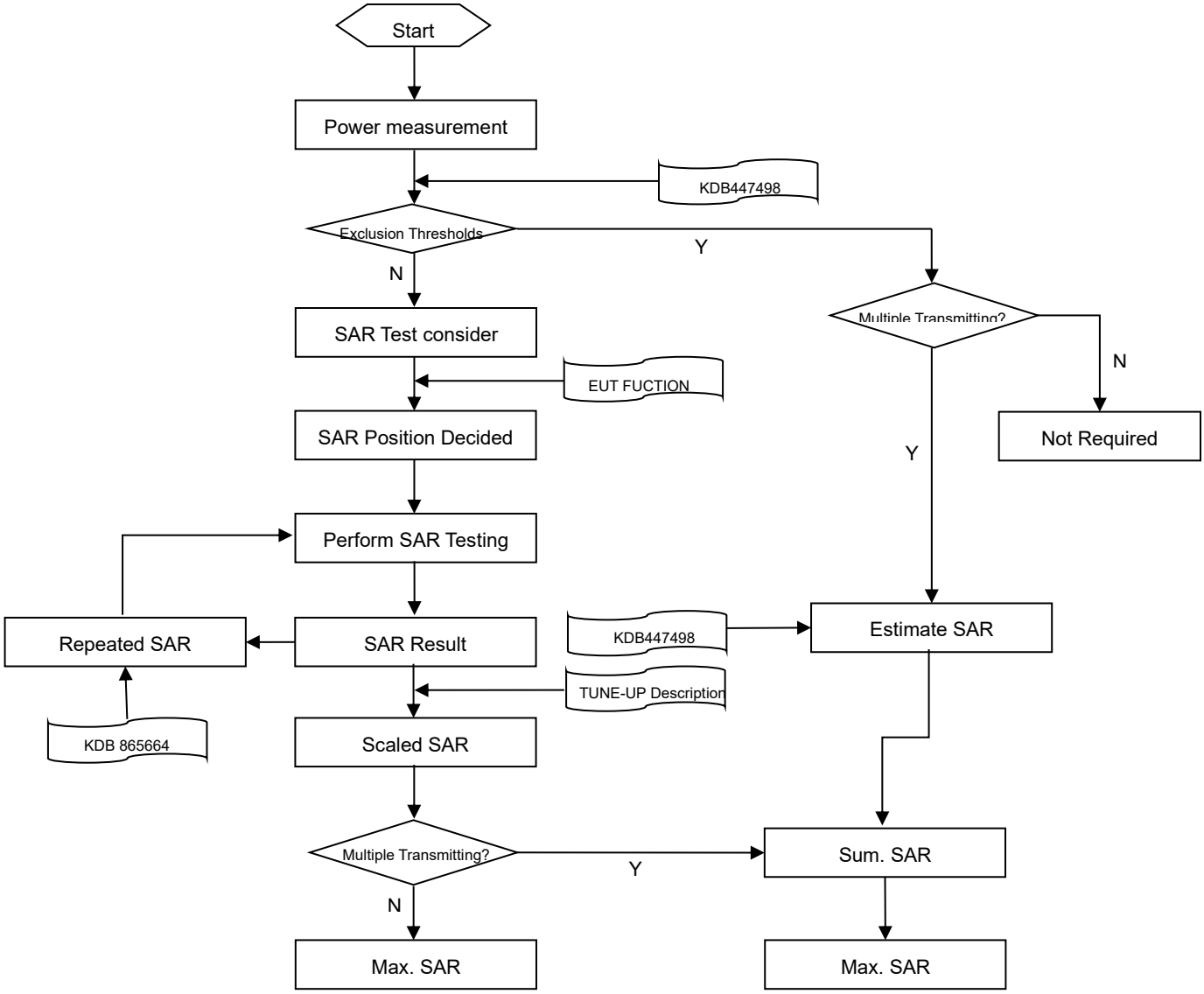
6

6.

.

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. Boththe 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.

<table>
<tr><th colspan="3"></th><th>≤3GHz</th><th>>3GHz</th></tr>
<tr><td colspan="3">Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface</td><td>5±1 mm</td><td>½·δ·ln(2)±0.5 mm</td></tr>
<tr><td colspan="3">Maximum probe angle from probe axis to phantom surface normal at the measurement location</td><td>30°±1°</td><td>20°±1°</td></tr>
<tr><td colspan="3" rowspan="2">Maximum area scan spatial resolution: Δx Area , Δy Area</td><td>≤ 2 GHz: ≤ 15 mm
2 – 3 GHz: ≤ 12 mm</td><td>3–4 GHz: ≤ 12 mm
4 – 6 GHz: ≤ 10 mm</td></tr>
<tr><td colspan="2">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.</td></tr>
<tr><td colspan="3">Maximum zoom scan spatial resolution: Δx Zoom , Δy Zoom</td><td>≤ 2 GHz: ≤ 8 mm
2 –3 GHz: ≤ 5 mm*</td><td>3–4 GHz: ≤ 5 mm*
4 – 6 GHz: ≤ 4 mm*</td></tr>
<tr><td rowspan="7">Maximum zoom scan spatial resolution, normal to phantom surface</td><td colspan="2" rowspan="3">uniform grid: Δz Zoom (n)</td><td rowspan="3">≤ 5 mm</td><td>3–4 GHz: ≤ 4 mm</td></tr>
<tr><td>4–5 GHz: ≤ 3 mm</td></tr>
<tr><td>5–6 GHz: ≤ 2 mm</td></tr>
<tr><td rowspan="4">graded grid</td><td rowspan="3">Δz Zoom (1): between 1st two points closest to phantom surface</td><td rowspan="3">≤ 4 mm</td><td>3–4 GHz: ≤ 3 mm</td></tr>
<tr><td>4–5 GHz: ≤ 2.5 mm</td></tr>
<tr><td>5–6 GHz: ≤ 2 mm</td></tr>
<tr><td>Δz Zoom (n>1): between subsequent points</td><td colspan="2">≤ 1.5·Δz Zoom (n-1)</td></tr>
<tr><td rowspan="3">Minimum zoom scan volume</td><td colspan="2" rowspan="3">x, y, z</td><td rowspan="3">≥30 mm</td><td>3–4 GHz: ≥ 28 mm</td></tr>
<tr><td>4–5 GHz: ≥ 25 mm</td></tr>
<tr><td>5–6 GHz: ≥ 22 mm</td></tr>
<tr><td colspan="5">Note:
1. δ 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.</td></tr>
</table>

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 to16 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-SZ23B0377-AP-1 Power List.pdf”.

8.2 WCDMA

Please refer the document “BL-SZ23B0377-AP-1 Power List.pdf”.

8.3 LTE

Please refer the document “BL-SZ23B0377-AP-1 Power List.pdf”.

8.4 WIFI

8.4.1 2.4G WIFI

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power(dBm)	Tune-up Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11b	1	2412	12.64	13.00	Yes
		6	2437	12.49	13.00	Yes
		11	2462	**12.76**	13.00	Yes
	802.11g	1	2412	10.47	11.00	No
		6	2437	10.15	11.00	No
		11	2462	10.36	11.00	No
	802.11n(HT20)	1	2412	9.43	10.00	No
		6	2437	8.91	10.00	No
		11	2462	9.45	10.00	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 $\leqslant$ 1.2 W/kg, OFDM SAR test is not required.

Adjusted SAR = 0.393 * (10mW/19.95mW) = 0.197 W/Kg, so 2.4G OFDM SAR test is not required.

8.4.2 5G WIFI

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power(dBm)	Tune-up Limit (dBm)	SAR Test Require.
5.2 (5.15~5.25)	802.11a	36	5180	**10.86**	11.00	Yes
		44	5220	10.37	11.00	No
		48	5240	10.54	11.00	No
	802.11n(HT20)	36	5180	9.27	10.50	No
		44	5220	9.87	10.50	No
		48	5240	10.09	10.50	No
	802.11n(HT40)	38	5190	9.46	10.00	No
		46	5230	9.44	10.00	No
	802.11ac(VHT20)	36	5180	8.26	9.00	No
		44	5220	8.39	9.00	No
		48	5240	8.45	9.00	No
	802.11ac(VHT40)	38	5190	8.48	9.00	No
		46	5230	8.42	9.00	No
	802.11ac(VHT80)	42	5210	8.57	9.00	No
5.3 (5.25~5.35)	802.11a	52	5260	11.40	12.00	Yes
		60	5300	**11.66**	12.00	Yes
		64	5320	11.42	12.00	Yes
	802.11n(HT20)	52	5260	9.70	11.00	No
		60	5300	9.62	11.00	No
		64	5320	10.33	11.00	No
	802.11n(HT40)	54	5270	9.92	11.00	No
		62	5310	10.29	11.00	No
	802.11ac(VHT20)	52	5260	8.73	10.00	No
		60	5300	9.20	10.00	No
		64	5320	9.35	10.00	No
	802.11ac(VHT40)	54	5270	9.02	10.00	No
		62	5310	9.47	10.00	No
	802.11ac(VHT80)	58	5290	9.21	10.00	No
5.6 (5.47~5.725)	802.11a	100	5500	**12.24**	13.00	Yes
		116	5580	11.68	13.00	Yes
		140	5700	12.03	13.00	Yes
	802.11n(HT20)	100	5500	11.19	12.00	No
		116	5580	11.23	12.00	No
		140	5700	10.51	12.00	No
	802.11n(HT40)	102	5510	11.22	12.00	No
		118	5590	11.21	12.00	No

		134	5670	10.54	12.00	No
	802.11ac(VHT20)	100	5500	9.68	10.00	No
		116	5580	9.66	10.00	No
		140	5700	9.47	10.00	No
	802.11ac(VHT40)	102	5510	10.20	11.00	No
		118	5590	10.15	11.00	No
		134	5670	10.07	11.00	No
	802.11ac(VHT80)	106	5530	9.87	11.00	No
		122	5690	10.43	11.00	No
5.8 (5.725~5.850)	802.11a	149	5745	**12.07**	13.00	Yes
		157	5785	11.88	13.00	Yes
		165	5825	11.85	13.00	Yes
	802.11n(HT20)	149	5745	10.90	11.00	No
		157	5785	10.74	11.00	No
		165	5825	10.94	11.00	No
	802.11n(HT40)	151	5755	10.86	11.00	No
		159	5795	10.42	11.00	No
	802.11ac(VHT20)	149	5745	9.49	10.00	No
		157	5785	9.30	10.00	No
		165	5825	9.51	10.00	No
	802.11ac(VHT40)	151	5755	9.47	10.00	No
		159	5795	9.41	10.00	No
	802.11ac(VHT80)	155	5775	9.37	10.00	No
Note: When the same maximum output power is specified for both bands, begin SAR measurement in U-NII-2A band by applying the OFDM SAR requirements. If the highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.						

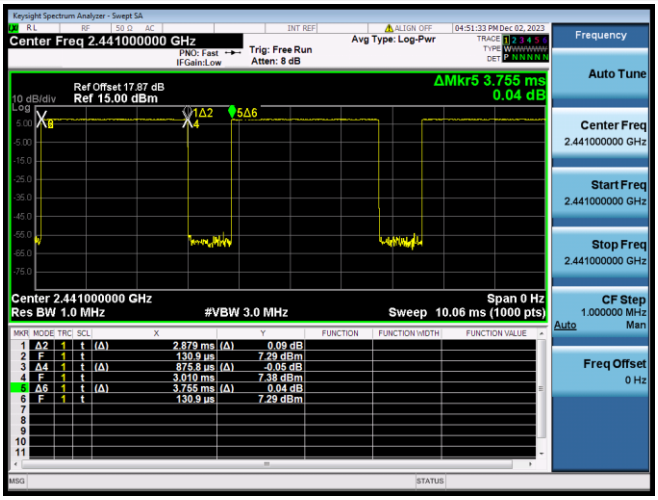
8.5 Bluetooth

Mode	GFSK			π/4-DQPSK		
Channel	0	39	78	0	39	78
Frequency (MHz)	2402	2441	2480	2402	2441	2480
Average Power(dBm)	7.83	7.63	**9.09**	7.45	6.81	9.14
Tune-Up Limit (dBm)	8.00	8.00	10.00	8.00	8.00	10.00
SAR Test Require	YES	YES	YES	NO	NO	NO
Mode	8-DPSK			BLE-1Mbps		
Channel	0	39	78	0	19	39
Frequency (MHz)	2402	2441	2480	2402	2440	2480
Average Power(dBm)	7.03	6.80	9.09	-5.98	-3.93	-4.18
Tune-Up Limit (dBm)	8.00	8.00	10.00	-4.00	-3.00	-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 ≤ ¼ dB higher than the primary mode.						

Note: The Bluetooth duty cycle is 76.68 % 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

GFSK



8.6 Power Reduction List

1. This mobile phone device supports the receiver detection mechanism .This device uses the receiver to indicate whether the user is making a call in head.
2. When device is making call in head, and the receiver will work, the power reduction will applied for SAR compliance.
3. When there is a voice call (including VOIP), the audio is actively routed through the headset or speaker, and the receiver will not work, which indicating no reduce the power of body/Limbs exposure.
4. When this device used data mode only, and the receiver will not work too, the no reduce the power of body/Limbs exposure.

WWAN Reduced power level table

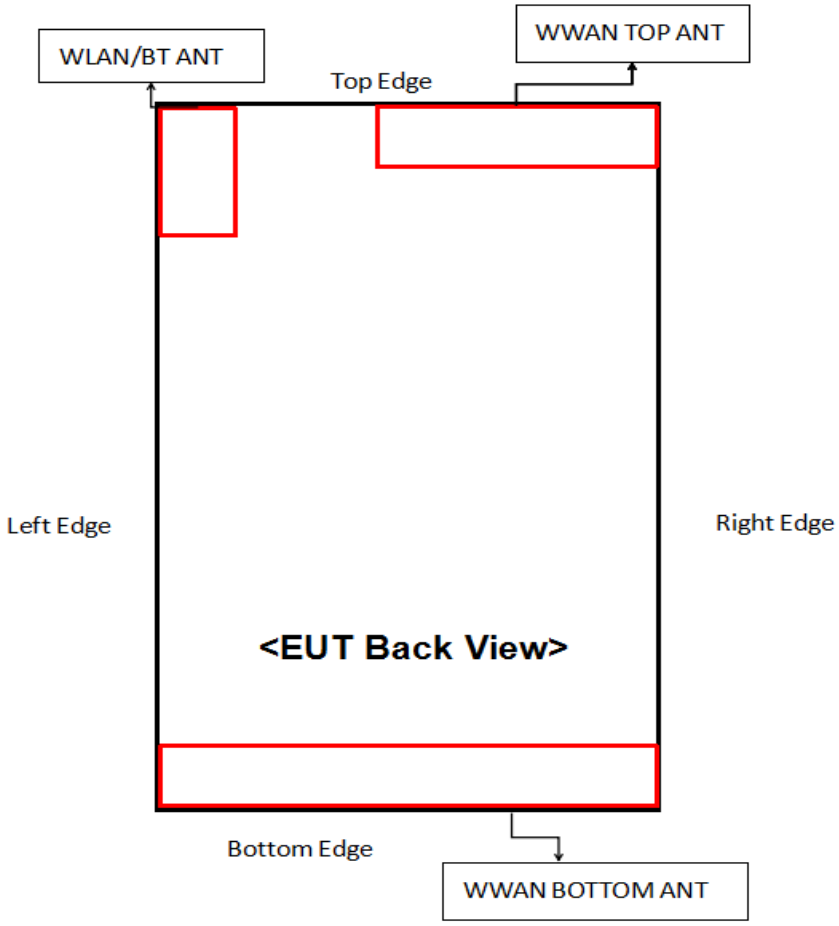
Reduced	Receiver state	Transmitting
State		conditions
Full Power	On (Head scenario)	WWAN Only; WWAN+BT; WWAN+2.4G WIFI; WWAN+5G WIFI
State1	Off (Body scenario)	WWAN Only; WWAN+BT; WWAN+2.4G WIFI; WWAN+5G WIFI

Mode	WWAN Antenna	
	Full Power	State1
GSM 850	33.50	33.50
GPRS850 1 Tx Slot	33.50	33.50
GPRS850 2 Tx Slots	32.50	32.50
GPRS850 3 Tx Slots	30.50	30.50
GPRS850 4 Tx Slots	29.50	29.50
WCDMA Band5 RMC	23.00	23.00
AMR	23.00	23.00
RMC	23.00	23.00
HSDPA Subtest-1	22.00	22.00
HSDPA Subtest-2	22.00	22.00
HSDPA Subtest-3	21.50	21.50
HSDPA Subtest-4	21.50	21.50
HSUPA Subtest-1	20.50	20.50
HSUPA Subtest-2	20.50	20.50

HSUPA Subtest-3	21.50	21.50
HSUPA Subtest-4	20.00	20.00
HSUPA Subtest-5	21.50	21.50
LTE Band5	23.00	23.00
LTE Band7	23.00	16.00
LTE Band12	23.50	23.50
LTE Band13	23.50	23.50
LTE Band18	23.00	23.00
LTE Band19	23.00	23.00
LTE Band26	23.00	23.00
LTE Band38	23.00	17.00
LTE Band41	23.00	17.00

Mode	WLAN Antenna
2.4G WLAN 802.11b	13.00
2.4G WLAN 802.11g	11.00
2.4G WLAN 802.11n20	10.00
5.2G WLAN 802.11a	11.00
5.2G WLAN 802.11n20	10.50
5.2G WLAN 802.11n40	10.00
5.2G WLAN 802.11ac20	9.00
5.2G WLAN 802.11ac40	9.00
5.2G WLAN 802.11ac80	9.00
5.3G WLAN 802.11a	12.00
5.3G WLAN 802.11n20	11.00
5.3G WLAN 802.11n40	11.00
5.3G WLAN 802.11ac20	10.00
5.3G WLAN 802.11ac40	10.00
5.3G WLAN 802.11ac80	10.00
5.6G WLAN 802.11a	13.00
5.6G WLAN 802.11n20	12.00
5.6G WLAN 802.11n40	12.00
5.6G WLAN 802.11ac20	10.00
5.6G WLAN 802.11ac40	11.00
5.6G WLAN 802.11ac80	11.00
5.8G WLAN 802.11a	13.00
5.8G WLAN 802.11n20	11.00
5.8G WLAN 802.11n40	11.00
5.8G WLAN 802.11ac20	10.00
5.8G WLAN 802.11ac40	10.00
5.8G WLAN 802.11ac80	10.00
Bluetooth	10.00

9 TEST EXCLUSION CONSIDERATION



Antenna	Support Bands
WWAN TOP ANT	LTE B7/38/41
WWAN BOTTOM ANT	GSM850
	WCDMA B5
	LTE B5/12/13/18/19/26
WLAN/BT ANT	WIFI2.4G/5G/Bluetooth

9.1 SAR Test Exclusion Consideration Table

According with FCC KDB 447498 D04, Appendix B, The SAR-based exemption formula applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold Pth (mW), this Device SAR test configurations consider as following:

Antenna	Front Side (mm)	Back Side (mm)	Left Edge (mm)	Right Edge (mm)	Top Edge (mm)	Bottom Edge (mm)
WWAN TOP ANT	<25	<25	>25	<25	<25	>25
WWAN BOTTOM ANT	<25	<25	<25	<25	>25	<25
WLAN/BT ANT	<25	<25	<25	>25	<25	>25
Note: 1.Per KDB 941225 DO6,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	Power State	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Report SAR (W/kg)	Meas. No.
Head													
WWAN BOTTOM	GPRS 2Slots	State1	Left Cheek	0	190	836.6	-0.13	0.378	31.44	32.50	1.276	0.482	/
		State1	Left Tilt	0	190	836.6	-0.08	0.341	31.44	32.50	1.276	0.435	/
		State1	Right Cheek	0	190	836.6	0.02	0.325	31.44	32.50	1.276	0.415	/
		State1	Right Tilt	0	190	836.6	0.06	0.369	31.44	32.50	1.276	0.471	/
		State1	Left Cheek	0	128	824.2	0.18	0.448	31.44	32.50	1.276	**0.572**	1#
		State1	Left Cheek	0	251	848.8	0.09	0.283	31.34	32.50	1.306	0.370	/
Body-worn&Hotspot													
WWAN BOTTOM	GPRS 2Slots	Full Power	Front Side	10	190	836.6	-0.02	0.495	31.44	32.50	1.276	0.632	/
		Full Power	Back Side	10	190	836.6	-0.18	0.610	31.44	32.50	1.276	0.778	/
		Full Power	Left Edge	10	190	836.6	0.01	0.477	31.44	32.50	1.276	0.609	/
		Full Power	Right Edge	10	190	836.6	0.00	0.433	31.44	32.50	1.276	0.553	/
		Full Power	Bottom Edge	10	190	836.6	0.08	0.102	31.44	32.50	1.276	0.130	/
		Full Power	Back Side	10	128	824.2	-0.17	0.636	31.44	32.50	1.276	**0.812**	2#
		Full Power	Back Side	10	251	848.8	-0.06	0.509	31.34	32.50	1.306	0.665	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

10.2WCDMA Band 5

Antenna	Mode	Power State	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Report SAR (W/kg)	Meas. No.
Head													
WWAN BOTTOM	RMC	State1	Left Cheek	0	4233	846.6	0.08	0.345	22.47	23.00	1.130	0.390	/
		State1	Left Tilt	0	4233	846.6	-0.10	0.307	22.47	23.00	1.130	0.347	/
		State1	Right Cheek	0	4233	846.6	0.13	0.335	22.47	23.00	1.130	0.379	/
		State1	Right Tilt	0	4233	846.6	0.01	0.328	22.47	23.00	1.130	0.371	/
		State1	Left Cheek	0	4132	826.4	0.02	0.344	22.33	23.00	1.167	0.401	/
		State1	Left Cheek	0	4182	836.4	0.15	0.357	22.42	23.00	1.143	**0.408**	3#
Body-worn&Hotspot													
WWAN BOTTOM	RMC	Full Power	Front Side	10	4233	846.6	0.18	0.571	22.47	23.00	1.130	0.645	/
		Full Power	Back Side	10	4233	846.6	0.16	0.612	22.47	23.00	1.130	0.692	/
		Full Power	Left Edge	10	4233	846.6	0.16	0.547	22.47	23.00	1.130	0.618	/
		Full Power	Right Edge	10	4233	846.6	-0.13	0.471	22.47	23.00	1.130	0.532	/
		Full Power	Bottom Edge	10	4233	846.6	0.10	0.136	22.47	23.00	1.130	0.154	/
		Full Power	Back Side	10	4132	826.4	0.03	0.611	22.33	23.00	1.167	0.713	/
		Full Power	Back Side	10	4182	836.4	-0.05	0.631	22.42	23.00	1.143	**0.721**	4#
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

10.3 LTE Band 5 (20MHz Bandwidth)

Antenna	Mode	Power State	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Report SAR (W/kg)	Meas. No.
Head															
WWAN BOTTOM	QPSK	State1	Left Cheek	0	20450	829	1	MID	-0.02	0.335	22.18	23.00	1.208	**0.405**	5#
		State1		0	20525	836.5	25	MID	0.07	0.264	21.12	22.00	1.225	0.323	/
		State1	Left Tilt	0	20450	829	1	MID	0.18	0.278	22.18	23.00	1.208	0.336	/
		State1		0	20525	836.5	25	MID	0.10	0.224	21.12	22.00	1.225	0.274	/
		State1	Right Cheek	0	20450	829	1	MID	-0.13	0.319	22.18	23.00	1.208	0.385	/
		State1		0	20525	836.5	25	MID	-0.01	0.254	21.12	22.00	1.225	0.311	/
		State1	Right Tilt	0	20450	829	1	MID	0.11	0.289	22.18	23.00	1.208	0.349	/
		State1		0	20525	836.5	25	MID	0.03	0.228	21.12	22.00	1.225	0.279	/
Body-worn&Hotspot															
WWAN BOTTOM	QPSK	Full Power	Front Side	10	20450	829	1	MID	0.01	0.390	22.18	23.00	1.208	0.471	/
		Full Power		10	20525	836.5	25	MID	0.00	0.307	21.12	22.00	1.225	0.376	/
		Full Power	Back Side	10	20450	829	1	MID	-0.03	0.465	22.18	23.00	1.208	**0.562**	6#
		Full Power		10	20525	836.5	25	MID	-0.19	0.371	21.12	22.00	1.225	0.454	/
		Full Power	Left Edge	10	20450	829	1	MID	0.19	0.333	22.18	23.00	1.208	0.402	/
		Full Power		10	20525	836.5	25	MID	0.17	0.267	21.12	22.00	1.225	0.327	/
		Full Power	Right Edge	10	20450	829	1	MID	-0.05	0.317	22.18	23.00	1.208	0.383	/
		Full Power		10	20525	836.5	25	MID	0.12	0.250	21.12	22.00	1.225	0.306	/
		Full Power	Bottom Edge	10	20450	829	1	MID	0.08	0.079	22.18	23.00	1.208	0.095	/
		Full Power		10	20525	836.5	25	MID	0.01	0.065	21.12	22.00	1.225	0.080	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.															

10.4LTE Band 7 (20MHz Bandwidth)

Antenna	Mode	Power State	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Report SAR (W/kg)	Meas. No.
Head															
WWAN TOP	QPSK	State1	Left Cheek	0	21100	2535	1	MID	-0.08	0.432	15.62	16.00	1.091	0.471	/
		State1		0	21100	2535	50	MID	-0.10	0.422	15.54	16.00	1.112	0.469	/
		State1	Left Tilt	0	21100	2535	1	MID	-0.12	0.402	15.62	16.00	1.091	0.439	/
		State1		0	21100	2535	50	MID	-0.08	0.401	15.54	16.00	1.112	0.446	/
		State1	Right Cheek	0	21100	2535	1	MID	-0.04	0.811	15.62	16.00	1.091	0.885	/
		State1		0	21100	2535	50	MID	0.05	0.802	15.54	16.00	1.112	0.892	/
		State1	Right Tilt	0	21100	2535	1	MID	0.07	0.682	15.62	16.00	1.091	0.744	/
		State1		0	21100	2535	50	MID	-0.14	0.675	15.54	16.00	1.112	0.751	/
		State1	Right Cheek	0	20850	2510	1	MID	-0.17	0.812	15.60	16.00	1.096	0.890	/
		State1		0	21350	2560	1	MID	0.07	0.840	15.62	16.00	1.091	**0.916**	7#
		State1		0	20850	2510	50	MID	0.03	0.802	15.46	16.00	1.132	0.908	/
		State1		0	21350	2560	50	MID	-0.15	0.789	15.50	16.00	1.122	0.885	/
		State1		0	21100	2535	100	LOW	0.04	0.815	15.52	16.00	1.117	0.910	/
Body-worn&Hotspot															
WWAN TOP	QPSK	Full Power	Front Side	10	21100	2535	1	MID	-0.07	0.509	21.97	23.00	1.268	0.645	/
		Full Power		10	21350	2560	50	MID	-0.15	0.435	20.79	22.00	1.321	0.575	/
		Full Power	Back Side	10	21100	2535	1	MID	-0.01	0.457	21.97	23.00	1.268	0.579	/
		Full Power		10	21350	2560	50	MID	-0.14	0.389	20.79	22.00	1.321	0.514	/
		Full Power	Right Edge	10	21100	2535	1	MID	0.11	0.412	21.97	23.00	1.268	0.522	/
		Full Power		10	21350	2560	50	MID	0.08	0.342	20.79	22.00	1.321	0.452	/
		Full Power	Top Edge	10	21100	2535	1	MID	0.18	0.798	21.97	23.00	1.268	1.012	/
		Full Power		10	21350	2560	50	MID	-0.08	0.706	20.79	22.00	1.321	0.933	/
		Full Power	Top Edge	10	20850	2510	1	MID	0.07	0.654	21.92	23.00	1.282	0.838	/
		Full Power		10	21350	2560	1	MID	0.04	0.916	21.93	23.00	1.279	**1.172**	8#
		Full Power		10	20850	2510	50	HIGH	-0.12	0.572	20.74	22.00	1.337	0.765	/
		Full Power		10	21350	2560	50	MID	0.17	0.770	20.79	22.00	1.321	1.017	/
		Full Power		10	21350	2560	100	LOW	-0.15	0.732	20.80	22.00	1.318	0.965	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.															

10.5LTE Band 12 (10MHz Bandwidth)

Antenna	Mode	Power State	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Report SAR (W/kg)	Meas. No.
Head															
WWAN BOTTOM	QPSK	State1	Left Cheek	0	23130	711	1	MID	0.05	0.209	22.29	23.50	1.321	**0.276**	9#
		State1		0	23060	704	25	MID	0.00	0.173	21.20	22.50	1.349	0.233	/
		State1	Left Tilt	0	23130	711	1	MID	-0.10	0.126	22.29	23.50	1.321	0.166	/
		State1		0	23060	704	25	MID	0.16	0.111	21.20	22.50	1.349	0.150	/
		State1	Right Cheek	0	23130	711	1	MID	-0.04	0.181	22.29	23.50	1.321	0.239	/
		State1		0	23060	704	25	MID	-0.19	0.155	21.20	22.50	1.349	0.209	/
		State1	Right Tilt	0	23130	711	1	MID	0.00	0.125	22.29	23.50	1.321	0.165	/
		State1		0	23060	704	25	MID	-0.02	0.110	21.20	22.50	1.349	0.148	/
Body-worn&Hotspot															
WWAN BOTTOM	QPSK	Full Power	Front Side	10	23130	711	1	MID	0.06	0.262	22.29	23.50	1.321	0.346	/
		Full Power		10	23060	704	25	MID	0.04	0.223	21.20	22.50	1.349	0.301	/
		Full Power	Back Side	10	23130	711	1	MID	-0.02	0.342	22.29	23.50	1.321	**0.452**	10#
		Full Power		10	23060	704	25	MID	0.14	0.287	21.20	22.50	1.349	0.387	/
		Full Power	Left Edge	10	23130	711	1	MID	-0.15	0.202	22.29	23.50	1.321	0.267	/
		Full Power		10	23060	704	25	MID	0.04	0.171	21.20	22.50	1.349	0.231	/
		Full Power	Right Edge	10	23130	711	1	MID	0.18	0.212	22.29	23.50	1.321	0.280	/
		Full Power		10	23060	704	25	MID	-0.04	0.180	21.20	22.50	1.349	0.243	/
		Full Power	Bottom Edge	10	23130	711	1	MID	0.19	0.050	22.29	23.50	1.321	0.066	/
		Full Power		10	23060	704	25	MID	0.19	0.042	21.20	22.50	1.349	0.057	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.															

10.6 LTE Band 13 (10MHz Bandwidth)

Antenna	Mode	Power State	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Report SAR (W/kg)	Meas. No.
Head															
WWAN BOTTOM	QPSK	State1	Left Cheek	0	23230	782	1	MID	-0.09	0.273	22.03	23.50	1.403	**0.383**	11#
		State1		0	23230	782	25	HIGH	-0.10	0.219	20.96	22.50	1.426	0.312	/
		State1	Left Tilt	0	23230	782	1	MID	-0.10	0.223	22.03	23.50	1.403	0.313	/
		State1		0	23230	782	25	HIGH	-0.02	0.185	20.96	22.50	1.426	0.264	/
		State1	Right Cheek	0	23230	782	1	MID	-0.15	0.254	22.03	23.50	1.403	0.356	/
		State1		0	23230	782	25	HIGH	-0.13	0.203	20.96	22.50	1.426	0.289	/
		State1	Right Tilt	0	23230	782	1	MID	-0.13	0.238	22.03	23.50	1.403	0.334	/
		State1		0	23230	782	25	HIGH	-0.09	0.192	20.96	22.50	1.426	0.274	/
Body-worn&Hotspot															
WWAN BOTTOM	QPSK	Full Power	Front Side	10	23230	782	1	MID	0.07	0.379	22.03	23.50	1.403	0.532	/
		Full Power		10	23230	782	25	HIGH	0.05	0.307	20.96	22.50	1.426	0.438	/
		Full Power	Back Side	10	23230	782	1	MID	-0.03	0.432	22.03	23.50	1.403	**0.606**	12#
		Full Power		10	23230	782	25	HIGH	-0.05	0.372	20.96	22.50	1.426	0.530	/
		Full Power	Left Edge	10	23230	782	1	MID	-0.10	0.343	22.03	23.50	1.403	0.481	/
		Full Power		10	23230	782	25	HIGH	-0.06	0.276	20.96	22.50	1.426	0.394	/
		Full Power	Right Edge	10	23230	782	1	MID	0.09	0.348	22.03	23.50	1.403	0.488	/
		Full Power		10	23230	782	25	HIGH	0.07	0.278	20.96	22.50	1.426	0.396	/
		Full Power	Bottom Edge	10	23230	782	1	MID	-0.11	0.066	22.03	23.50	1.403	0.093	/
		Full Power		10	23230	782	25	HIGH	0.11	0.054	20.96	22.50	1.426	0.077	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.															

10.7 LTE Band 26 (15MHz Bandwidth)

Antenna	Mode	Power State	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Report SAR (W/kg)	Meas. No.
Head															
WWAN BOTTOM	QPSK	State1	Left Cheek	0	26865	831.5	1	MID	0.00	0.310	21.93	23.00	1.279	**0.396**	13#
		State1		0	26865	831.5	36	MID	-0.16	0.250	21.00	22.00	1.259	0.315	/
		State1	Left Tilt	0	26865	831.5	1	MID	-0.05	0.247	21.93	23.00	1.279	0.316	/
		State1		0	26865	831.5	36	MID	0.12	0.202	21.00	22.00	1.259	0.254	/
		State1	Right Cheek	0	26865	831.5	1	MID	-0.09	0.291	21.93	23.00	1.279	0.372	/
		State1		0	26865	831.5	36	MID	0.15	0.237	21.00	22.00	1.259	0.298	/
		State1	Right Tilt	0	26865	831.5	1	MID	0.17	0.268	21.93	23.00	1.279	0.343	/
		State1		0	26865	831.5	36	MID	-0.10	0.222	21.00	22.00	1.259	0.279	/
Body-worn&Hotspot															
WWAN BOTTOM	QPSK	Full Power	Front Side	10	26865	831.5	1	MID	0.03	0.376	21.93	23.00	1.279	0.481	/
		Full Power		10	26865	831.5	36	MID	0.02	0.309	21.00	22.00	1.259	0.389	/
		Full Power	Back Side	10	26865	831.5	1	MID	-0.01	0.459	21.93	23.00	1.279	**0.587**	14#
		Full Power		10	26865	831.5	36	MID	-0.15	0.386	21.00	22.00	1.259	0.486	/
		Full Power	Left Edge	10	26865	831.5	1	MID	-0.08	0.304	21.93	23.00	1.279	0.389	/
		Full Power		10	26865	831.5	36	MID	0.00	0.260	21.00	22.00	1.259	0.327	/
		Full Power	Right Edge	10	26865	831.5	1	MID	0.11	0.311	21.93	23.00	1.279	0.398	/
		Full Power		10	26865	831.5	36	MID	-0.03	0.267	21.00	22.00	1.259	0.336	/
		Full Power	Bottom Edge	10	26865	831.5	1	MID	-0.02	0.066	21.93	23.00	1.279	0.084	/
		Full Power		10	26865	831.5	36	MID	0.18	0.055	21.00	22.00	1.259	0.069	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.															

10.8 LTE Band 38 (20MHz Bandwidth)

Antenna	Mode	Power State	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Report SAR (W/kg)	Meas. No.
Head															
WWAN TOP	QPSK	State1	Left Cheek	0	38000	2595	1	MID	0.05	0.335	16.64	17.00	1.086	0.364	/
		State1		0	38000	2595	50	LOW	-0.03	0.328	16.48	17.00	1.127	0.370	/
		State1	Left Tilt	0	38000	2595	1	MID	-0.02	0.322	16.64	17.00	1.086	0.350	/
		State1		0	38000	2595	50	LOW	0.19	0.318	16.48	17.00	1.127	0.358	/
		State1	Right Cheek	0	38000	2595	1	MID	0.07	0.744	16.64	17.00	1.086	0.808	/
		State1		0	38000	2595	50	LOW	0.18	0.723	16.48	17.00	1.127	0.815	/
		State1	Right Tilt	0	38000	2595	1	MID	0.03	0.688	16.64	17.00	1.086	0.747	/
		State1		0	38000	2595	50	LOW	0.02	0.685	16.48	17.00	1.127	0.772	/
		State1	Right Cheek	0	37850	2580	1	MID	-0.04	0.723	16.59	17.00	1.099	0.795	/
		State1		0	38150	2610	1	MID	0.03	0.751	16.55	17.00	1.109	**0.833**	15#
		State1		0	37850	2580	50	LOW	0.14	0.711	16.36	17.00	1.159	0.824	/
		State1		0	38150	2610	50	MID	-0.12	0.708	16.43	17.00	1.140	0.807	/
		State1		0	38000	2595	100	LOW	0.16	0.714	16.45	17.00	1.135	0.810	/
Body-worn&Hotspot															
WWAN TOP	QPSK	Full Power	Front Side	10	38000	2595	1	MID	0.03	0.435	22.30	23.00	1.175	0.511	/
		Full Power		10	38000	2595	50	MID	-0.11	0.373	20.98	22.00	1.265	0.472	/
		Full Power	Back Side	10	38000	2595	1	MID	0.02	0.401	22.30	23.00	1.175	0.471	/
		Full Power		10	38000	2595	50	MID	0.05	0.344	20.98	22.00	1.265	0.435	/
		Full Power	Right Edge	10	38000	2595	1	MID	0.18	0.313	22.30	23.00	1.175	0.368	/
		Full Power		10	38000	2595	50	MID	-0.16	0.265	20.98	22.00	1.265	0.335	/
		Full Power	Top Edge	10	38000	2595	1	MID	-0.12	0.768	22.30	23.00	1.175	0.902	/
		Full Power		10	38000	2595	50	MID	-0.11	0.702	20.98	22.00	1.265	0.888	/
		Full Power	Top Edge	10	37850	2580	1	MID	0.04	0.723	22.16	23.00	1.213	0.877	/
		Full Power		10	38150	2610	1	LOW	0.12	0.780	22.25	23.00	1.189	**0.927**	16#
		Full Power		10	37850	2580	50	LOW	-0.06	0.689	20.90	22.00	1.288	0.887	/
		Full Power		10	38150	2610	50	LOW	0.07	0.705	20.91	22.00	1.285	0.906	/
		Full Power		10	38000	2595	100	LOW	-0.02	0.714	20.95	22.00	1.274	0.910	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.															

10.9 LTE Band 41 (20MHz Bandwidth)

Antenna	Mode	Power State	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Report SAR (W/kg)	Meas. No.
Head															
WWAN TOP	QPSK	State1	Left Cheek	0	40640	2595	1	MID	-0.15	0.380	16.70	17.00	1.072	0.407	/
		State1		0	40640	2595	50	LOW	-0.02	0.368	16.41	17.00	1.146	0.422	/
		State1	Left Tilt	0	40640	2595	1	MID	0.06	0.310	16.70	17.00	1.072	0.332	/
		State1		0	40640	2595	50	LOW	0.03	0.308	16.41	17.00	1.146	0.353	/
		State1	Right Cheek	0	40640	2595	1	MID	-0.14	0.781	16.70	17.00	1.072	0.837	/
		State1		0	40640	2595	50	LOW	0.11	0.748	16.41	17.00	1.146	0.857	/
		State1	Right Tilt	0	40640	2595	1	MID	-0.07	0.689	16.70	17.00	1.072	0.739	/
		State1		0	40640	2595	50	LOW	0.03	0.682	16.41	17.00	1.146	0.782	/
		State1	Right Cheek	0	40140	2545	1	MID	0.05	0.725	16.35	17.00	1.161	0.842	/
		State1		0	41140	2645	1	MID	0.08	0.885	16.60	17.00	1.096	**0.970**	17#
		State1		0	40140	2545	50	MID	-0.12	0.762	16.16	17.00	1.213	0.924	/
		State1		0	41140	2645	50	MID	0.09	0.778	16.39	17.00	1.151	0.895	/
		State1		0	40640	2595	100	LOW	0.05	0.768	16.39	17.00	1.151	0.884	/
Body-worn&Hotspot															
WWAN TOP	QPSK	Full Power	Front Side	10	40640	2595	1	MID	-0.07	0.432	22.41	23.00	1.146	0.495	/
		Full Power		10	40640	2595	50	MID	-0.08	0.384	20.94	22.00	1.276	0.490	/
		Full Power	Back Side	10	40640	2595	1	MID	-0.08	0.330	22.41	23.00	1.146	0.378	/
		Full Power		10	40640	2595	50	MID	0.09	0.286	20.94	22.00	1.276	0.365	/
		Full Power	Right Edge	10	40640	2595	1	MID	-0.18	0.229	22.41	23.00	1.146	0.262	/
		Full Power		10	40640	2595	50	MID	-0.01	0.197	20.94	22.00	1.276	0.251	/
		Full Power	Top Edge	10	40640	2595	1	MID	-0.11	0.715	22.41	23.00	1.146	0.819	/
		Full Power		10	40640	2595	50	MID	0.17	0.623	20.94	22.00	1.276	0.795	/
		Full Power	Top Edge	10	40140	2545	1	MID	-0.17	0.463	22.09	23.00	1.233	0.571	/
		Full Power		10	41140	2645	1	MID	0.04	1.020	22.39	23.00	1.151	**1.174**	18#
		Full Power		10	40140	2545	50	HIGH	-0.09	0.400	20.72	22.00	1.343	0.537	/
		Full Power		10	41140	2645	50	MID	-0.18	0.882	20.78	22.00	1.324	1.168	/
		Full Power		10	40640	2595	100	LOW	0.09	0.593	20.90	22.00	1.288	0.764	/

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

10.10 WIFI 2.4GHz

Mode	Antenna	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	Duty cycle (%)	Duty cycle Factor	1g Report SAR (W/kg)	Meas. No.
Head														
802.11 b	WIFI	Left Cheek	0	11	2462	0.04	0.294	12.76	13.00	1.057	99.46	1.005	0.312	/
		Left Tilt	0	11	2462	-0.11	0.163	12.76	13.00	1.057	99.46	1.005	0.173	/
		Right Cheek	0	11	2462	-0.14	0.171	12.76	13.00	1.057	99.46	1.005	0.182	/
		Right Tilt	0	11	2462	0.15	0.126	12.76	13.00	1.057	99.46	1.005	0.134	/
		Left Cheek	0	1	2412	-0.02	0.360	12.64	13.00	1.086	99.46	1.005	**0.393**	19#
		Left Cheek	0	6	2437	-0.16	0.291	12.49	13.00	1.125	99.46	1.005	0.329	/
Body-worn&Hotspot														
802.11 b	WIFI	Front Side	10	11	2462	0.17	0.076	12.76	13.00	1.057	99.46	1.005	0.081	/
		Back Side	10	11	2462	0.09	0.069	12.76	13.00	1.057	99.46	1.005	0.073	/
		Left Edge	10	11	2462	-0.18	0.020	12.76	13.00	1.057	99.46	1.005	0.021	/
		Top Edge	10	11	2462	0.00	0.058	12.76	13.00	1.057	99.46	1.005	0.062	/
		Front Side	10	1	2412	0.07	0.093	12.64	13.00	1.086	99.46	1.005	**0.102**	20#
		Front Side	10	6	2437	0.06	0.074	12.49	13.00	1.125	99.46	1.005	0.084	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.11 WIFI 5GHz

Band	Mode	Antenna	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	Duty cycle (%)	Duty cycle Factor	1g Report SAR (W/kg)	Meas. No.
Head															
5.3G	802.11a	WIFI	Left Cheek	0	60	5300	0.03	0.344	11.66	12.00	1.081	96.87	1.032	0.384	/
			Left Tilt	0	60	5300	0.05	0.263	11.66	12.00	1.081	96.87	1.032	0.293	/
			Right Cheek	0	60	5300	-0.12	0.175	11.66	12.00	1.081	96.87	1.032	0.195	/
			Right Tilt	0	60	5300	-0.06	0.167	11.66	12.00	1.081	96.87	1.032	0.186	/
			Left Cheek	0	52	5260	0.14	0.365	11.40	12.00	1.148	96.87	1.032	0.432	/
			Left Cheek	0	64	5320	-0.19	0.407	11.42	12.00	1.143	96.87	1.032	**0.480**	21#
5.6G	802.11a	WIFI	Left Cheek	0	100	5500	-0.03	0.560	12.24	13.00	1.191	96.87	1.032	**0.688**	22#
			Left Tilt	0	100	5500	-0.02	0.421	12.24	13.00	1.191	96.87	1.032	0.517	/
			Right Cheek	0	100	5500	0.05	0.321	12.24	13.00	1.191	96.87	1.032	0.395	/
			Right Tilt	0	100	5500	0.14	0.309	12.24	13.00	1.191	96.87	1.032	0.380	/
			Left Cheek	0	116	5580	0.06	0.481	11.68	13.00	1.355	96.87	1.032	0.673	/
			Left Cheek	0	140	5700	-0.17	0.468	12.03	13.00	1.250	96.87	1.032	0.604	/
5.8G	802.11a	WIFI	Left Cheek	0	149	5745	0.09	0.352	12.07	13.00	1.239	96.87	1.032	**0.450**	23#
			Left Tilt	0	149	5745	0.16	0.279	12.07	13.00	1.239	96.87	1.032	0.357	/
			Right Cheek	0	149	5745	-0.17	0.187	12.07	13.00	1.239	96.87	1.032	0.239	/
			Right Tilt	0	149	5745	-0.18	0.188	12.07	13.00	1.239	96.87	1.032	0.240	/
			Left Cheek	0	157	5785	0.09	0.311	11.88	13.00	1.294	96.87	1.032	0.415	/
			Left Cheek	0	165	5825	-0.13	0.315	11.85	13.00	1.303	96.87	1.032	0.424	/
Body-worn															
5.3G	802.11a	WIFI	Front Side	10	60	5300	-0.13	0.165	11.66	12.00	1.081	96.87	1.032	0.184	/
			Back Side	10	60	5300	-0.07	0.185	11.66	12.00	1.081	96.87	1.032	**0.206**	24#
5.6G	802.11a	WIFI	Front Side	10	100	5500	0.08	0.223	12.24	13.00	1.191	96.87	1.032	0.274	/
			Back Side	10	100	5500	0.00	0.245	12.24	13.00	1.191	96.87	1.032	**0.301**	25#
Hotspot															
5.2G	802.11a	WIFI	Front Side	10	36	5180	-0.05	0.116	10.86	11.00	1.033	96.87	1.032	0.124	/
			Back Side	10	36	5180	0.12	0.117	10.86	11.00	1.033	96.87	1.032	0.125	/
			Left Edge	10	36	5180	-0.01	0.226	10.86	11.00	1.033	96.87	1.032	**0.241**	26#
			Top Edge	10	36	5180	0.16	0.178	10.86	11.00	1.033	96.87	1.032	0.190	/
5.8G	802.11a	WIFI	Front Side	10	149	5745	-0.13	0.116	12.07	13.00	1.239	96.87	1.032	0.148	/
			Back Side	10	149	5745	0.01	0.191	12.07	13.00	1.239	96.87	1.032	**0.244**	27#
			Left Edge	10	149	5745	-0.07	0.155	12.07	13.00	1.239	96.87	1.032	0.198	/
			Top Edge	10	149	5745	-0.13	0.188	12.07	13.00	1.239	96.87	1.032	0.240	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.															

Band	Mode	Antenna	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	10 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	Duty cycle (%)	Duty cycle Factor	10g Report SAR (W/kg)	Meas. No.
Specific															
5.3G	802.11a	WIFI	Front Side	0	60	5300	0.03	0.242	11.66	12.00	1.081	96.87	1.032	0.270	/
			Back Side	0	60	5300	0.05	0.433	11.66	12.00	1.081	96.87	1.032	0.483	/
			Left Edge	0	60	5300	0.08	0.467	11.66	12.00	1.081	96.87	1.032	**0.521**	28#
			Top Edge	0	60	5300	0.07	0.221	11.66	12.00	1.081	96.87	1.032	0.247	/
5.6G	802.11a	WIFI	Front Side	0	100	5500	-0.14	0.245	12.24	13.00	1.191	96.87	1.032	0.301	/
			Back Side	0	100	5500	0.08	0.472	12.24	13.00	1.191	96.87	1.032	**0.580**	29#
			Left Edge	0	100	5500	0.05	0.408	12.24	13.00	1.191	96.87	1.032	0.501	/
			Top Edge	0	100	5500	0.02	0.293	12.24	13.00	1.191	96.87	1.032	0.360	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.															

10.12 Bluetooth

Mode	Antenna	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 (%)	Duty cycle Factor	1g Report SAR (W/kg)	Meas. No.
Head														
Bluetooth	Bluetooth	Left Cheek	0	39	2441	0.06	0.108	9.09	10.0	1.233	76.68	1.304	**0.174**	30#
		Left Tilt	0	39	2441	0.09	0.055	9.09	10.0	1.233	76.68	1.304	0.088	/
		Right Cheek	0	39	2441	-0.10	0.058	9.09	10.0	1.233	76.68	1.304	0.093	/
		Right Tilt	0	39	2441	-0.18	0.064	9.09	10.0	1.233	76.68	1.304	0.103	/
Body-worn&Hotspot														
Bluetooth	Bluetooth	Front Side	10	39	2441	0.05	0.022	9.09	10.0	1.233	76.68	1.304	0.035	/
		Back Side	10	39	2441	0.01	0.025	9.09	10.0	1.233	76.68	1.304	**0.040**	31#
		Left Edge	10	39	2441	-0.03	0.018	9.09	10.0	1.233	76.68	1.304	0.029	/
		Top Edge	10	39	2441	-0.05	0.011	9.09	10.0	1.233	76.68	1.304	0.018	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.13 NFC SAR

1. According to the 2022.04 TCBC Workshop meeting, the power threshold is ≤ 100MHz, refer to P6s.

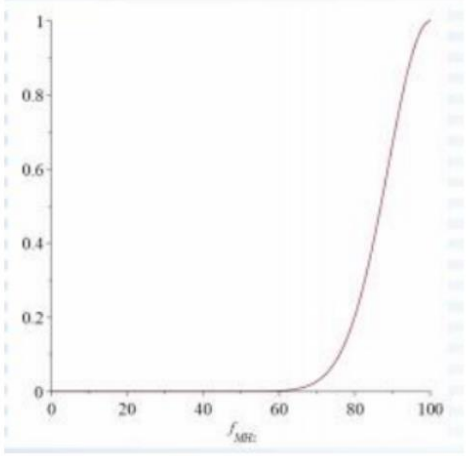
$$P_{7X}(d_{mm}, f_{MHz}) := \begin{cases} P_{6S}(d_{mm}, f_{MHz}) & f_{MHz} \le 100 \\ P_{6to7}(d_{mm}, f_{MHz}) & 100 < f_{MHz} \le 300 \\ P_{7}(d_{mm}, f_{MHz}) & 300 < f_{MHz} \end{cases}$$

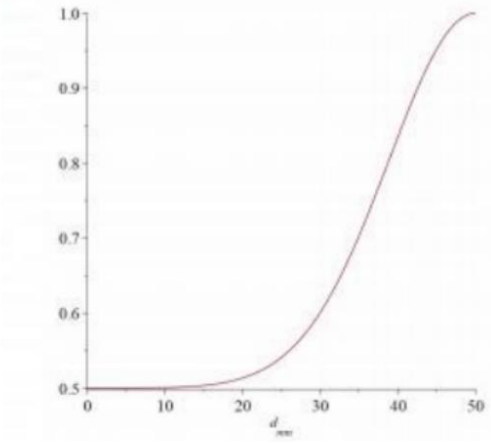
2. For portable products, when using a distance of ≤ 50mm, such as mobile phone NFC, P6s is calculated with the following formula calculate.

$$S_f(f_{MHz}) \cdot P_{431a}(d_{mm}, f_{MHz}) + (1 - S_f(f_{MHz})) \cdot S_d(d_{mm}) P_{431b1}(50., 100.) \cdot \left(1. + log10\left(\frac{100.}{f_{MHz}}\right)\right) \qquad d_{mm} \le 50 \text{ and } f_{MHz} \le 100$$

3. The smoothing functions Sf and Sd in P6s calculate the limits based on KDB 447498 V06 and are calculated as follows.

$$S_f(f_{MHz}) := exp\left(-10\frac{(f_{MHz} - f_{max})^2}{\Delta f^2}\right) \qquad S_d(d_{mm}) := 0.5 + 0.5 \cdot exp\left(-10\frac{(d_{mm} - d_{max})^2}{\Delta d^2}\right)$$





d≤50mm				
f Max(MHz)	100		d Max(mm)	50
f MHz	13.56		d(mm)	5
△f(MHz)	100		△d	50
$S_f(f_{MHz})$	0.000568861		S_d（dmm）	0.50015177
P6s(mW)	443.1257378			
Note: SAR testing is required when the distance is 5mm and the power is greater than 443.13mW.				

4. According to the ANSI C63.10 clause 11.12.2.2：

The value of maximum peak output power is according to the method described in ANSI C63.10 clause 11.12.2.2 General procedure for conducted measurements in restricted bands:

a) Measure the conducted output power (in dBm) using the detector specified (see guidance regarding measurement procedures for determining quasi-peak, peak, and average conducted output power, respectively).

b) Add the maximum transmit antenna gain (in dBi) to the measured output power level to determine the ERP level (see guidance on determining the applicable antenna gain)

c) Add the appropriate maximum ground reflection factor to the EIRP level (6 dB for frequencies ≤ 30 MHz, 4.7 dB for frequencies between 30 MHz and 1000 MHz, inclusive and 0 dB for frequencies > 1000 MHz).

d) For devices with multiple antenna-ports, measure the power of each individual chain and sum the ERP of all chains in linear terms (e.g., Watts, mW).

e) Convert the resultant ERP level to an equivalent electric field strength using the following relationship: E = EIRP - 20log D + 104.8

where:

E = electric field strength in dBμV/m,

ERP = equivalent isotropic radiated power in dBm

D = specified measurement distance in meters.

Mode	f (MHz)	Max. E-Field strength (dBuV/m)	D (m)	Ground reflection factor (dB)	EIRP (dBm)
NFC (13.56MHz)	13.56	55.94	3	6	-33.32
Note: 1. Add the appropriate maximum ground reflection factor to the EIRP level (6 dB for frequencies ≤ 30 MHz). 2.EIRP= 55.94+20*Log(3) - 104.8 + 6 =-33.32 (dBm)					

According to the FCC KDB 447498 D04

Estimated SAR: SAR test =1.6 · Pant / Pth [W/kg]

Estimated SAR	1.6 ·Pant / Pth [W/kg]		
Pmeas.(dBm)	-33.32	Pmeas.(mW)	0.0005
Pth.(mW)	443.13		
NFC Estimated 1g SAR [W/kg]	＜0.001		

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 ≤ 1.45 W/kg and the ratio of these highest SAR values, i.e., largest divided by smallest value, is ≤ 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 >= 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 >= 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 >= 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^{1th} Measured SAR (W/kg)	Largest to Smallest SAR Radio
2600	LTE band 7	Head	Right Cheek	0.840	Yes	0.815	1.03
2600	LTE band 7	Body	Top Edge	0.916	Yes	0.905	1.01
2600	LTE band 41	Head	Right Cheek	0.885	Yes	0.856	1.03
2600	LTE band 41	Body	Top Edge	1.020	Yes	0.995	1.03
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.							

Note: For product specific 10g SAR, the highest measured 10g SAR is 0.61 < 2.0 W/kg, 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	Limb
1	WWAN + WIFI2.4G	Yes	Yes	Yes	Yes
2	WWAN + WIFI5G	Yes	Yes	Yes	Yes
3	WWAN + Bluetooth	Yes	Yes	Yes	Yes
4	WIFI5G + Bluetooth	Yes	Yes	Yes	Yes

Note:

1. Two WWAN antennas can switch automatically, but two WWAN antenna can't transmit simultaneously.
2. When stand-alone SAR is not required for a side of antenna, its SAR is considered zero in the SAR summing process to assess Multi-band transmission SAR compliance.
3. 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 Mode and 2.4G WLAN or 5G WLAN and BT

Band	Position	Stand alone SAR				SUM SAR			
		1	2	3	4	1+2	1+3	1+4	3+4
		WWAN	2.4G WIFI	5G WIFI Max .	Bluetooth	WWAN+2.4G WIFI	WWAN+5G WIFI	WWAN+BT	5G WIFI+BT
GSM850	Left Cheek	0.572	0.393	0.689	0.174	0.965	1.261	0.746	0.863
GSM850	Left Tilt	0.435	0.173	0.518	0.089	0.608	0.953	0.524	0.607
GSM850	Right Cheek	0.414	0.182	0.395	0.093	0.596	0.809	0.507	0.488
GSM850	Right Tilt	0.471	0.134	0.380	0.103	0.605	0.851	0.574	0.483
WCDMA B5	Left Cheek	0.408	0.393	0.689	0.174	0.801	1.097	0.582	0.863
WCDMA B5	Left Tilt	0.347	0.173	0.518	0.089	0.520	0.865	0.436	0.607
WCDMA B5	Right Cheek	0.378	0.182	0.395	0.093	0.560	0.773	0.471	0.488
WCDMA B5	Right Tilt	0.370	0.134	0.380	0.103	0.504	0.750	0.473	0.483
LTE B5	Left Cheek	0.405	0.393	0.689	0.174	0.798	1.094	0.579	0.863
LTE B5	Left Tilt	0.336	0.173	0.518	0.089	0.509	0.854	0.425	0.607
LTE B5	Right Cheek	0.386	0.182	0.395	0.093	0.568	0.781	0.479	0.488
LTE B5	Right Tilt	0.349	0.134	0.380	0.103	0.483	0.729	0.452	0.483
LTE B7	Left Cheek	0.472	0.393	0.689	0.174	0.865	1.161	0.646	0.863
LTE B7	Left Tilt	0.446	0.173	0.518	0.089	0.619	0.964	0.535	0.607
LTE B7	Right Cheek	0.917	0.182	0.395	0.093	1.099	1.312	1.010	0.488
LTE B7	Right Tilt	0.750	0.134	0.380	0.103	0.884	1.130	0.853	0.483
LTE B12	Left Cheek	0.276	0.393	0.689	0.174	0.669	0.965	0.450	0.863
LTE B12	Left Tilt	0.167	0.173	0.518	0.089	0.340	0.685	0.256	0.607
LTE B12	Right Cheek	0.240	0.182	0.395	0.093	0.422	0.635	0.333	0.488
LTE B12	Right Tilt	0.166	0.134	0.380	0.103	0.300	0.546	0.269	0.483
LTE B13	Left Cheek	0.383	0.393	0.689	0.174	0.776	1.072	0.557	0.863
LTE B13	Left Tilt	0.312	0.173	0.518	0.089	0.485	0.830	0.401	0.607
LTE B13	Right Cheek	0.356	0.182	0.395	0.093	0.538	0.751	0.449	0.488
LTE B13	Right Tilt	0.334	0.134	0.380	0.103	0.468	0.714	0.437	0.483
LTE B26	Left Cheek	0.397	0.393	0.689	0.174	0.790	1.086	0.571	0.863
LTE B26	Left Tilt	0.316	0.173	0.518	0.089	0.489	0.834	0.405	0.607
LTE B26	Right Cheek	0.373	0.182	0.395	0.093	0.555	0.768	0.466	0.488
LTE B26	Right Tilt	0.342	0.134	0.380	0.103	0.476	0.722	0.445	0.483
LTE B38	Left Cheek	0.370	0.393	0.689	0.174	0.763	1.059	0.544	0.863
LTE B38	Left Tilt	0.358	0.173	0.518	0.089	0.531	0.876	0.447	0.607
LTE B38	Right Cheek	0.833	0.182	0.395	0.093	1.015	1.228	0.926	0.488
LTE B38	Right Tilt	0.772	0.134	0.380	0.103	0.906	1.152	0.875	0.483
LTE B41	Left Cheek	0.422	0.393	0.689	0.174	0.815	1.111	0.596	0.863
LTE B41	Left Tilt	0.353	0.173	0.518	0.089	0.526	0.871	0.442	0.607
LTE B41	Right Cheek	0.970	0.182	0.395	0.093	1.152	**1.365**	1.063	0.488

LTE B41	Right Tilt	0.781	0.134	0.380	0.103	0.915	1.161	0.884	0.483
Note: The highest Summed 1g SAR is 1.365 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 Mode and 2.4G WLAN or 5G WLAN and BT

Band	Position	Stand alone SAR				SUM SAR			
		1	2	3	4	1+2	1+3	1+4	3+4
		WWAN	2.4G WIFI	5G WIFI Max	Bluetooth	WWAN+2.4G WIFI	WWAN+5G WIFI	WWAN+BT	5G WIFI+BT
GSM850	Front Side 10mm	0.632	0.102	0.274	0.035	0.734	0.906	0.667	0.309
GSM850	Back Side 10mm	0.812	0.074	0.301	0.040	0.886	**1.113**	0.852	0.341
WCDMA B5	Front Side 10mm	0.645	0.102	0.274	0.035	0.747	0.919	0.680	0.309
WCDMA B5	Back Side 10mm	0.721	0.074	0.301	0.040	0.795	1.022	0.761	0.341
LTE B5	Front Side 10mm	0.470	0.102	0.274	0.035	0.572	0.744	0.505	0.309
LTE B5	Back Side 10mm	0.562	0.074	0.301	0.040	0.636	0.863	0.602	0.341
LTE B7	Front Side 10mm	0.645	0.102	0.274	0.035	0.747	0.919	0.680	0.309
LTE B7	Back Side 10mm	0.579	0.074	0.301	0.040	0.653	0.880	0.619	0.341
LTE B12	Front Side 10mm	0.346	0.102	0.274	0.035	0.448	0.620	0.381	0.309
LTE B12	Back Side 10mm	0.452	0.074	0.301	0.040	0.526	0.753	0.492	0.341
LTE B13	Front Side 10mm	0.532	0.102	0.274	0.035	0.634	0.806	0.567	0.309
LTE B13	Back Side 10mm	0.606	0.074	0.301	0.040	0.680	0.907	0.646	0.341
LTE B26	Front Side 10mm	0.481	0.102	0.274	0.035	0.583	0.755	0.516	0.309
LTE B26	Back Side 10mm	0.587	0.074	0.301	0.040	0.661	0.888	0.627	0.341
LTE B38	Front Side 10mm	0.511	0.102	0.274	0.035	0.613	0.785	0.546	0.309
LTE B38	Back Side 10mm	0.471	0.074	0.301	0.040	0.545	0.772	0.511	0.341
LTE B41	Front Side 10mm	0.495	0.102	0.274	0.035	0.597	0.769	0.530	0.309
LTE B41	Back Side 10mm	0.378	0.074	0.301	0.040	0.452	0.679	0.418	0.341
Note: The highest Summed 1g SAR is 1.113 W/Kg < 1.6 W/kg, so Simultaneous Transmission SAR test is not required.									

12.2.3 Hotspot Simultaneous Transmission SAR Evaluation for WWAN Mode and 2.4G WLAN or 5G WLAN and BT

Band	Position	Stand alone SAR				SUM SAR			
		1	2	3	4	1+2	1+3	1+4	3+4
		WWAN	2.4G WIFI	5G WIFI Max	Bluetooth	WWAN+2.4G WIFI	WWAN+5G WIFI	WWAN+BT	5G WIFI+BT
GSM850	Front Side 10mm	0.632	0.102	0.148	0.035	0.734	0.780	0.667	0.183
GSM850	Back Side 10mm	0.812	0.074	0.244	0.040	0.886	1.056	0.852	0.284
GSM850	Left Edge 10mm	0.609	0.021	0.241	0.029	0.630	0.850	0.638	0.270
WCDMA B5	Front Side 10mm	0.645	0.102	0.148	0.035	0.747	0.793	0.680	0.183
WCDMA B5	Back Side 10mm	0.721	0.074	0.244	0.040	0.795	0.965	0.761	0.284
WCDMA B5	Left Edge 10mm	0.618	0.021	0.241	0.029	0.639	0.859	0.647	0.270
LTE B5	Front Side 10mm	0.470	0.102	0.148	0.035	0.572	0.618	0.505	0.183
LTE B5	Back Side 10mm	0.562	0.074	0.244	0.040	0.636	0.806	0.602	0.284
LTE B5	Left Edge 10mm	0.403	0.021	0.241	0.029	0.424	0.644	0.432	0.270
LTE B7	Front Side 10mm	0.645	0.102	0.148	0.035	0.747	0.793	0.680	0.183
LTE B7	Back Side 10mm	0.579	0.074	0.244	0.040	0.653	0.823	0.619	0.284
LTE B7	Top Edge 10mm	1.172	0.062	0.240	0.018	1.234	1.412	1.190	0.258
LTE B12	Front Side 10mm	0.346	0.102	0.148	0.035	0.448	0.494	0.381	0.183
LTE B12	Back Side 10mm	0.452	0.074	0.244	0.040	0.526	0.696	0.492	0.284
LTE B12	Left Edge 10mm	0.267	0.021	0.241	0.029	0.288	0.508	0.296	0.270
LTE B13	Front Side 10mm	0.532	0.102	0.148	0.035	0.634	0.680	0.567	0.183
LTE B13	Back Side 10mm	0.606	0.074	0.244	0.040	0.680	0.850	0.646	0.284
LTE B13	Left Edge 10mm	0.481	0.021	0.241	0.029	0.502	0.722	0.510	0.270
LTE B26	Front Side 10mm	0.481	0.102	0.148	0.035	0.583	0.629	0.516	0.183
LTE B26	Back Side 10mm	0.587	0.074	0.244	0.040	0.661	0.831	0.627	0.284
LTE B26	Left Edge 10mm	0.389	0.021	0.241	0.029	0.410	0.630	0.418	0.270
LTE B38	Front Side 10mm	0.511	0.102	0.148	0.035	0.613	0.659	0.546	0.183
LTE B38	Back Side 10mm	0.471	0.074	0.244	0.040	0.545	0.715	0.511	0.284
LTE B38	Top Edge 10mm	0.927	0.062	0.240	0.018	0.989	1.167	0.945	0.258
LTE B41	Front Side 10mm	0.495	0.102	0.148	0.035	0.597	0.643	0.530	0.183
LTE B41	Back Side 10mm	0.378	0.074	0.244	0.040	0.452	0.622	0.418	0.284
LTE B41	Top Edge 10mm	1.174	0.062	0.240	0.018	1.236	**1.414**	1.192	0.258
Note: The highest Summed 1g SAR is 1.414 W/Kg < 1.6 W/kg, so Simultaneous Transmission SAR test is not required.									

12.2.4 Highest Total Exposure Ratio of Simultaneous Transmission

NFC multi-transmit requires the use of the TER formula:

$$TER = \sum_{k=1}^{N_S}\left(\frac{SAR_k}{SAR_{\lim}}\right) + \sum_{k=1}^{N_f}\left(\frac{MPE_{field,\,k}}{MPE_{field,\,\lim}}\right)^2 + \sum_{k=1}^{N_{PD}}\left(\frac{MPE_{PD,\,k}}{MPE_{PD,\,\lim}}\right)$$

The maximum SAR value for Simultaneous Transmission is 1.365 [W/kg], . Therefore, the worst TER =(1.414+0.001)/1.6 = 0.884＜1,the NFC SAR transmit simultaneously Pass.

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	2024/05/17
1750MHz Validation Dipole	Speag	D1750V2	SN: 1130	2021/05/17	2024/05/17
1900MHz Validation Dipole	Speag	D1900V2	SN: 5d193	2021/05/20	2024/05/20
2450MHz Validation Dipole	Speag	D2450V2	SN: 952	2021/05/19	2024/05/19
2600MHz Validation Dipole	Speag	D2600V2	SN: 1095	2021/05/19	2024/05/19
5GHz Validation Dipole	Speag	D5GHzV2	SN: 1200	2021/05/18	2024/05/17
E-Field Probe	Speag	EX3DV4	SN: 7510	2023/01/19	2024/01/18
Data Acquisition Electronicsr	Speag	DAE4	SN: 1710	2023/01/30	2024/01/29
Signal Generator	R&S	SMB100A	182396	2023/09/05	2024/09/04
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-4	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: 1859	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. (℃)	Meas. Conductivity (σ) (S/m)	Meas. Permittivity (ε)	Target Conductivity (σ) (S/m)	Target Permittivity (ε)	Conductivity Tolerance (%)	Permittivity Tolerance (%)
2023.11.12	Head	750	21.3	0.91	41.88	0.89	41.94	2.25	-0.14
2023.11.13	Head	835	21.1	0.90	41.67	0.90	41.50	0.00	0.41
2023.11.14	Head	835	21.4	0.90	41.72	0.90	41.50	0.00	0.53
2023.11.18	Head	2450	21.9	1.80	39.51	1.80	39.20	0.00	0.79
2023.11.19	Head	5250	21.6	4.71	35.94	4.71	35.93	0.00	0.03
2023.11.20	Head	5600	21.5	5.05	35.32	5.07	35.53	-0.39	-0.59
2023.11.21	Head	5750	21.5	5.17	35.55	5.22	35.36	-0.96	0.54
2023.11.22	Head	2600	21.9	1.97	38.54	1.96	39.01	0.51	-1.20
2023.11.23	Head	2600	21.6	1.97	38.63	1.96	39.01	0.51	-0.97
Note: The tolerance limit of Conductivity and Permittivity is± 5%.									

ANNEX B SYSTEM CHECK RESULT

Comparing to the original SAR value provided by SPEAG, the validation data should be within itsspecification 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 (%)
2023.11.12	Head	750	100	0.82	8.17	8.51	-4.00
2023.11.13	Head	835	100	0.90	9.02	9.76	-7.58
2023.11.14	Head	835	100	0.96	9.57	9.76	-1.95
2023.11.18	Head	2450	100	5.06	50.60	53.00	-4.53
2023.11.19	Head	5250	100	7.81	78.10	77.80	0.00
2023.11.20	Head	5600	100	8.20	82.00	81.20	0.01
2023.11.21	Head	5750	100	8.27	82.70	77.20	0.07
2023.11.22	Head	2600	100	5.70	57.00	56.80	0.35
2023.11.23	Head	2600	100	5.99	59.90	56.80	5.46
Note: The tolerance limit of System validation ±10%.							

Head liquid 10g

Date	Freq. (MHz)	Power (mW)	Measured SAR (W/kg)	Normalized SAR (W/kg)	Dipole SAR (W/kg)	Tolerance (%)
2023.11.19	5250	100	2.14	21.40	22.10	-0.03
2023.11.20	5600	100	2.19	21.90	23.10	-0.05
Note: The tolerance limit of System validation ±10%.						

System Performance Check Data (750MHz)

Date: 2023.11.12

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

Medium parameters used (extrapolated): f = 750 MHz; σ = 0.906 S/m; ε_r = 41.88; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.7℃ Liquid Temperature:21.3℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(10.4, 10.4, 10.4); Calibrated: 2023.01.19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CW 750 100mW/Area Scan (61x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.871 W/kg

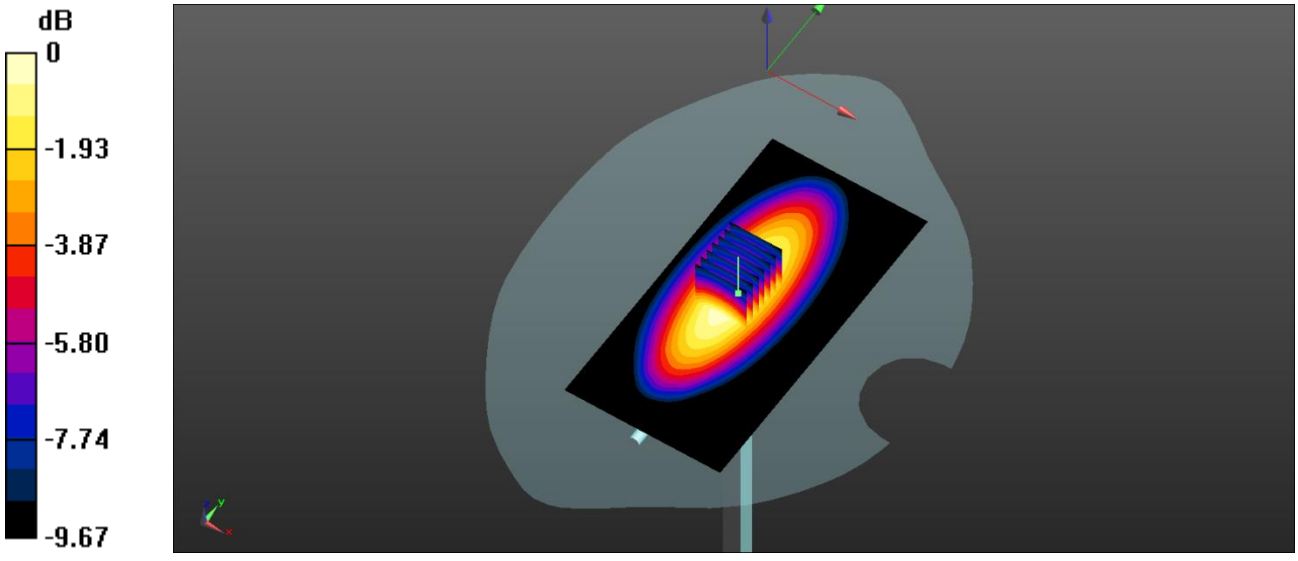
CW 750 100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 29.97 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.18 W/kg

SAR(1 g) = 0.817 W/kg; SAR(10 g) = 0.547 W/kg

Maximum value of SAR (measured) = 0.881 W/kg



0 dB = 0.881 W/kg

System Performance Check Data (835MHz)

Date: 2023.11.13

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

Medium parameters used: f = 835 MHz; σ = 0.902 S/m; ε_r = 41.665; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.4℃ Liquid Temperature:21.1℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(9.97, 9.97, 9.97); Calibrated: 2023.01.19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CW835 HEAD 100mW/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.971 W/kg

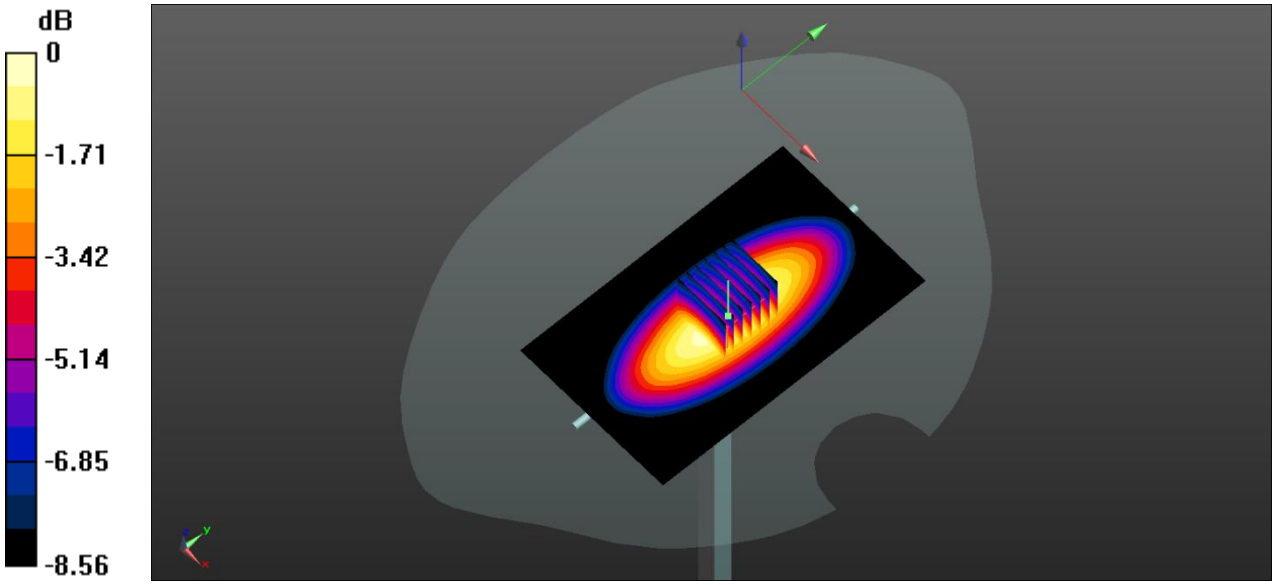
CW835 HEAD 100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 31.01 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 1.21 W/kg

SAR(1 g) = 0.902 W/kg; SAR(10 g) = 0.624 W/kg

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



0 dB = 0.975 W/kg

System Performance Check Data (835MHz)

Date: 2023.11.14

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

Medium parameters used: f = 835 MHz; σ = 0.899 S/m; ε_r = 41.718; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.4℃ Liquid Temperature:21.4℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(9.97, 9.97, 9.97); Calibrated: 2023.01.19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics:DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CW 835-Head-100mW/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.990 W/kg

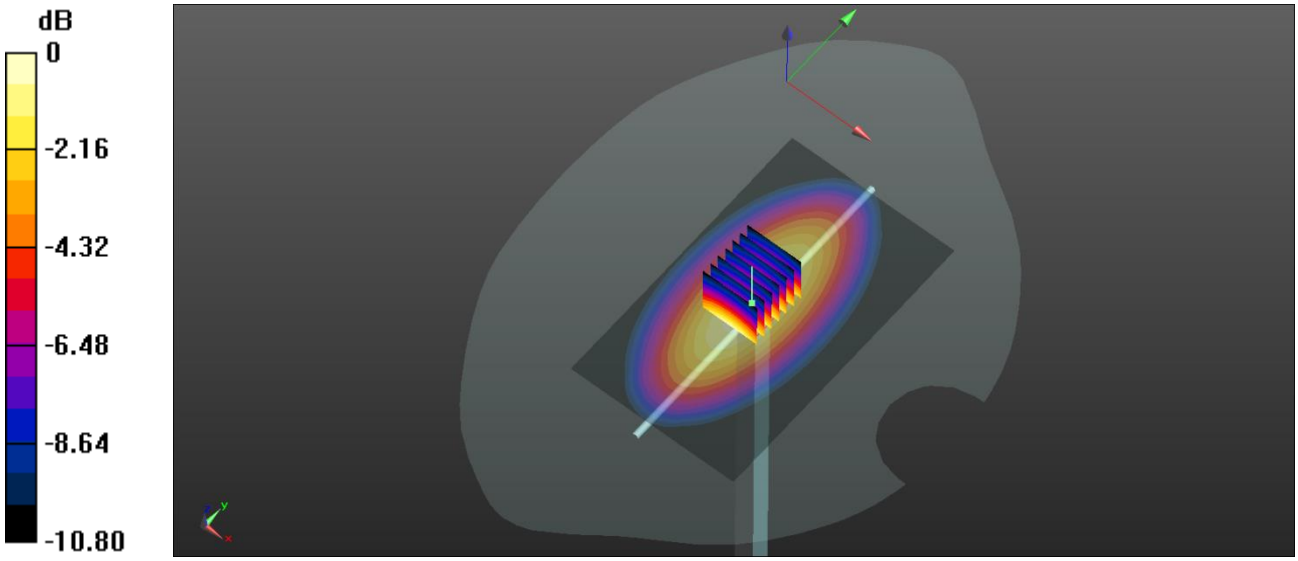
CW 835-Head-100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 34.63 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.44 W/kg

SAR(1 g) = 0.957 W/kg; SAR(10 g) = 0.619 W/kg

Maximum value of SAR (measured) = 1.04 W/kg



0 dB = 1.04 W/kg

System Performance Check Data (2450MHz)

Date: 2023.11.18

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

Medium parameters used: f = 2450 MHz; σ = 1.803 S/m; ε_r = 39.507; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.7℃ Liquid Temperature:21.9℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.78, 7.78, 7.78); Calibrated: 2023.01.19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CW2450 HEAD 100mw/Area Scan (101x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

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

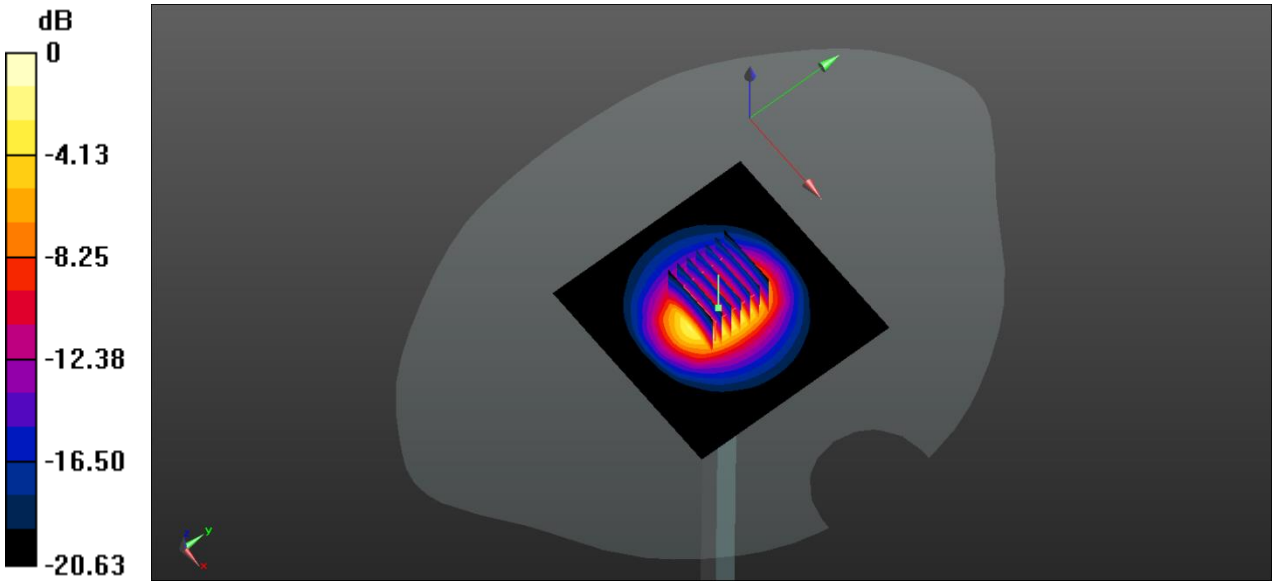
CW2450 HEAD 100mw/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 56.72 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 11.1 W/kg

SAR(1 g) = 5.06 W/kg; SAR(10 g) = 2.29 W/kg

Maximum value of SAR (measured) = 5.73 W/kg



0 dB = 5.73 W/kg

System Performance Check Data (2600MHz)

Date: 2023.11.22

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

Medium parameters used (interpolated): f = 2600 MHz; σ = 1.968 S/m; ε_r = 38.541; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.9℃ Liquid Temperature:21.9℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.6, 7.6, 7.6); Calibrated: 2023.01.19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CW 2600 100mW /Area Scan (101x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 6.56 W/kg

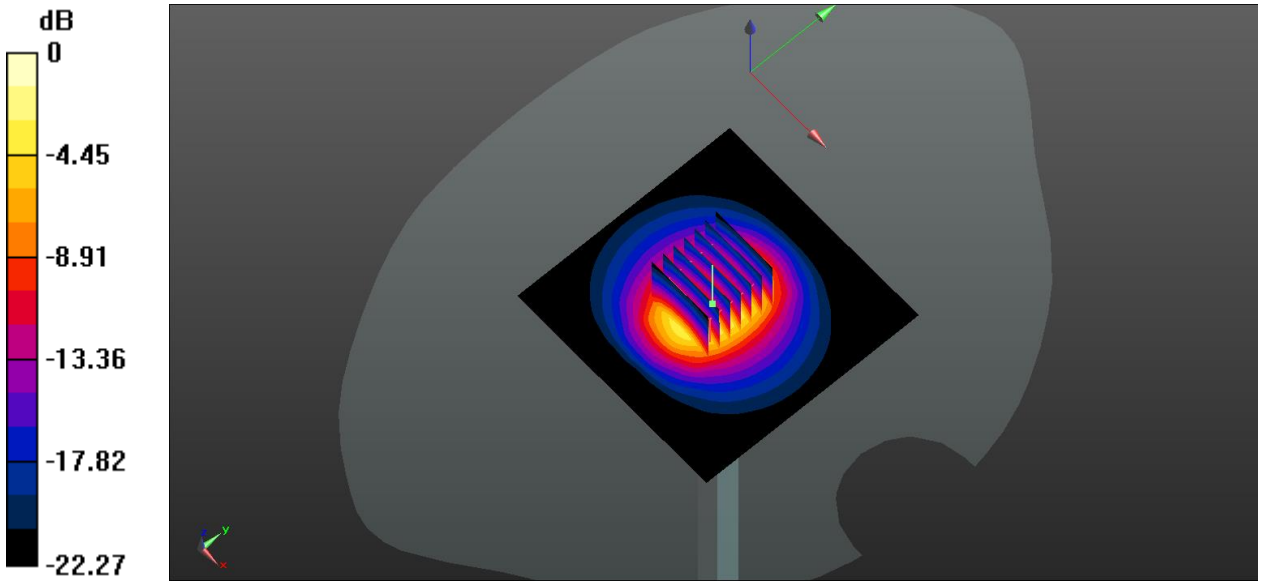
CW 2600 100mW /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 57.58 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 13.2 W/kg

SAR(1 g) = 5.7 W/kg; SAR(10 g) = 2.49 W/kg

Maximum value of SAR (measured) = 6.50 W/kg



0 dB = 6.50 W/kg

System Performance Check Data (2600MHz)

Date: 2023.11.23

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

Medium parameters used (extrapolated): f = 2600 MHz; σ = 1.971 S/m; ε_r = 38.627; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.5℃ Liquid Temperature:21.6℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.6, 7.6, 7.6); Calibrated: 2023.01.19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CW2600 Head 100mw/Area Scan (101x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 6.89 W/kg

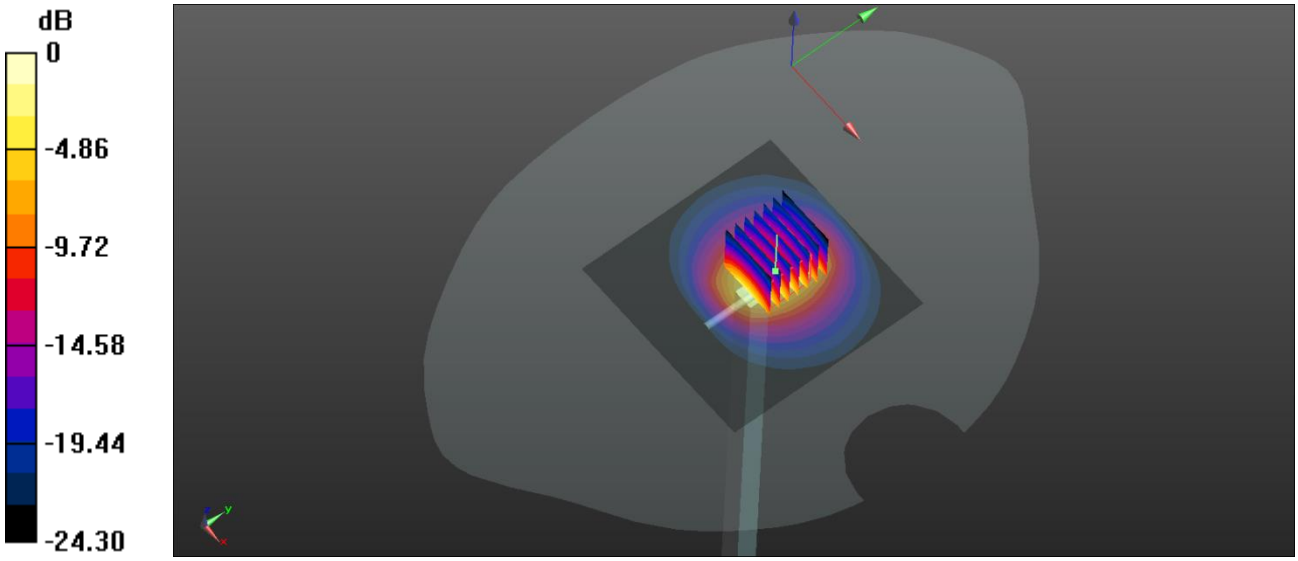
CW2600 Head 100mw/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 49.25 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 13.9 W/kg

SAR(1 g) = 5.99 W/kg; SAR(10 g) = 2.59 W/kg

Maximum value of SAR (measured) = 6.82 W/kg



0 dB = 6.82 W/kg

System Performance Check Data (5250MHz)

Date: 2023.11.19

Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5250 MHz;Duty Cycle: 1:1

Medium parameters used: f = 5250 MHz; σ = 4.705 S/m; ε_r = 35.939; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.7℃ Liquid Temperature:21.6℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(5.67, 5.67, 5.67); Calibrated: 2023.01.19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CW 5250 100mW /Area Scan (101x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 8.39 W/kg

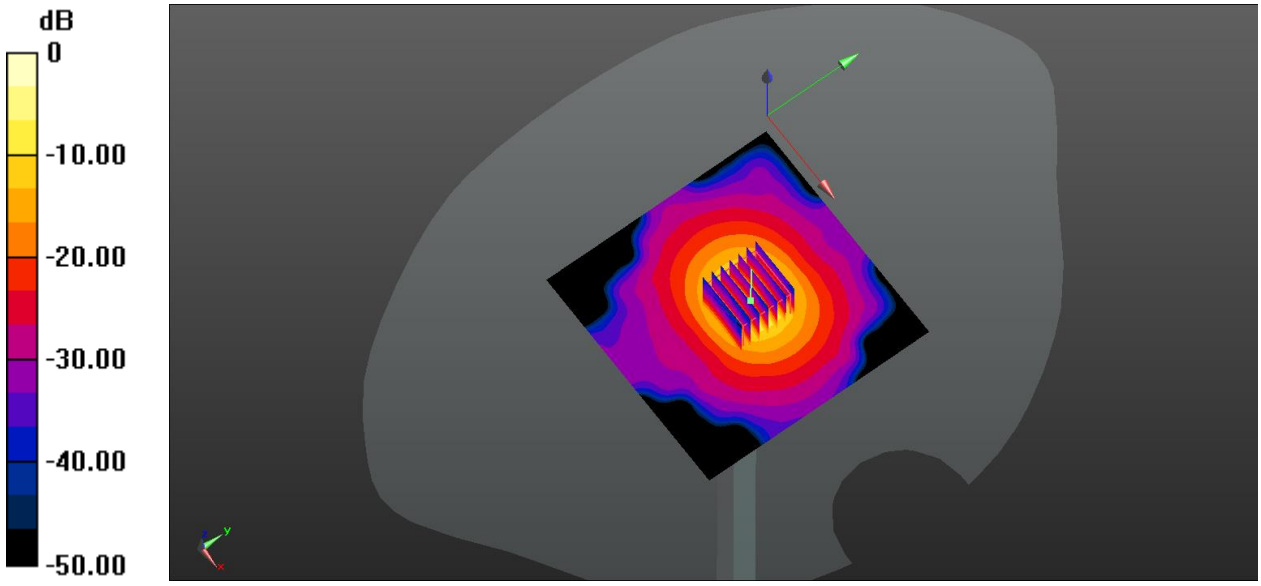
CW 5250 100mW /Zoom Scan (7x7x21)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 37.06 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 33.2 W/kg

SAR(1 g) = 7.81 W/kg; SAR(10 g) = 2.14 W/kg

Maximum value of SAR (measured) = 19.7 W/kg



0 dB = 19.7 W/kg

System Performance Check Data (5600MHz)

Date: 2023.11.20

Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5600 MHz;Duty Cycle: 1:1

Medium parameters used: f = 5600 MHz; σ = 5.05 S/m; ε_r = 35.321; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.5℃ Liquid Temperature:21.5℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(4.88, 4.88, 4.88); Calibrated: 2023.01.19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CW5600 HEAD 100mW/Area Scan (101x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 8.36 W/kg

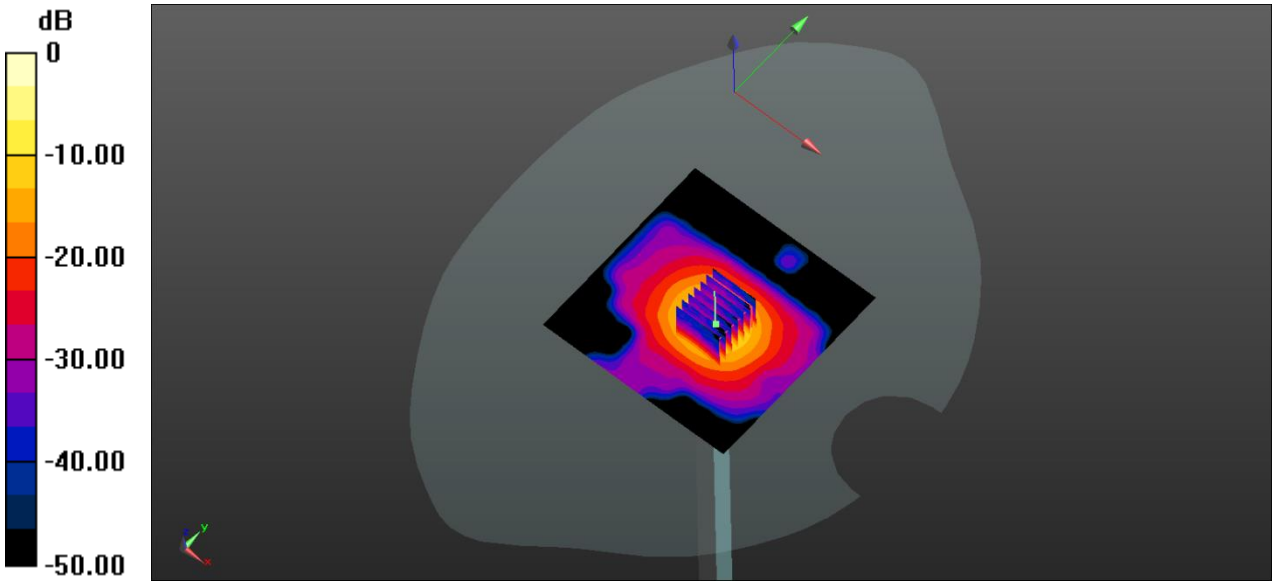
CW5600 HEAD 100mW/Zoom Scan (7x7x21)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 34.67 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 38.53 W/kg

SAR(1 g) = 8.2 W/kg; SAR(10 g) = 2.19 W/kg

Maximum value of SAR (measured) = 21.49 W/kg



0 dB = 21.49 W/kg

System Performance Check Data (5750MHz)

Date: 2023.11.21

Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5750 MHz;Duty Cycle: 1:1

Medium parameters used: f = 5750 MHz; σ = 5.174 S/m; ε_r = 35.549; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.4℃ Liquid Temperature:21.5℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(4.83, 4.83, 4.83); Calibrated: 2023.01.19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CW 5750 100mW/Area Scan (81x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 8.92 W/kg

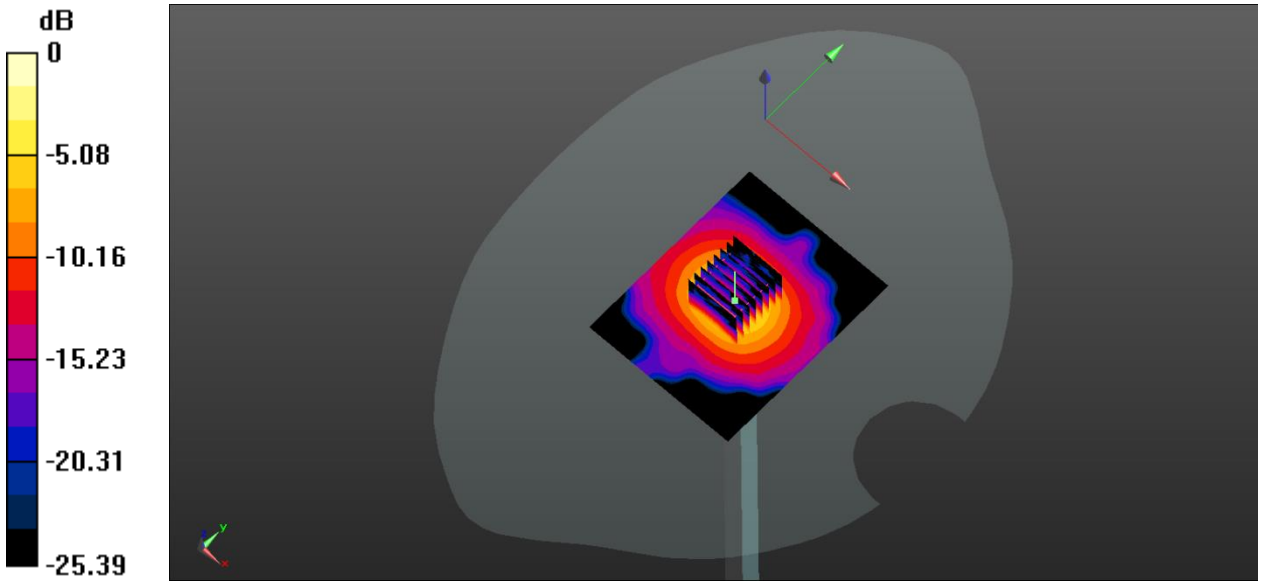
CW 5750 100mW/Zoom Scan (7x7x15)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 40.19 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 36.7 W/kg

SAR(1 g) = 8.27 W/kg; SAR(10 g) = 2.33 W/kg

Maximum value of SAR (measured) = 16.1 W/kg



0 dB = 16.1 W/kg

ANNEX C TEST DATA

Meas.1 Left Head with Cheek on Low Channel in GPRS850 2Slots Mode with Antenna WWAN BOTTOM

Date: 2023.11.13

Communication System Band: GPRS850; Frequency: 824.2 MHz;Duty Cycle: 1:4.1

Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.894 S/m; ε_r = 41.94; ρ = 1000 kg/m^3

Phantom section: Left Section

Ambient Temperature:22.4℃ Liquid Temperature:21.1℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(9.97, 9.97, 9.97); Calibrated: 2023.01.19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch128/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.472 W/kg

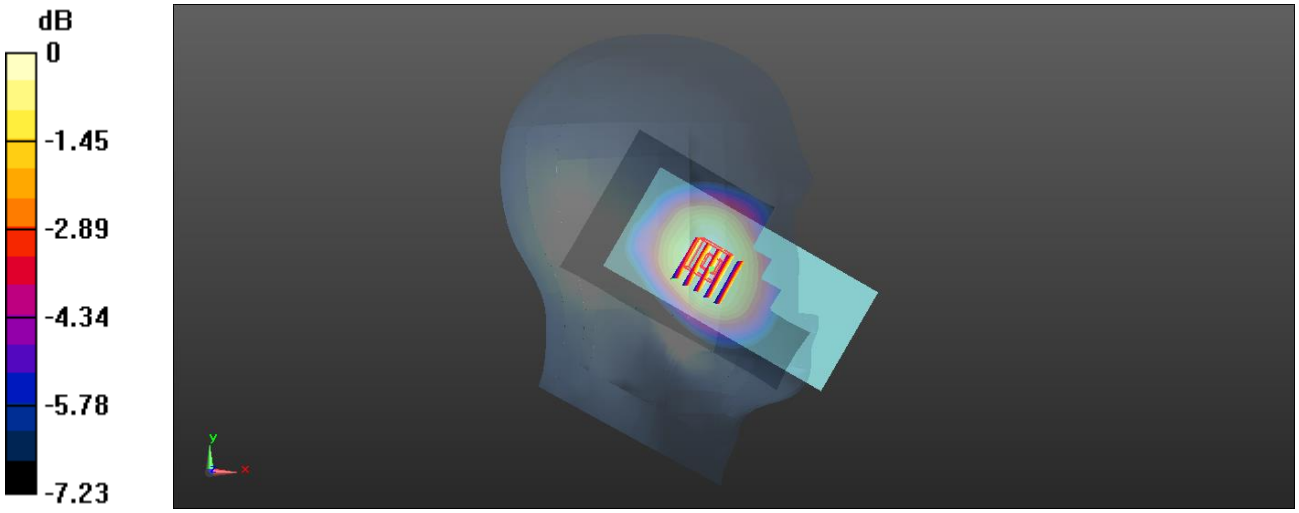
Ch128/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.901 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 0.520 W/kg

SAR(1 g) = 0.448 W/kg; SAR(10 g) = 0.367 W/kg

Maximum value of SAR (measured) = 0.467 W/kg



0 dB = 0.467 W/kg

Meas.2 Body Plane with Back 10mm on Low Channel in GPRS850 2Slots Mode with Antenna WWAN BOTTOM

Date: 2023.11.13

Communication System Band: GPRS850; Frequency: 824.2 MHz;Duty Cycle: 1:4.1

Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.894 S/m; ε_r = 41.94; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.4℃ Liquid Temperature:21.1℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(9.97, 9.97, 9.97); Calibrated: 2023.01.19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch128/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.701 W/kg

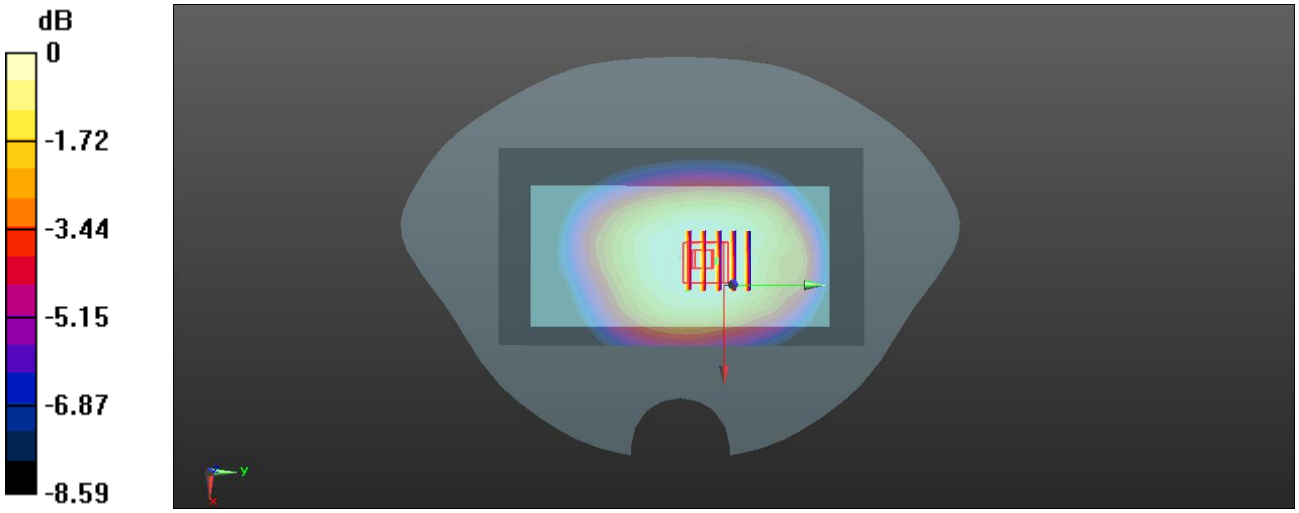
Ch128/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 26.78 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 0.759 W/kg

SAR(1 g) = 0.636 W/kg; SAR(10 g) = 0.504 W/kg

Maximum value of SAR (measured) = 0.661 W/kg



0 dB = 0.661 W/kg

Meas.3 Left Head with Cheek on Middle Channel in WCDMA Band5 Mode with Antenna WWAN BOTTOM

Date: 2023.11.13

Communication System Band: Band 5; Frequency: 836.4 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.904 S/m; ε_r = 41.605; ρ = 1000 kg/m^3

Phantom section: Left Section

Ambient Temperature:22.4℃ Liquid Temperature:21.1℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(9.97, 9.97, 9.97); Calibrated: 2023.01.19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch4182/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.374 W/kg

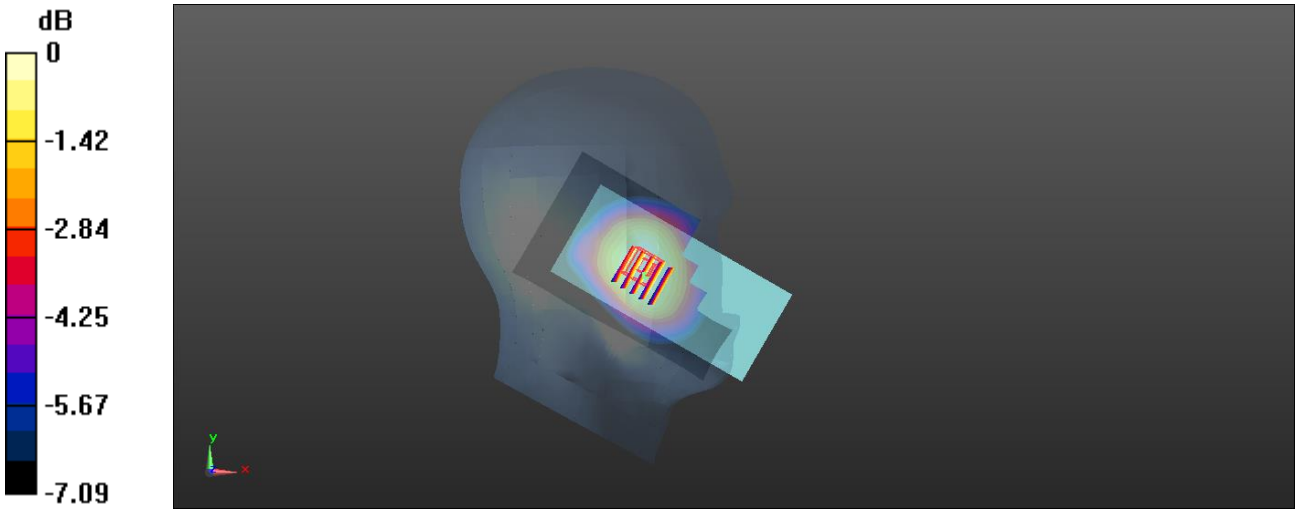
Ch4182/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.402 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.403 W/kg

SAR(1 g) = 0.357 W/kg; SAR(10 g) = 0.291 W/kg

Maximum value of SAR (measured) = 0.367 W/kg



0 dB = 0.367 W/kg

Meas.4 Body Plane with Back 10mm on Middle Channel in WCDMA Band5 Mode with Antenna WWAN BOTTOM

Date: 2023.11.13

Communication System Band: Band 5; Frequency: 836.4 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.904 S/m; ε_r = 41.605; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.4℃ Liquid Temperature:21.1℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(9.97, 9.97, 9.97); Calibrated: 2023.01.19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch4182/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.696 W/kg

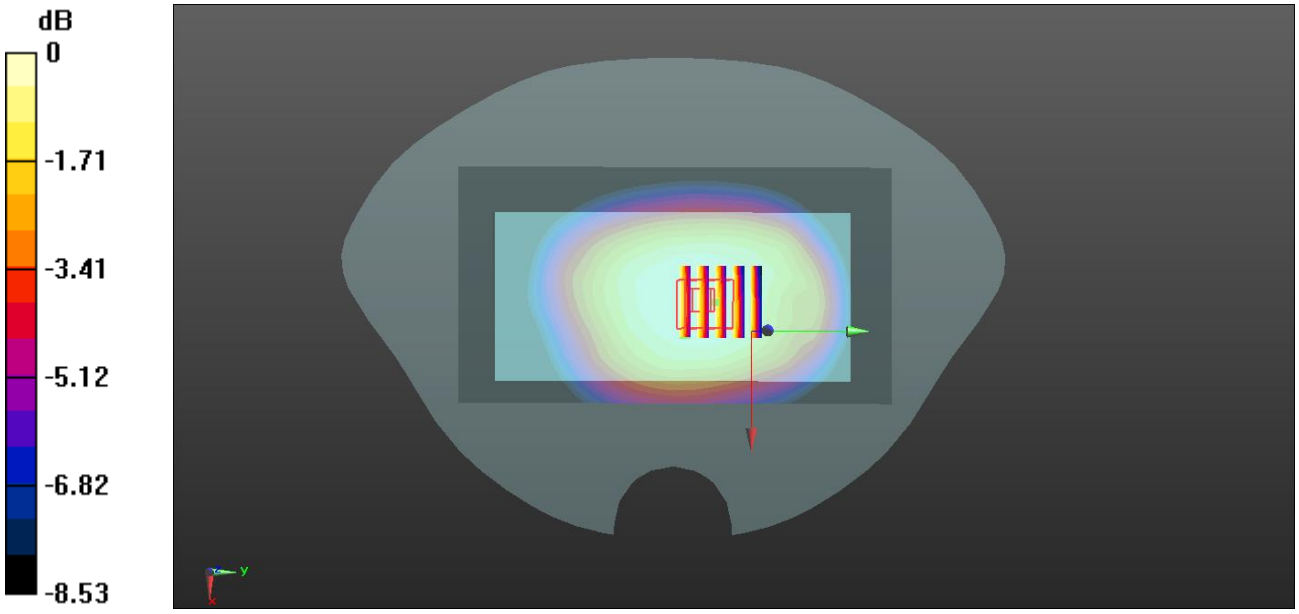
Ch4182/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 26.63 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.752 W/kg

SAR(1 g) = 0.631 W/kg; SAR(10 g) = 0.502 W/kg

Maximum value of SAR (measured) = 0.656 W/kg



0 dB = 0.656 W/kg

Meas.5 Right Head with Cheek on Low Channel in LTE Band5 Mode with Antenna WWAN BOTTOM

Date: 2023.11.14

Communication System Band: Band 5; Frequency: 829 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 829 MHz; σ = 0.895 S/m; ε_r = 41.874; ρ = 1000 kg/m^3

Phantom section: Right Section

Ambient Temperature:22.4℃ Liquid Temperature:21.4℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(9.97, 9.97, 9.97); Calibrated: 2023.01.19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics:DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch20450/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

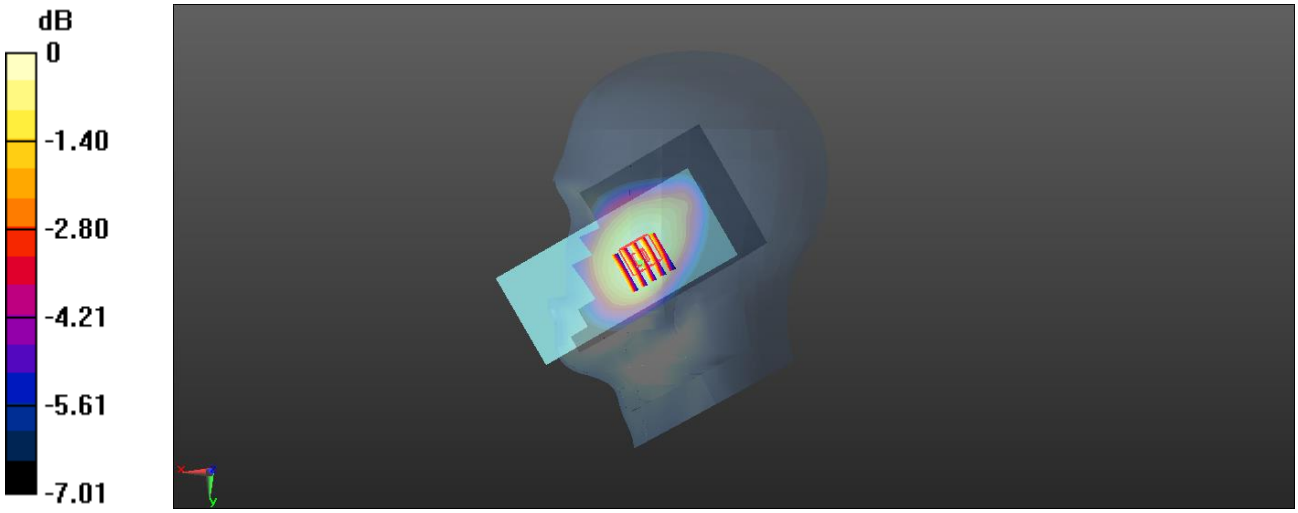
Ch20450/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.633 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.385 W/kg

SAR(1 g) = 0.335 W/kg; SAR(10 g) = 0.275 W/kg

Maximum value of SAR (measured) = 0.347 W/kg



0 dB = 0.347 W/kg

Meas.6 Body Plane with Back 10mm on Low Channel in LTE Band5 Mode with Antenna WWAN BOTTOM

Date: 2023.11.14

Communication System Band: Band 5; Frequency: 829 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 829 MHz; σ = 0.895 S/m; ε_r = 41.874; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.4℃ Liquid Temperature:21.4℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(9.97, 9.97, 9.97); Calibrated: 2023.01.19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics:DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch20450/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.509 W/kg

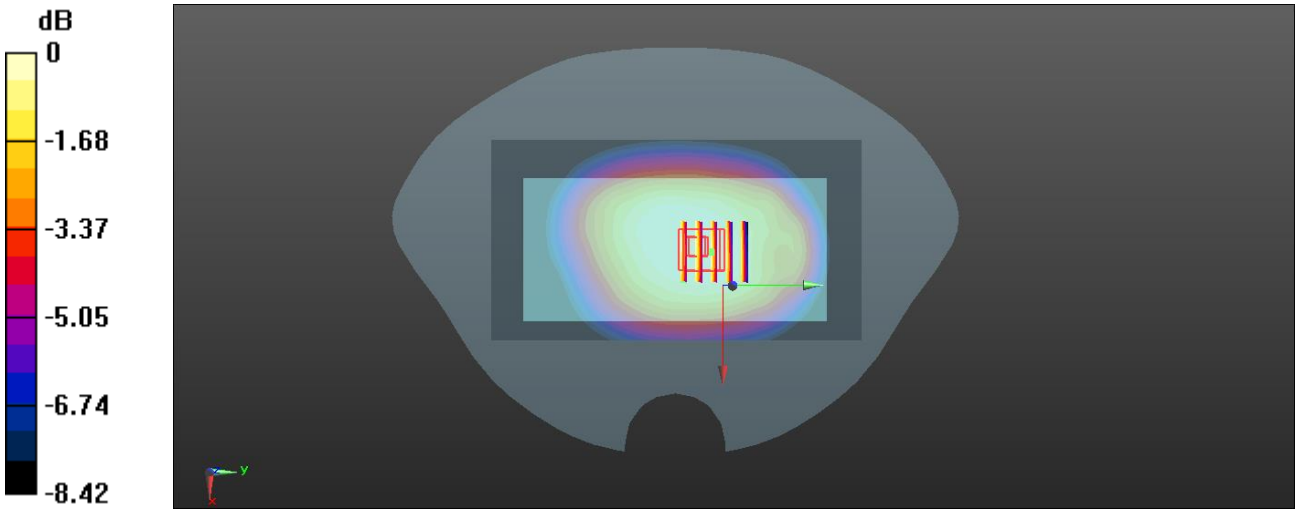
Ch20450/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.36 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.537 W/kg

SAR(1 g) = 0.465 W/kg; SAR(10 g) = 0.374 W/kg

Maximum value of SAR (measured) = 0.481 W/kg



0 dB = 0.481 W/kg

Meas.7 Right Head with Cheek on High Channel in LTE Band7 Mode with Antenna WWAN TOP

Date: 2023.11.23

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

Medium parameters used (interpolated): f = 2560 MHz; σ = 1.928 S/m; ε_r = 38.936; ρ = 1000 kg/m^3

Phantom section: Right Section

Ambient Temperature:22.5℃ Liquid Temperature:21.6℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.6, 7.6, 7.6); Calibrated: 2023.01.19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch21350/Area Scan (81x161x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 1.09 W/kg

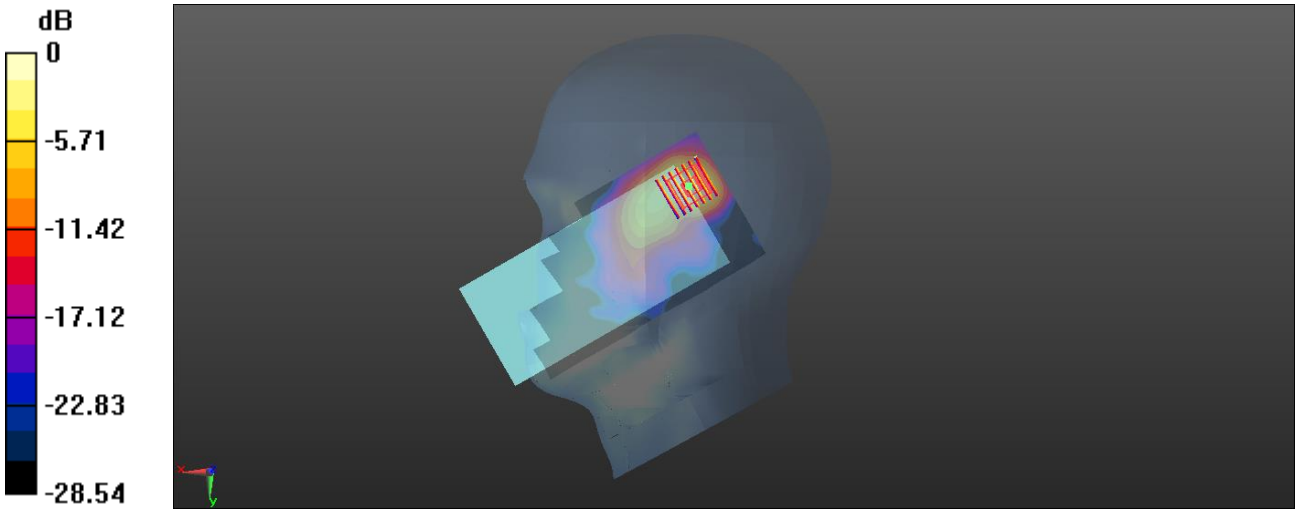
Ch21350/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.825 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 1.91 W/kg

SAR(1 g) = 0.840 W/kg; SAR(10 g) = 0.343 W/kg

Maximum value of SAR (measured) = 0.991 W/kg



0 dB = 0.991 W/kg

Meas.8 Body Plane with Top Edge 10mm on High Channel in LTE Band7 Mode with Antenna WWAN TOP

Date: 2023.11.23

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

Medium parameters used (interpolated): f = 2560 MHz; σ = 1.928 S/m; ε_r = 38.936; ρ = 1000 kg/m^3

Phantom section: Right Section

Ambient Temperature:22.5℃ Liquid Temperature:21.6℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.6, 7.6, 7.6); Calibrated: 2023.01.19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch21350/Area Scan (61x91x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 1.15 W/kg

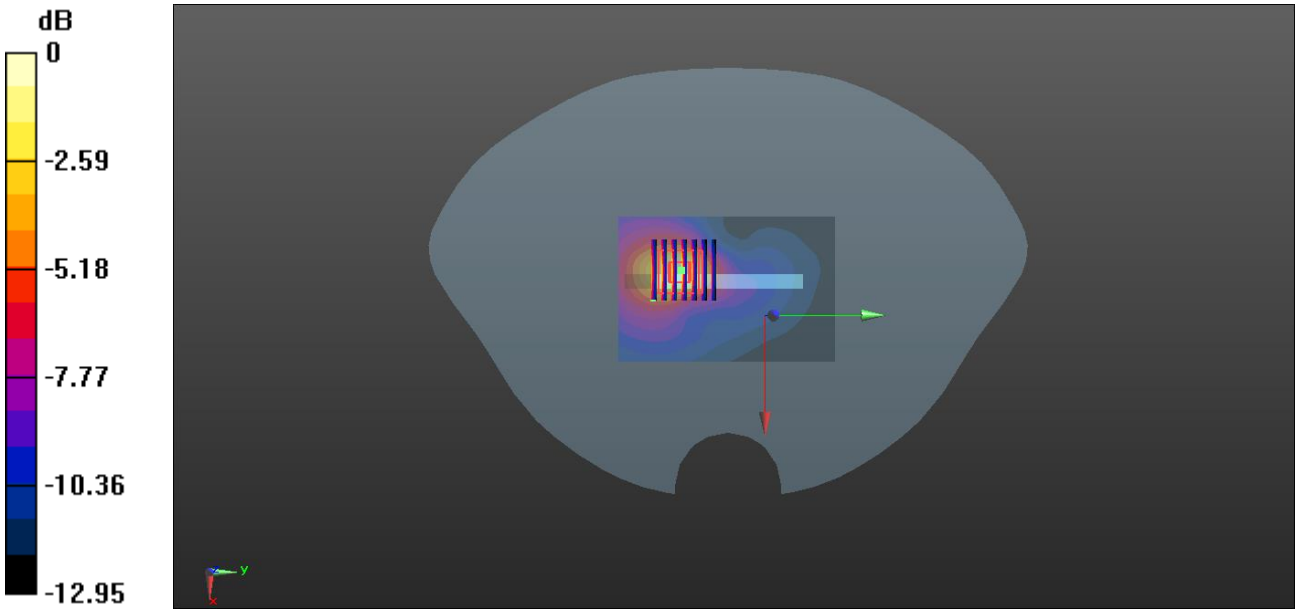
Ch21350/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.930 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.65 W/kg

SAR(1 g) = 0.916 W/kg; SAR(10 g) = 0.453 W/kg

Maximum value of SAR (measured) = 1.06 W/kg



0 dB = 0.153 W/kg

Meas.9 Right Head with Cheek on High Channel in LTE Band12 Mode with Antenna WWAN BOTTOM

Date: 2023.11.12

Communication System Band: Band 12; Frequency: 711 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 711 MHz; σ = 0.909 S/m; ε_r = 42.404; ρ = 1000 kg/m^3

Phantom section: Right Section

Ambient Temperature:22.7℃ Liquid Temperature:21.3℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(10.4, 10.4, 10.4); Calibrated: 2023.01.30;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch23130/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.219 W/kg

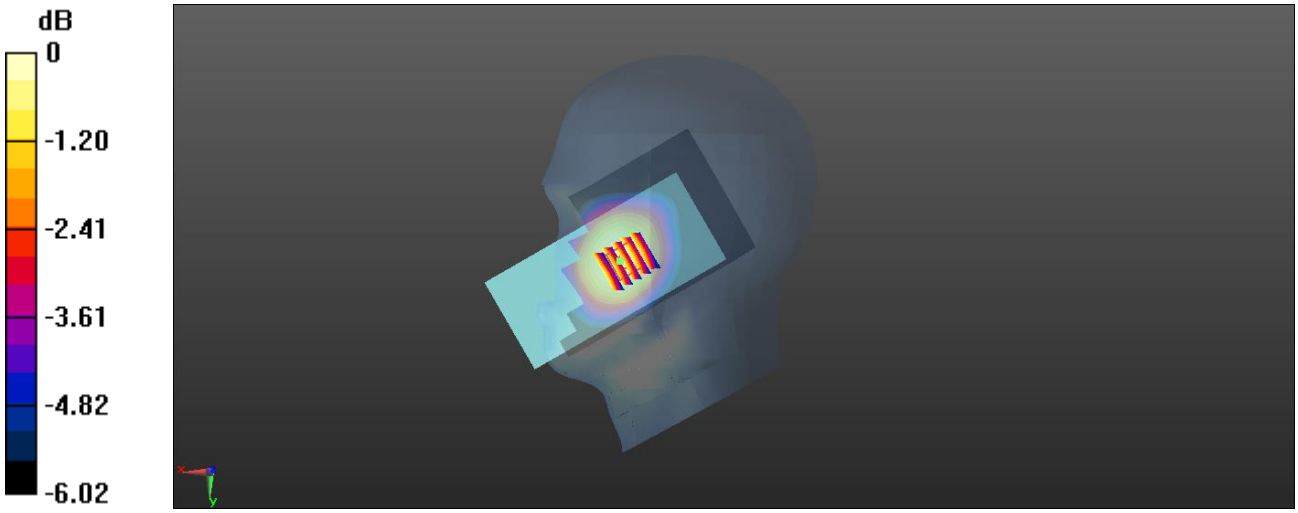
Ch23130/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.827 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.233 W/kg

SAR(1 g) = 0.209 W/kg; SAR(10 g) = 0.175 W/kg

Maximum value of SAR (measured) = 0.215 W/kg



0 dB = 0.215 W/kg

Meas.10 Body Plane with Back 10mm on High Channel in LTE Band12 Mode with Antenna WWAN BOTTOM

Date: 2023.11.12

Communication System Band: Band 12; Frequency: 711 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 711 MHz; σ = 0.909 S/m; ε_r = 42.404; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.7℃ Liquid Temperature:21.3℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(10.4, 10.4, 10.4); Calibrated: 2023.01.30;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch23095/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.366 W/kg

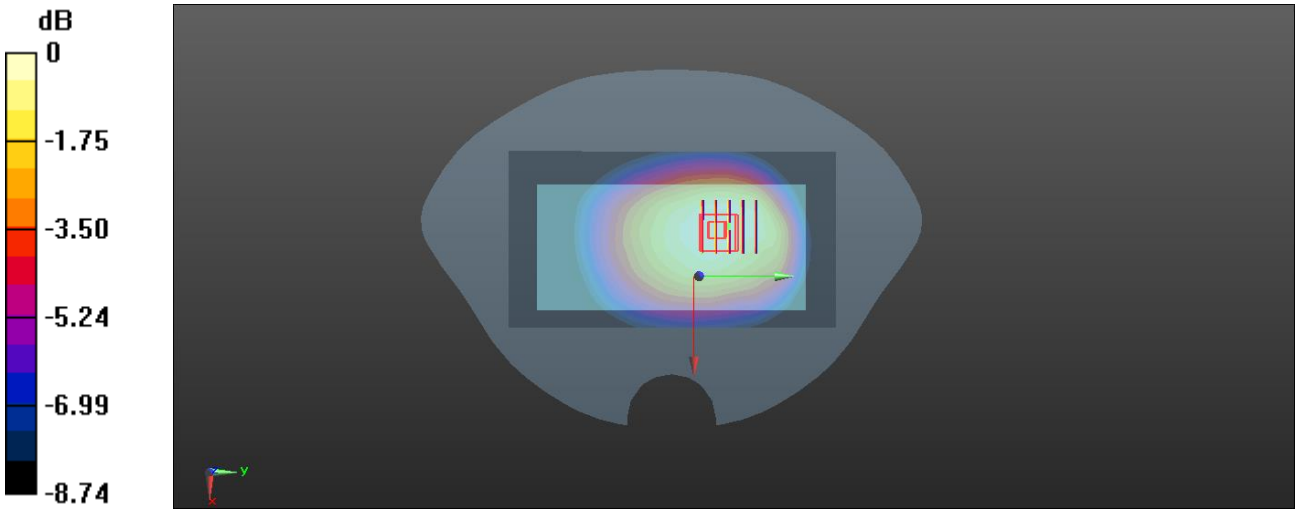
Ch23095/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.94 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.442 W/kg

SAR(1 g) = 0.342 W/kg; SAR(10 g) = 0.259 W/kg

Maximum value of SAR (measured) = 0.357 W/kg



0 dB = 0.357 W/kg

Meas.11 Left Head with Cheek on Middle Channel in LTE Band13 Mode with Antenna WWAN BOTTOM

Date: 2023.11.12

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

Medium parameters used (interpolated): f = 782 MHz; σ = 0.911 S/m; ε_r = 41.763; ρ = 1000 kg/m^3

Phantom section: Left Section

Ambient Temperature:22.7℃ Liquid Temperature:21.3℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(10.4, 10.4, 10.4); Calibrated: 2023.01.30;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- 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) = 0.299 W/kg

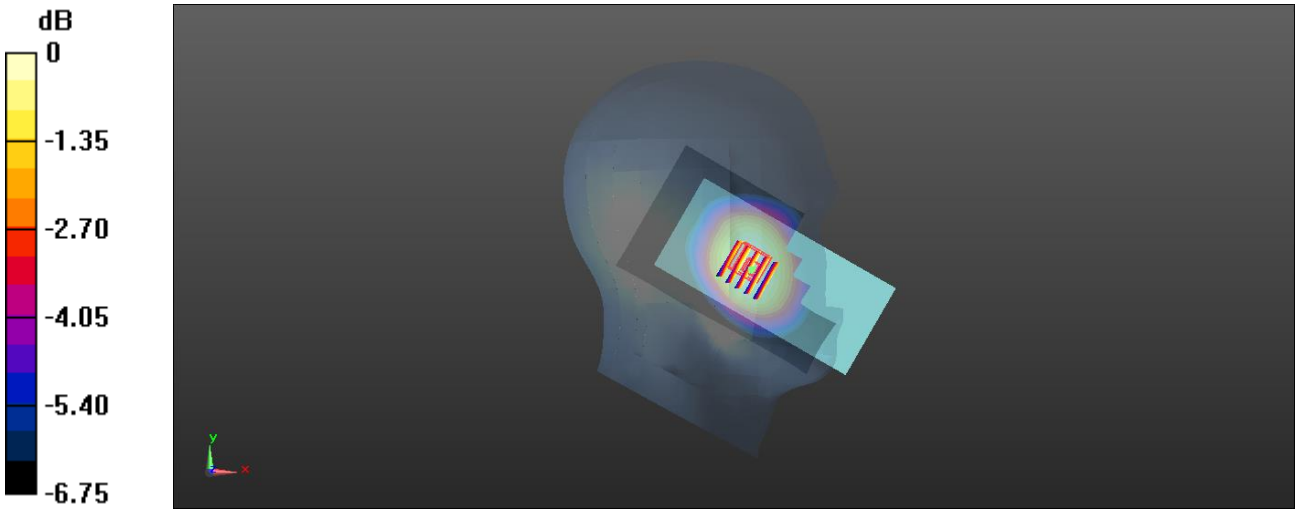
Ch23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.281 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.320 W/kg

SAR(1 g) = 0.273 W/kg; SAR(10 g) = 0.224 W/kg

Maximum value of SAR (measured) = 0.284 W/kg



0 dB = 0.284 W/kg

Meas.12 Body Plane with Back 10mm on Middle Channel in LTE Band13 Mode with Antenna WWAN BOTTOM

Date: 2023.11.12

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

Medium parameters used (interpolated): f = 782 MHz; σ = 0.911 S/m; ε_r = 41.763; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.7℃ Liquid Temperature:21.3℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(10.4, 10.4, 10.4); Calibrated: 2023.01.30;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- 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) = 0.459 W/kg

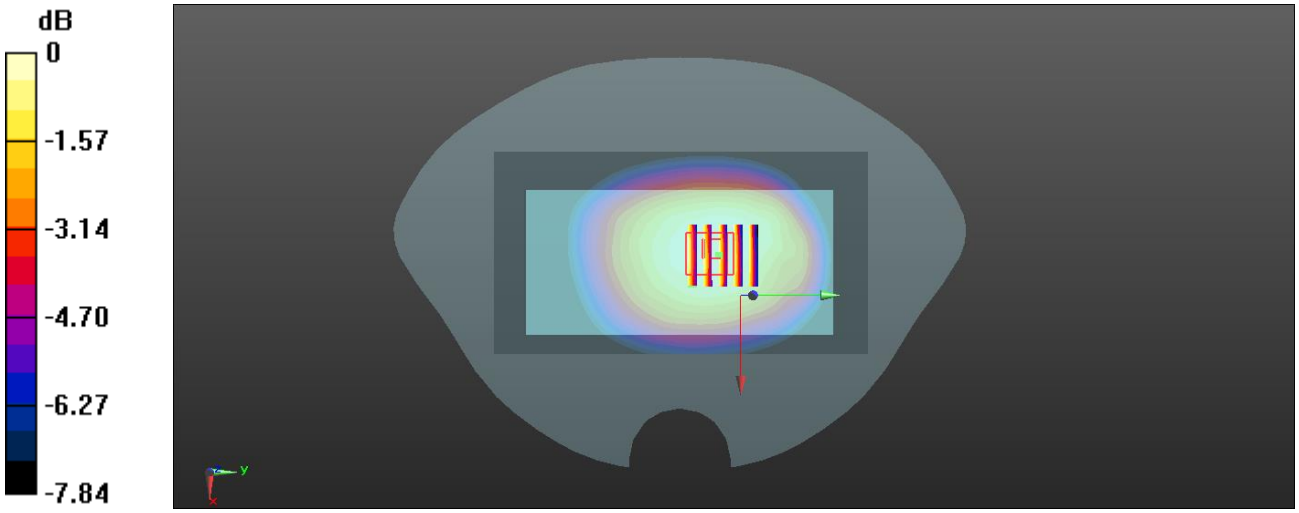
Ch23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 21.17 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.519 W/kg

SAR(1 g) = 0.432 W/kg; SAR(10 g) = 0.342 W/kg

Maximum value of SAR (measured) = 0.448 W/kg



0 dB = 0.448 W/kg

Meas.13 Left Head with Cheek on Middle Channel in LTE Band26 Mode with Antenna WWAN BOTTOM

Date: 2023.11.14

Communication System Band: Band26; Frequency: 831.5 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 831.5 MHz; σ = 0.897 S/m; ε_r = 41.816; ρ = 1000 kg/m^3

Phantom section: Left Section

Ambient Temperature:22.4℃ Liquid Temperature:21.4℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(9.97, 9.97, 9.97); Calibrated: 2023.01.19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics:DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch26865/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.335 W/kg

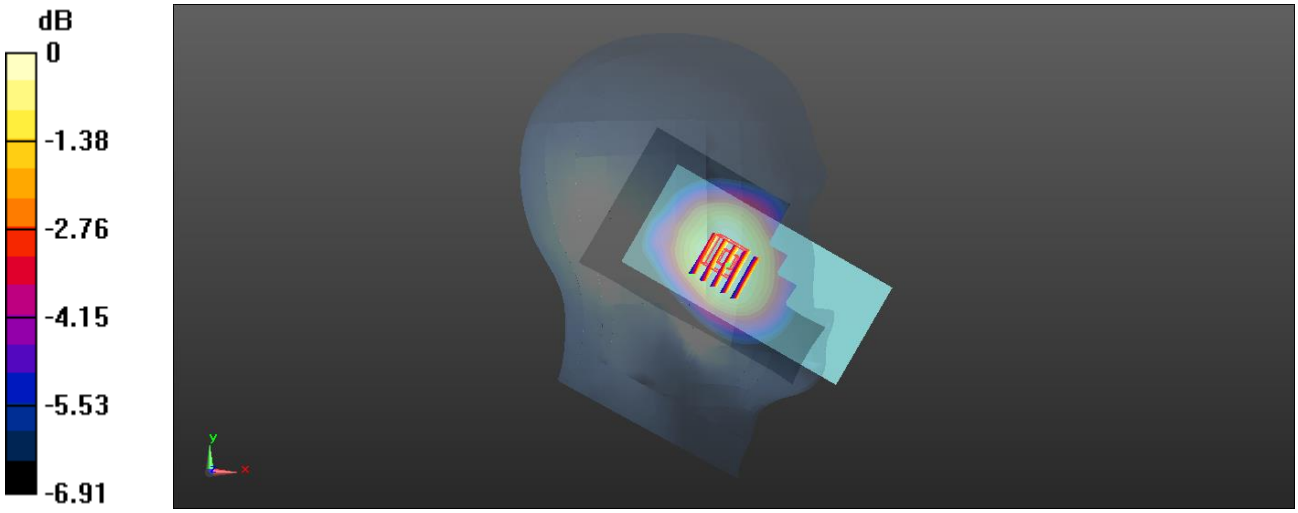
Ch26865/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.798 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 0.355 W/kg

SAR(1 g) = 0.310 W/kg; SAR(10 g) = 0.255 W/kg

Maximum value of SAR (measured) = 0.321 W/kg



0 dB = 0.321 W/kg

Meas.14 Body Plane with Back 10mm on Middle Channel in LTE Band26 Mode with Antenna WWAN BOTTOM

Date: 2023.11.14

Communication System Band: Band26; Frequency: 831.5 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 831.5 MHz; σ = 0.897 S/m; ε_r = 41.816; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.4℃ Liquid Temperature:21.4℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(9.97, 9.97, 9.97); Calibrated: 2023.01.19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics:DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch26865/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.491 W/kg

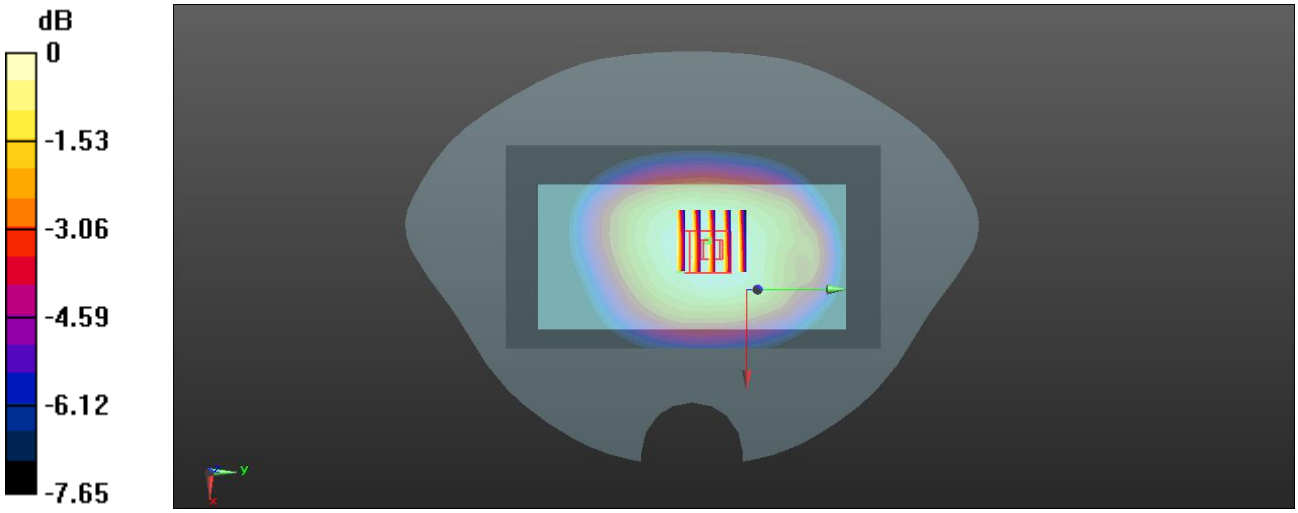
Ch26865/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 22.34 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.533 W/kg

SAR(1 g) = 0.459 W/kg; SAR(10 g) = 0.370 W/kg

Maximum value of SAR (measured) = 0.475 W/kg



0 dB = 0.475 W/kg

Meas.15 Right Head with Cheek on High Channel in LTE Band38 Mode with Antenna WWAN TOP

Date: 2023.11.22

Communication System Band: Band 38; Frequency: 2610 MHz;Duty Cycle: 1:1.58

Medium parameters used (interpolated): f = 2610 MHz; σ = 1.979 S/m; ε_r = 38.462; ρ = 1000 kg/m^3

Phantom section: Right Section

Ambient Temperature:22.9℃ Liquid Temperature:21.9℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.6, 7.6, 7.6); Calibrated: 2023.01.19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch38150/Area Scan (81x161x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.946 W/kg

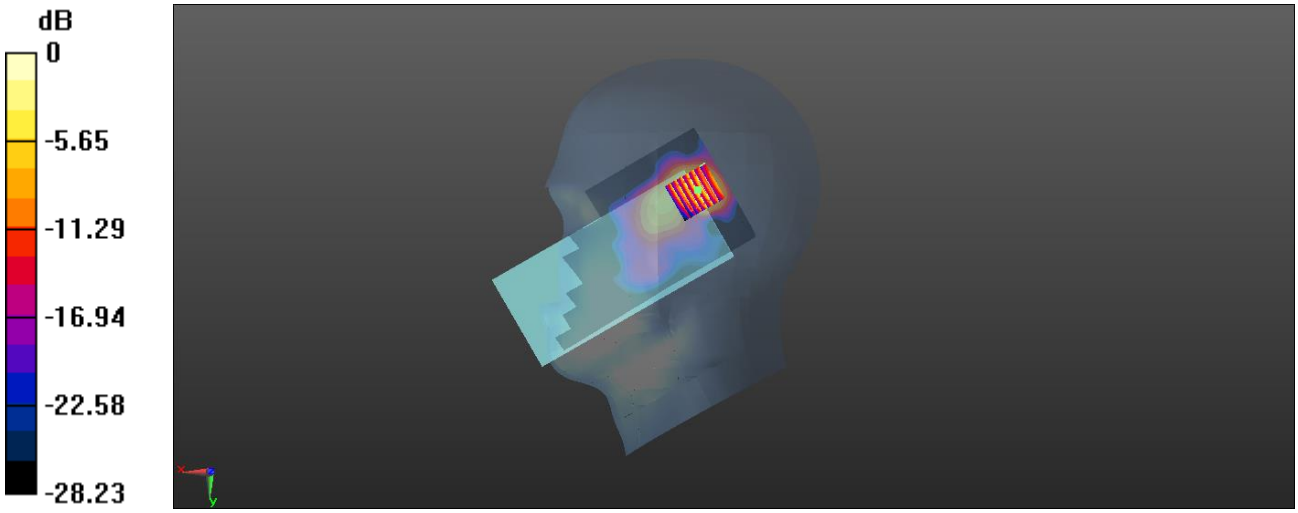
Ch38150/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.844 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 1.72 W/kg

SAR(1 g) = 0.751 W/kg; SAR(10 g) = 0.296 W/kg

Maximum value of SAR (measured) = 0.906 W/kg



0 dB = 0.906 W/kg

Meas.16 Body Plane with Top Edge 10mm on High Channel in LTE Band38 Mode with Antenna WWAN TOP

Date: 2023.11.22

Communication System Band: Band 38; Frequency: 2610 MHz;Duty Cycle: 1:1.58

Medium parameters used (interpolated): f = 2610 MHz; σ = 1.979 S/m; ε_r = 38.462; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.9℃ Liquid Temperature:21.9℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.6, 7.6, 7.6); Calibrated: 2023.01.19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch38150/Area Scan (61x91x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 1.02 W/kg

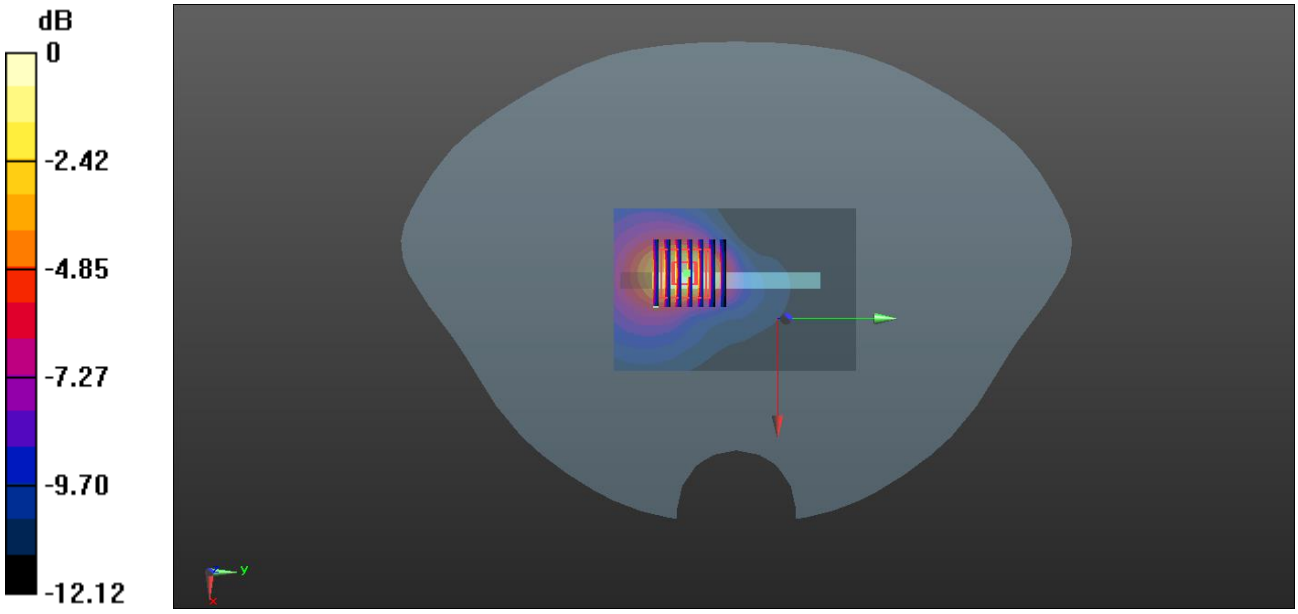
Ch38150/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.363 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 1.38 W/kg

SAR(1 g) = 0.780 W/kg; SAR(10 g) = 0.391 W/kg

Maximum value of SAR (measured) = 0.908 W/kg



0 dB = 0.908 W/kg

Meas.17 Right Head with Cheek on High Channel in LTE Band41 Mode with Antenna WWAN TOP

Date: 2023.11.22

Communication System Band: Band41; Frequency: 2645 MHz;Duty Cycle: 1:1.58

Medium parameters used (interpolated): f = 2645 MHz; σ = 2.023 S/m; ε_r = 38.146; ρ = 1000 kg/m^3

Phantom section: Right Section

Ambient Temperature:22.9℃ Liquid Temperature:21.9℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.6, 7.6, 7.6); Calibrated: 2023.01.19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch41140/Area Scan (81x161x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 1.14 W/kg

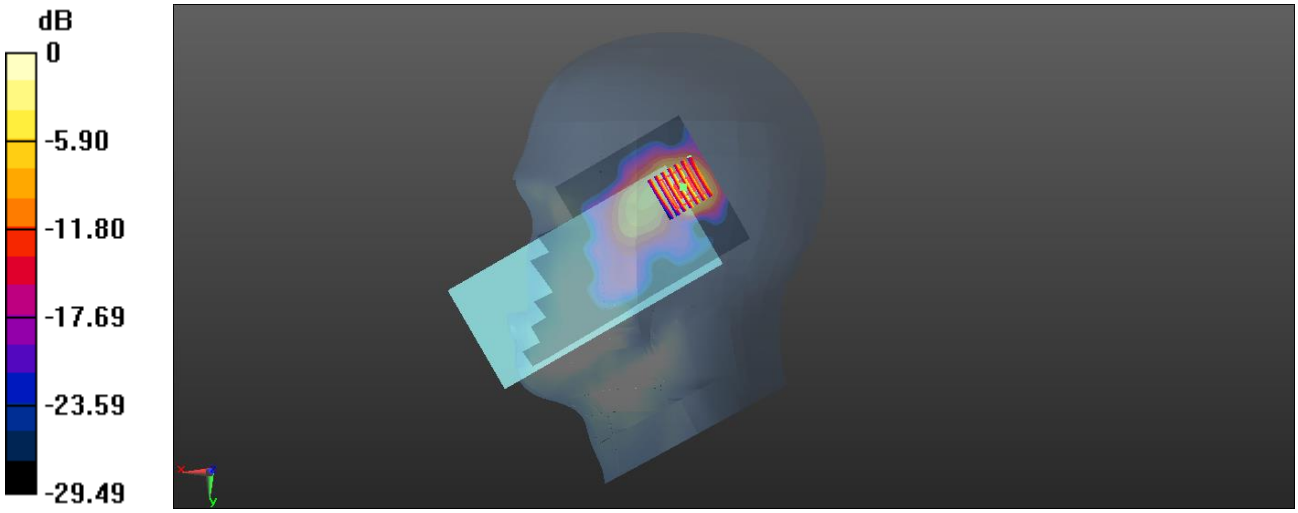
Ch41140/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.361 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 2.05 W/kg

SAR(1 g) = 0.885 W/kg; SAR(10 g) = 0.343 W/kg

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



0 dB = 1.07 W/kg

Meas.18 Body Plane with Top Edge 10mm on High Channel in LTE Band41 Mode with Antenna WWAN TOP

Date: 2023.11.22

Communication System Band: Band41; Frequency: 2645 MHz;Duty Cycle: 1:1.58

Medium parameters used (interpolated): f = 2645 MHz; σ = 2.023 S/m; ε_r = 38.146; ρ = 1000 kg/m^3

Phantom section:Flat Section

Ambient Temperature:22.9℃ Liquid Temperature:21.9℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.6, 7.6, 7.6); Calibrated: 2023.01.19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch41140/Area Scan (61x91x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 1.32 W/kg

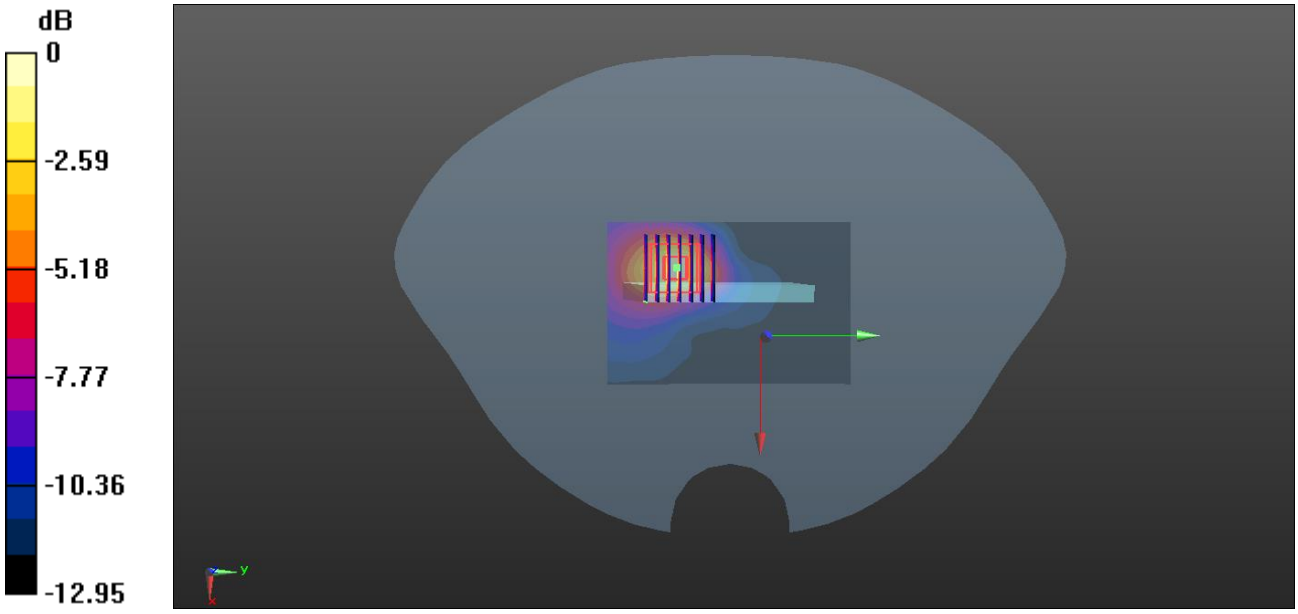
Ch41140/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.484 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.84 W/kg

SAR(1 g) = 1.02 W/kg; SAR(10 g) = 0.500 W/kg

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



0 dB = 1.19 W/kg = 0.76 dBW/kg

Meas.19 Left Head with Cheek on 1 Channel in IEEE802.11b Mode with Antenna WIFI

Date: 2023.11.18

Communication System Band: 2.4G; Frequency: 2412 MHz;Duty Cycle: 1:1.005

Medium parameters used (interpolated): f = 2412 MHz; σ = 1.758 S/m; ε_r = 39.776; ρ = 1000 kg/m^3

Phantom section: Left Section

Ambient Temperature:22.7℃ Liquid Temperature:21.9℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.78, 7.78, 7.78); Calibrated: 2023.01.19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch1/Area Scan (81x161x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.445 W/kg

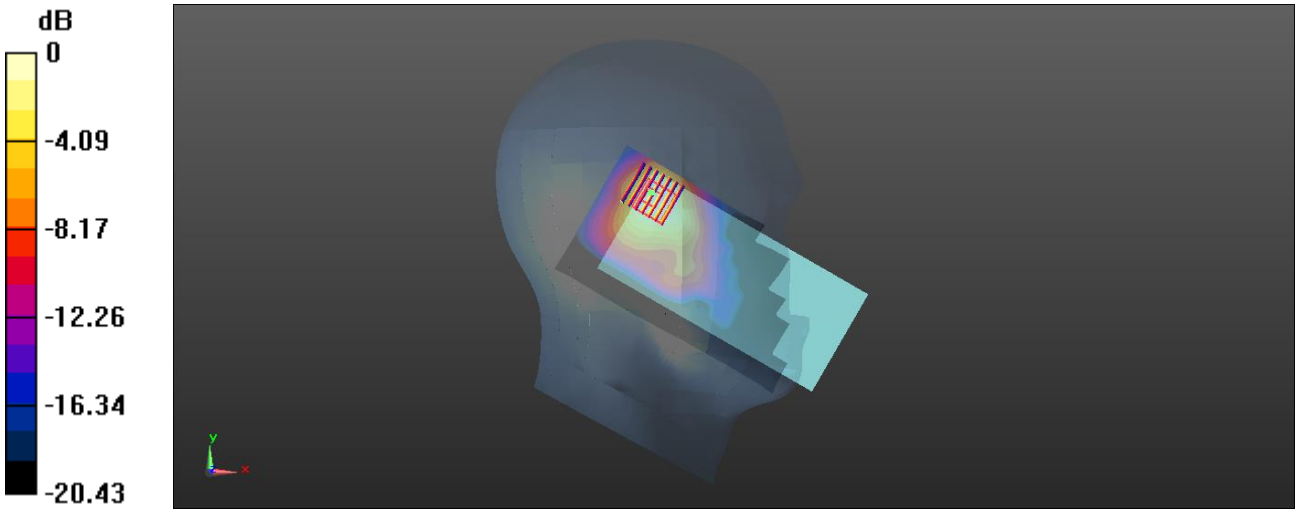
Ch1/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 9.115 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.662 W/kg

SAR(1 g) = 0.360 W/kg; SAR(10 g) = 0.198 W/kg

Maximum value of SAR (measured) = 0.392 W/kg



0 dB = 0.392 W/kg

Meas.20 Body Plane with Front Side 10mm on 1 Channel in IEEE802.11b Mode with Antenna WIFI

Date: 2023.11.18

Communication System Band: 2.4G; Frequency: 2412 MHz;Duty Cycle: 1:1.005

Medium parameters used (interpolated): f = 2412 MHz; σ = 1.758 S/m; ε_r = 39.776; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.7℃ Liquid Temperature:21.9℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.78, 7.78, 7.78); Calibrated: 2023.01.19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

BandCh1/Area Scan (81x161x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.103 W/kg

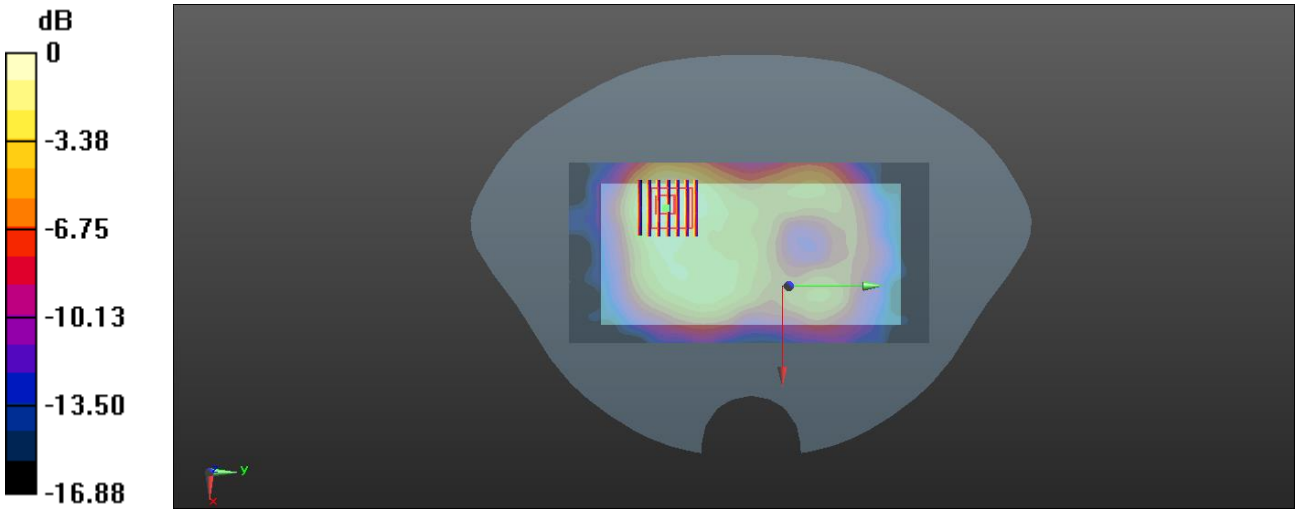
BandCh1/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.892 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.165 W/kg

SAR(1 g) = 0.093 W/kg; SAR(10 g) = 0.053 W/kg

Maximum value of SAR (measured) = 0.101 W/kg



0 dB = 0.101 W/kg

Meas.21 Left Head with Cheek on 64 Channel in IEEE802.11a Mode with Antenna WIFI

Date: 2023.11.19

Communication System Band: 5.3G; Frequency: 5320 MHz;Duty Cycle: 1:1.032

Medium parameters used (interpolated): f = 5320 MHz; σ = 4.853 S/m; ε_r = 30.042; ρ = 1000 kg/m^3

Phantom section: Left Section

Ambient Temperature:22.7℃ Liquid Temperature:21.6℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(5.37, 5.37, 5.37); Calibrated: 2023.01.19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch64/Area Scan (101x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.431 W/kg

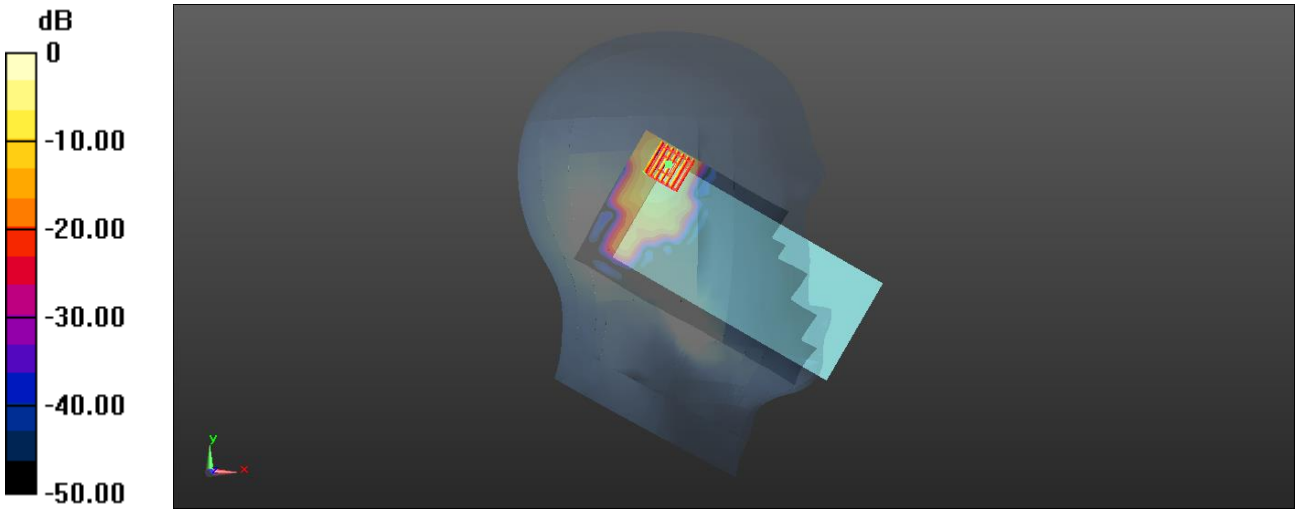
Ch64/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 3.477 V/m; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 1.61 W/kg

SAR(1 g) = 0.407 W/kg; SAR(10 g) = 0.121 W/kg

Maximum value of SAR (measured) = 0.829 W/kg



0 dB = 0.829 W/kg

Meas.22 Left Head with Cheek on 100 Channel in IEEE 802.11a Mode with Antenna WIFI

Date: 2023.11.20

Communication System Band: 5.6G; Frequency: 5500 MHz;Duty Cycle: 1:1.032

Medium parameters used: f = 5500 MHz; σ = 4.889 S/m; ε_r = 36.482; ρ = 1000 kg/m^3

Phantom section: Left Section

Ambient Temperature:22.5℃ Liquid Temperature:21.5℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(4.98, 4.98, 4.98); Calibrated: 2023.01.19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch100/Area Scan (101x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.752 W/kg

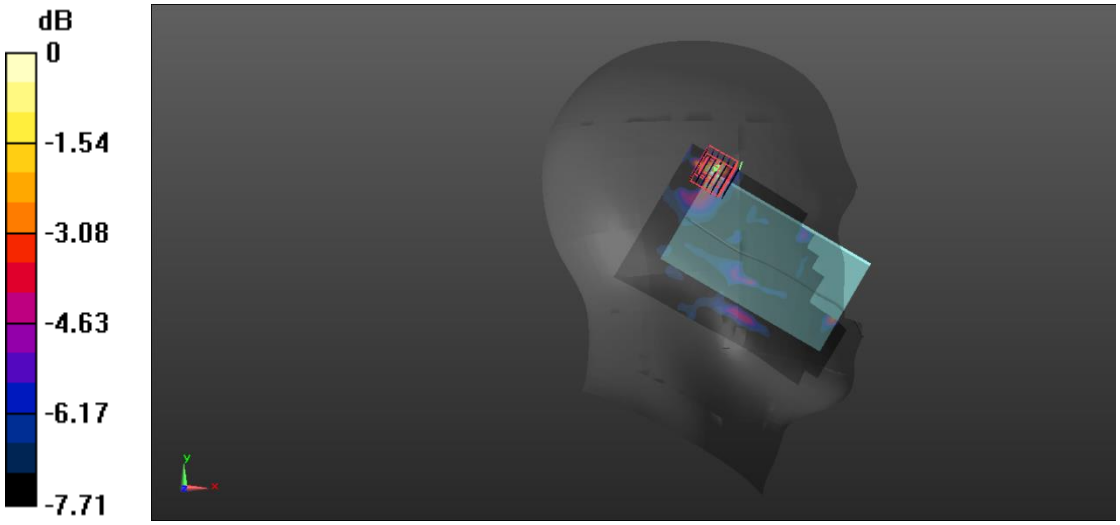
Ch100/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 5.146 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.93 W/kg

SAR(1 g) = 0.560 W/kg; SAR(10 g) = 0.223 W/kg

Maximum value of SAR (measured) = 0.610 W/kg



0 dB = 0.610 W/kg

Meas.23 Left Head with Cheek on 149 Channel in IEEE802.11a Mode with Antenna WIFI

Date: 2023.11.21

Communication System Band: 5.8G; Frequency: 5745 MHz;Duty Cycle: 1:1.032

Medium parameters used (interpolated): f = 5745 MHz; σ = 5.165 S/m; ε_r = 35.671; ρ = 1000 kg/m^3

Phantom section: Left Section

Ambient Temperature:22.4℃ Liquid Temperature:21.5℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(4.83, 4.83, 4.83); Calibrated: 2023.01.19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch149/Area Scan (101x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.381 W/kg

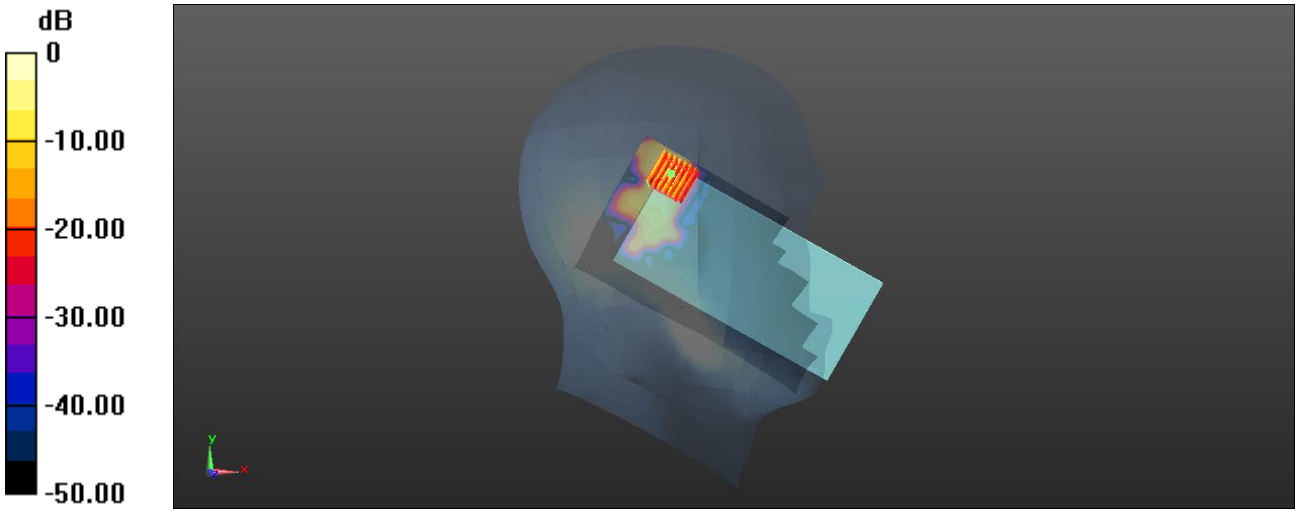
Ch149/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.631 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 1.53 W/kg

SAR(1 g) = 0.352 W/kg; SAR(10 g) = 0.096 W/kg

Maximum value of SAR (measured) = 0.723 W/kg



0 dB = 0.723 W/kg

Meas.24 Body Plane with Back Side 10mm on 60 Channel in IEEE802.11a Mode with Antenna WIFI

Date: 2023.11.19

Communication System Band: WLAN(a); Frequency: 5300 MHz;Duty Cycle: 1:1.032

Medium parameters used (interpolated): f = 5300 MHz; σ = 4.813 S/m; ε_r = 35.29; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.7℃ Liquid Temperature:21.6℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(5.37, 5.37, 5.37); Calibrated: 2023.01.19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch60/Area Scan (101x161x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.213 W/kg

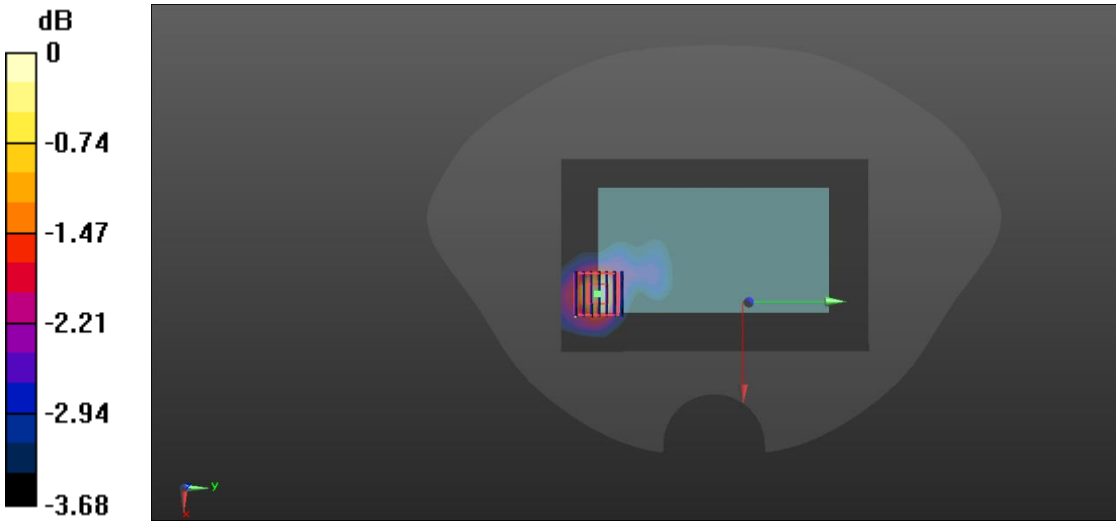
Ch60/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.221 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.319 W/kg

SAR(1 g) = 0.185 W/kg; SAR(10 g) = 0.126 W/kg

Maximum value of SAR (measured) = 0.205 W/kg



0 dB = 0.205 W/kg

Meas.25 Body Plane with Back Side 10mm on 100 Channel in IEEE 802.11a Mode with Antenna WIFI

Date: 2023.11.20

Communication System Band: 5.6G; Frequency: 5500 MHz;Duty Cycle: 1:1.032

Medium parameters used: f = 5500 MHz; σ = 4.889 S/m; ε_r = 36.482; ρ = 1000 kg/m^3

Phantom section:Flat Section

Ambient Temperature:22.5℃ Liquid Temperature:21.5℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(4.98, 4.98, 4.98); Calibrated: 2023.01.19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch100/Area Scan (101x161x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.272 W/kg

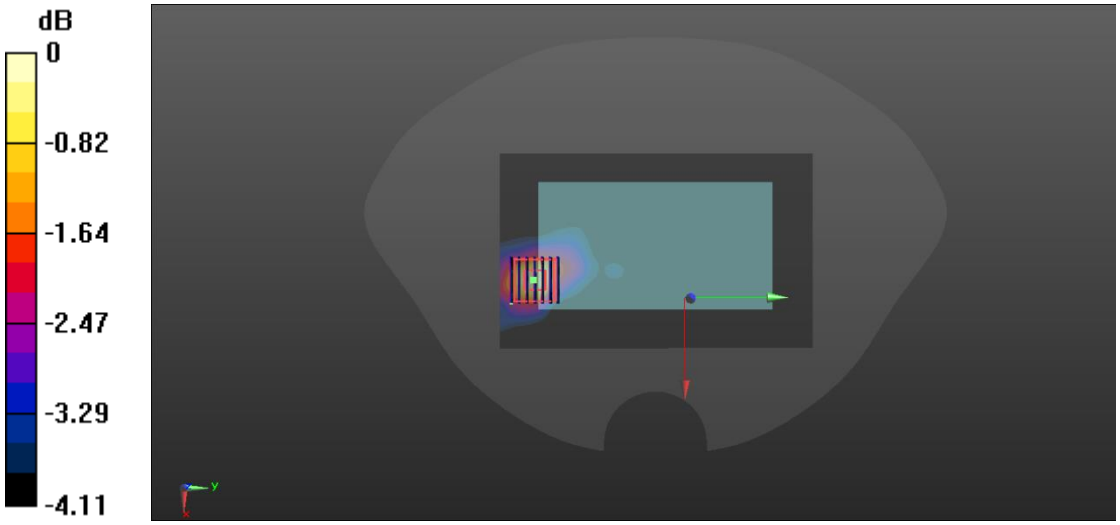
Ch100/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 3.091 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.576 W/kg

SAR(1 g) = 0.245 W/kg; SAR(10 g) = 0.156 W/kg

Maximum value of SAR (measured) = 0.259 W/kg



0 dB = 0.259 W/kg

Meas.26 Body Plane with Left Edge 10mm on 36 Channel in IEEE802.11a Mode with Antenna WIFI

Date: 2023.11.19

Communication System Band: 5.2G; Frequency: 5180 MHz;Duty Cycle: 1:1.032

Medium parameters used (interpolated): f = 5180 MHz; σ = 4.569 S/m; ε_r = 36.81; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.7℃ Liquid Temperature:21.6℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(5.67, 5.67, 5.67); Calibrated: 2023.01.19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch36/Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

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

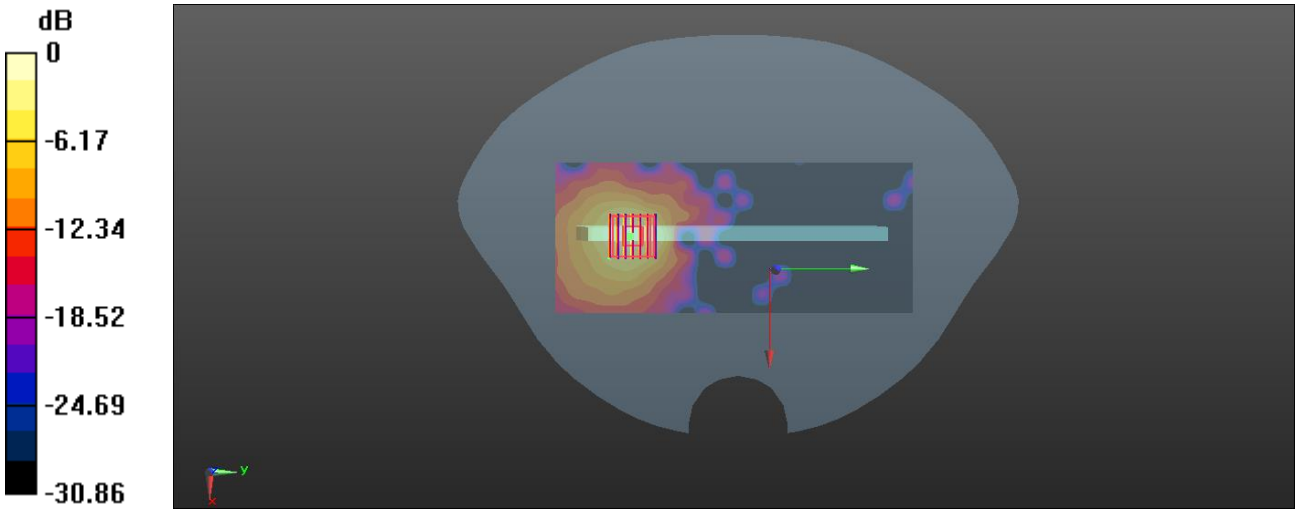
Ch36/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0.7640 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.739 W/kg

SAR(1 g) = 0.226 W/kg; SAR(10 g) = 0.083 W/kg

Maximum value of SAR (measured) = 0.421 W/kg



0 dB = 0.421 W/kg

Meas.27 Body Plane with Back Side 10mm on 149 Channel in IEEE802.11a Mode with Antenna WIFI

Date: 2023.11.21

Communication System Band: 5.8G; Frequency: 5745 MHz;Duty Cycle: 1:1.032

Medium parameters used (interpolated): f = 5745 MHz; σ = 5.165 S/m; ε_r = 35.671; ρ = 1000 kg/m^3

Phantom section: Left Section

Ambient Temperature:22.4℃ Liquid Temperature:21.5℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(4.83, 4.83, 4.83); Calibrated: 2023.01.19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch149/Area Scan (101x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.402 W/kg

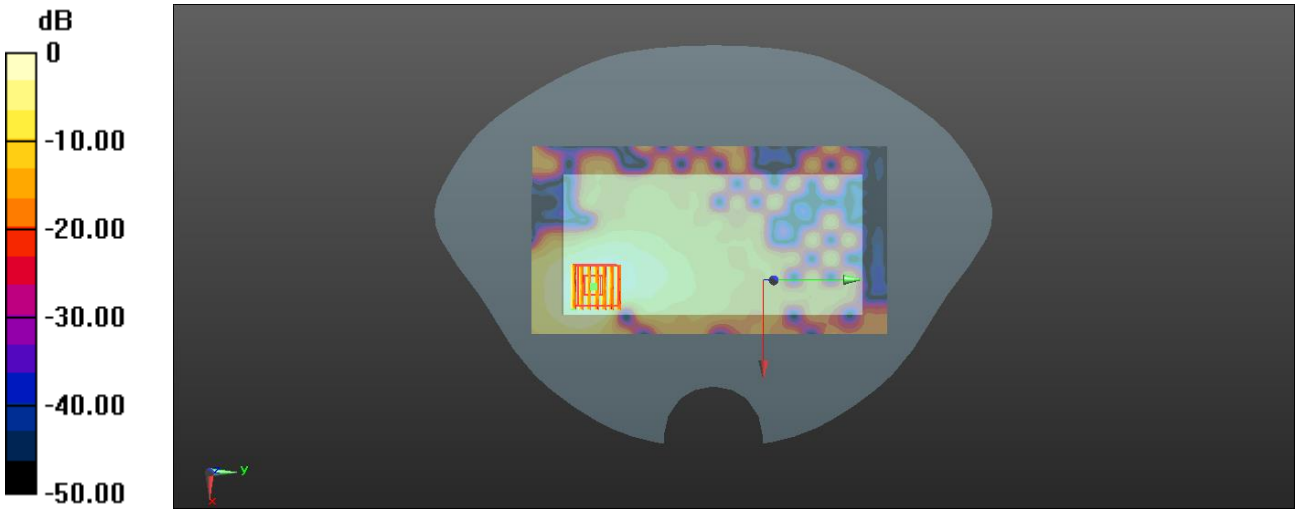
Ch149/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 1.574 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.733 W/kg

SAR(1 g) = 0.191 W/kg; SAR(10 g) = 0.074 W/kg

Maximum value of SAR (measured) = 0.355 W/kg



0 dB = 0.355 W/kg

Meas.28 Body Plane with Left Edge 0mm on 60 Channel in IEEE802.11a Mode with Antenna WIFI

Date: 2023.11.19

Communication System Band: WLAN(a); Frequency: 5300 MHz;Duty Cycle: 1:1.032

Medium parameters used (interpolated): f = 5300 MHz; σ = 4.813 S/m; ε_r = 35.29; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.7℃ Liquid Temperature:21.6℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(5.37, 5.37, 5.37); Calibrated: 2023.01.19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch60/Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 5.33 W/kg

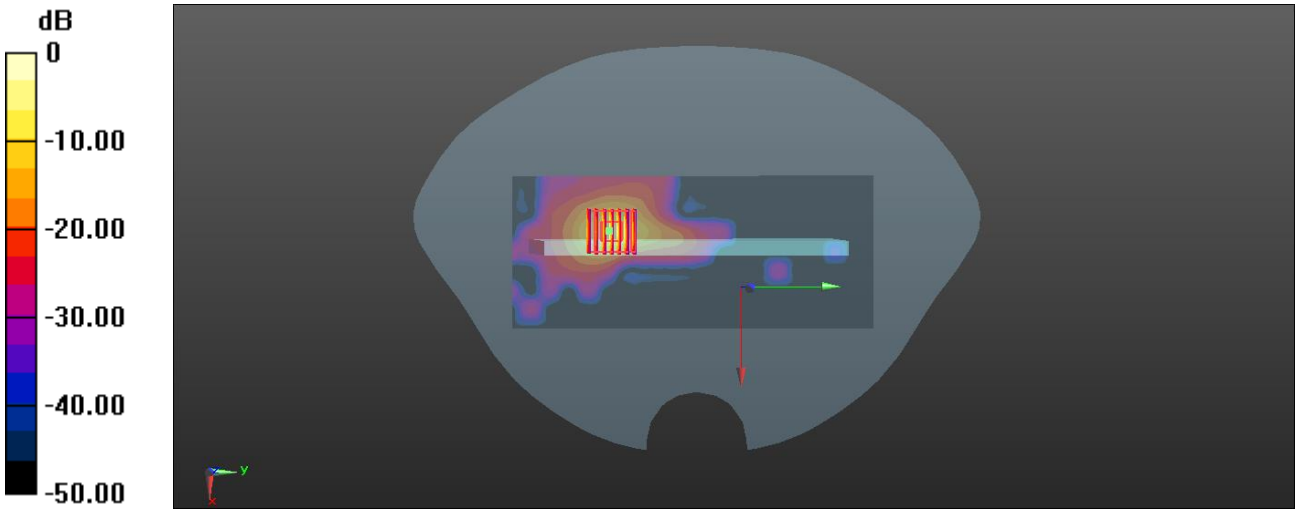
Ch60/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 1.820 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 12.3 W/kg

SAR(1 g) = 2.19 W/kg; SAR(10 g) = 0.467 W/kg

Maximum value of SAR (measured) = 5.73 W/kg



0 dB = 5.73 W/kg

Meas.29 Body Plane with Back Side 0mm on 100 Channel in IEEE 802.11a Mode with Antenna WIFI

Date: 2023.11.20

Communication System Band: 5.6G; Frequency: 5500 MHz;Duty Cycle: 1:1.032

Medium parameters used: f = 5500 MHz; σ = 4.889 S/m; ε_r = 36.482; ρ = 1000 kg/m^3

Phantom section:Flat Section

Ambient Temperature:22.5℃ Liquid Temperature:21.5℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(4.98, 4.98, 4.98); Calibrated: 2023.01.19;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch116/Area Scan (101x161x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

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

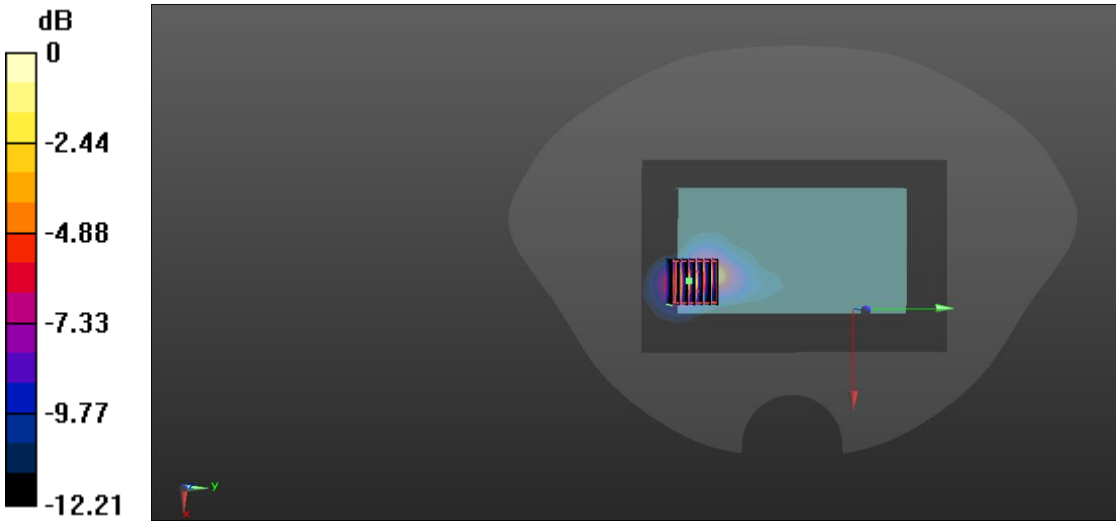
Ch116/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.890 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 9.41 W/kg

SAR(1 g) = 1.47 W/kg; SAR(10 g) = 0.472 W/kg

Maximum value of SAR (measured) = 1.70 W/kg



0 dB = 1.70 W/kg

Meas.30 Left Head with Cheek on 39 Channel in Bluetooth Mode with Antenna Bluetooth

Date: 2023.11.18

Communication System Band: BT; Frequency: 2441 MHz;Duty Cycle: 1:1.304

Medium parameters used (interpolated): f = 2441 MHz; σ = 1.793 S/m; ε_r = 39.593; ρ = 1000 kg/m^3

Phantom section: Left Section

Ambient Temperature:22.7℃ Liquid Temperature:21.9℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.78, 7.78, 7.78); Calibrated: 2023.01.19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- 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) = 0.124 W/kg

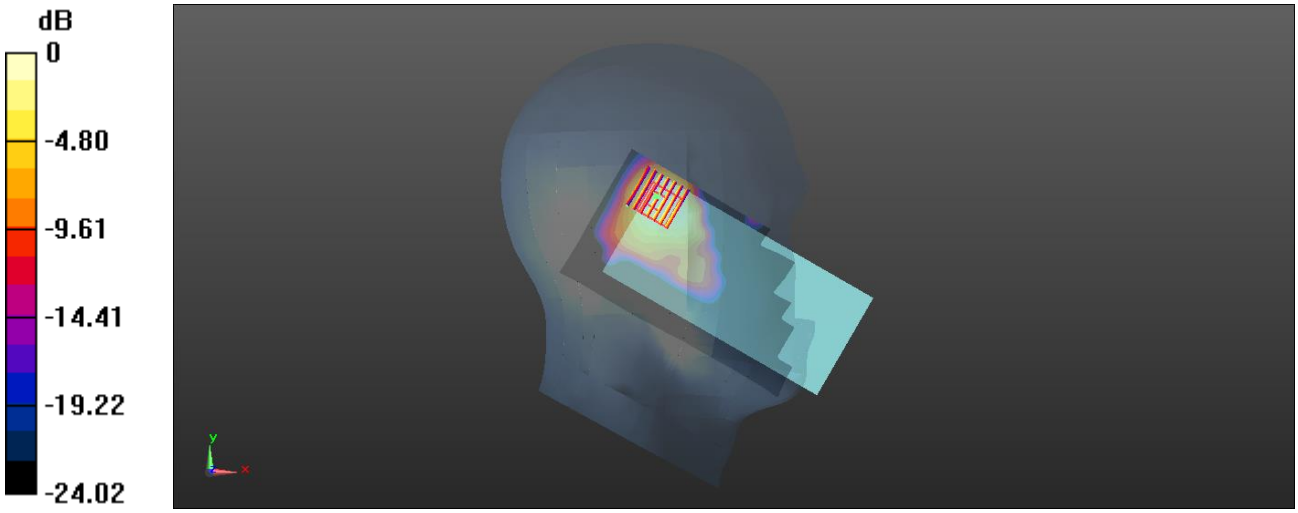
Ch39/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.550 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.205 W/kg

SAR(1 g) = 0.108 W/kg; SAR(10 g) = 0.059 W/kg

Maximum value of SAR (measured) = 0.116 W/kg



0 dB = 0.116 W/kg

Meas.31 Body Plane with Back Side 10 mm on 39 Channel in Bluetooth Mode with Antenna Bluetooth

Date: 2023.11.18

Communication System Band: BT; Frequency: 2441 MHz;Duty Cycle: 1:1.304

Medium parameters used (interpolated): f = 2441 MHz; σ = 1.793 S/m; ε_r = 39.593; ρ = 1000 kg/m^3

Phantom section: Left Section

Ambient Temperature:22.7℃ Liquid Temperature:21.9℃

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.78, 7.78, 7.78); Calibrated: 2023.01.19;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1710; Calibrated: 2023.01.30
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1859; Type: QD000P40CC; Serial: TP:1859
- 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) = 0.0258 W/kg

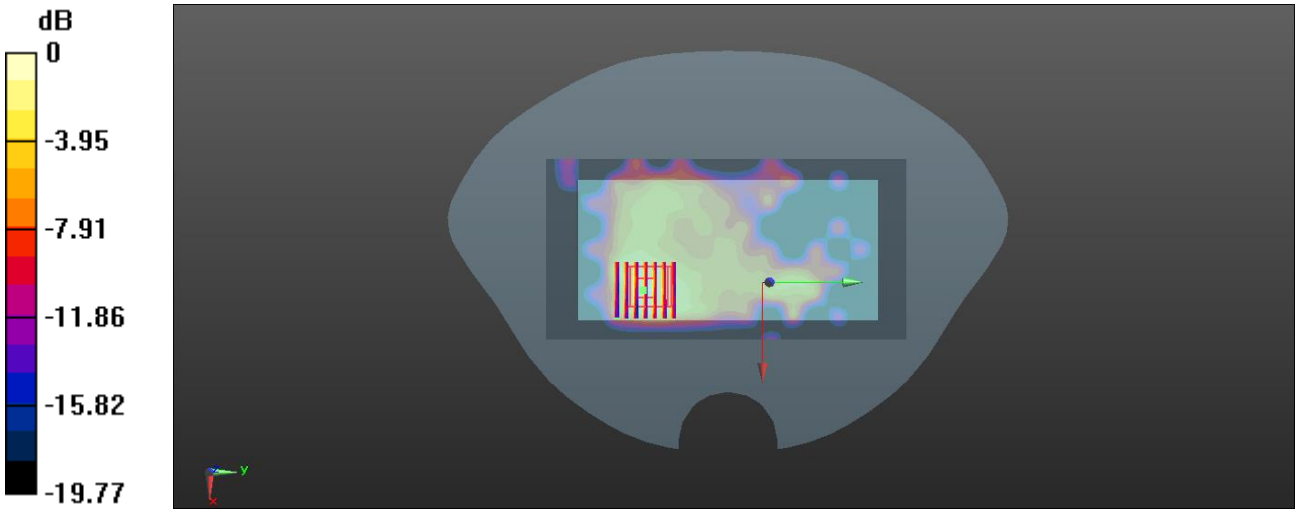
Ch39/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.908 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.0520 W/kg

SAR(1 g) = 0.025 W/kg; SAR(10 g) = 0.012 W/kg

Maximum value of SAR (measured) = 0.0286 W/kg



0 dB = 0.0286 W/kg

ANNEX D EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ23B0377-AW.pdf”.

ANNEX E SAR TEST SETUP PHOTOS

Please refer the document “BL-SZ23B0377-AS.pdf”.

ANNEX F CALIBRATION REPORT

Please refer the document “BL-SZ23A0377-AC.pdf”.

Statement

1. The laboratory guarantees the scientificity, accuracy and impartiality of the test, and is responsible for all the information in the report, except the information provided by the customer. The customer is responsible for the impact of the information provided on the validity of the results.
2. The report without China inspection body and laboratory Mandatory Approval (CMA) mark has no effect of proving to the society.
3. For the report with CNAS mark or A2LA mark, the items marked with "☆" are not within the accredited scope.
4. This report is invalid if it is altered, without the signature of the testing and approval personnel, or without the “inspection and testing dedicated stamp” or test report stamp.
5. The test data and results are only valid for the tested samples provided by the customer.
6. This report shall not be partially reproduced without the written permission of the laboratory.
7. Any objection shall be raised to the laboratory within 30 days after receiving the report.

--END OF REPORT--