

TEST REPORT

Applicant: Franklin Technology
Address: #906 JEI Platz, 186, Gasan digital1-ro, Geumcheon-gu, Seoul 08502 Korea
Equipment Type: Mobile Hotspot
Model Name: RT410
Brand Name: N/A
FCC ID: XHG-RT410
Test Standard: FCC 47 CFR Part 2.1093 (refer to section 3.1)
Maximum SAR: Hotspot (1 g@10mm): 1.33 W/kg
Sample Arrival Date: Aug. 15, 2024
Test Date: Aug. 28, 2024
Date of Issue: Sep. 09, 2024

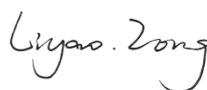
ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Xu Rui



Checked by: Zong Liyao



Approved by: Tolan Tu
(Testing Director)



Revision History		
Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Sep. 09, 2024</u>	<u>Initial Issue</u>

TABLE OF CONTENTS

1	GENERAL INFORMATION.....	5
1.1	Test Laboratory	5
1.2	Test Location	5
1.3	Test Environment Condition.....	5
2	PRODUCT INFORMATION	6
2.1	Applicant Information	6
2.2	Manufacturer Information.....	6
2.3	General Description for Equipment under Test (EUT).....	6
2.4	Ancillary Equipment.....	6
2.5	Technical Information	7
3	SUMMARY OF TEST RESULT	8
3.1	Test Standards	8
3.2	Device Category and SAR Limit	9
3.3	Test Result Summary	10
3.4	Test Uncertainty	11
4	MEASUREMENT SYSTEM	12
4.1	Specific Absorption Rate (SAR) Definition	12
4.2	DASY SAR System	13
5	SYSTEM VERIFICATION.....	20
5.1	Purpose of System Check	20
5.2	System Check Setup	20
6	TEST POSITION CONFIGURATIONS	21
6.1	Hotspot Mode Exposure Position Conditions	21
7	MEASUREMENT PROCEDURE	22

7.1	Measurement Process Diagram	22
7.2	SAR Scan General Requirement	23
7.3	Measurement Procedure	24
7.4	Area & Zoom Scan Procedure	24
8	CONDUCTED RF OUPUT POWER	25
8.1	WCDMA	25
8.2	LTE.....	25
8.3	WIFI.....	25
9	TEST EXCLUSION CONSIDERATION	27
10	TEST RESULT	28
10.1	Worst Case of WCDMA Band 2 SAR.....	28
10.2	Worst Case of WCDMA Band 4 SAR.....	28
10.3	Worst Case of WCDMA Band 5 SAR.....	28
10.4	Worst Case of LTE Band 2 (20MHz Bandwidth)	29
10.5	Worst Case of LTE Band 5 (10MHz Bandwidth)	29
10.6	Worst Case of LTE Band 12 (10MHz Bandwidth)	29
10.7	Worst Case of LTE Band 25 (20MHz Bandwidth)	29
10.8	Worst Case of LTE Band 26 (15MHz Bandwidth)	30
10.9	Worst Case of LTE Band 66 (20MHz Bandwidth)	30
10.10	Worst Case of LTE Band 71 (20MHz Bandwidth)	30
10.11	Worst Case of LTE Band 41 (20MHz Bandwidth)	30
10.12	Worst Case of WIFI 2.4GHz	31
10.13	Worst Case of WIFI 5GHz	31
11	SAR Measurement Variability	32
12	SIMULTANEOUS TRANSMISSION.....	32
13	TEST EQUIPMENTS LIST	33
ANNEX A	SIMULATING LIQUID VERIFICATION RESULT	34
ANNEX B	SYSTEM CHECK RESULT	35
ANNEX C	TEST DATA.....	45
ANNEX D	EUT EXTERNAL PHOTOS.....	59

ANNEX E	SAR TEST SETUP PHOTOS	59
ANNEX F	CALIBRATION REPORT	59
ANNEX G	TUNE-UP PROCEDURE	59

1 GENERAL INFORMATION

1.1 Test Laboratory

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

1.2 Test Location

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

1.3 Test Environment Condition

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

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Franklin Technology
Address	#906 JEI Platz, 186, Gasan digital1-ro, Geumcheon-gu, Seoul 08502 Korea

2.2 Manufacturer Information

Manufacturer	Franklin Technology
Address	#906 JEI Platz, 186, Gasan digital1-ro, Geumcheon-gu, Seoul 08502 Korea

2.3 General Description for Equipment under Test (EUT)

EUT Name	Mobile Hotspot
Model Name Under Test	RT410
Series Model Name	N/A
Description of Model Name Differentiation	N/A
Hardware Version	P2
Software Version	RT41021.FR.2669
Dimensions (Approx.)	L93mmx W 66mm x D 13.2mm (approx.)
Weight (Approx.)	85g (approx.)

2.4 Ancillary Equipment

Ancillary Equipment 1	Battery	
	Brand Name	N/A
	Model No.	IBC050NA
	Serial No.	N/A
	Capacity	3000 mAh
	Rated Voltage	3.8 V

2.5 Technical Information

Network and Wireless connectivity	3G Network WCDMA/HSDPA/HSUPA/HSPA+ Band 2/4/5 4G Network FDD LTE Band 2/5/12/25/26/66/71 TDD LTE Band 41 WIFI 802.11a, 802.11b, 802.11g, 802.11n (HT20/40), 802.11ac(VHT20/VHT40/VHT80)
-----------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

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

Operating Mode	WCDMA, LTE, 2.4G WIFI, 5G WIFI		
Frequency Range	WCDMA Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	WCDMA Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	LTE Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 12	TX: 699 ~ 716 MHz	RX: 729 ~ 746 MHz
	LTE Band 25	TX: 1850 ~ 1915 MHz	RX: 1930 ~ 1995 MHz
	LTE Band 26	TX: 814 ~ 849 MHz	RX: 859 ~ 894 MHz
	LTE Band 66	TX: 1710 ~ 1780 MHz	RX: 2110 ~ 2180 MHz
	LTE Band 71	TX: 663 ~ 698 MHz	RX: 617 ~ 652 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 5725 ~ 5850 MHz	
Antenna Type	WWAN: FPCB+Carrier type Antenna WIFI: FPCB+Carrier type Antenna		
DTM	N/A		
Hotspot Function	Support		
Power Reduction	Support		
Exposure Category	General Population/Uncontrolled exposure		
Product Type	Portable Device		
EUT Type	<input checked="" type="checkbox"/> Production unit		<input type="checkbox"/> Identical prototype

3 SUMMARY OF TEST RESULT

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 2.1093	Radiofrequency radiation exposure evaluation: portable devices
2	ANSI C95.1-1992	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz
3	FCC KDB 447498 D04 v01	447498 D04 Interim General RF Exposure Guidance v01
4	FCC KDB 865664 D01 v01r04	SAR Measurement 100 MHz to 6 GHz
5	FCC KDB 865664 D02 v01r02	RF Exposure Reporting
6	KDB 248227 D01 v02r02	SAR Guidance for IEEE 802.11 (Wi-Fi) Transmitters

Note: Compared with the EUT of test report F690501-RF-SAR000100-A1, the changes of the EUT of this report as below:

1. Update Charger IC.

Other hardware circuit and software are the same as EUT referred in test report F690501-RF-SAR000100-A1.

Therefore, only added the worst case spot check test data in section 10.1 - 10.13 and ANNEX A/B/C and Revalidated the conducted RF output power in section 8, others test data please refer to report F690501-RF-SAR000100-A1, which was issued by SGS Korea Co., Ltd. on Nov. 23, 2020.

3.2 Device Category and SAR Limit

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

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

Table of Exposure Limits:

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

NOTE:

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

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

3.3 Test Result Summary

3.3.1 Highest SAR (1 g Value)

Equipment Class	Band	Maximum Scaled SAR (W/kg)		Maximum Report SAR (W/kg)	
		Hotspot (10mm)		Hotspot (10mm)	
		1g SAR		1g SAR	
PCE	WCDMA Band 2	1.18		1.33	
	WCDMA Band 4	1.18			
	WCDMA Band 5	0.30			
	LTE Band 2	1.12			
	LTE Band 5	0.96			
	LTE Band 12	1.15			
	LTE Band 25	1.26			
	LTE Band 26	1.16			
	LTE Band 66	1.33			
	LTE Band 71	1.09			
	LTE Band 41	1.14			
DTS	2.4G WIFI	0.65			
NII	5.2G WIFI	0.21			
	5.8G WIFI	0.24			
Limit (W/kg)		1.6		1.6	
Verdict		PASS			

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 1.33 W/kg, which is lower than 1.5 W/kg, so the extensive SAR measurement uncertainty analysis is not required in this report.

4 MEASUREMENT SYSTEM

4.1 Specific Absorption Rate (SAR) Definition

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

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

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

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

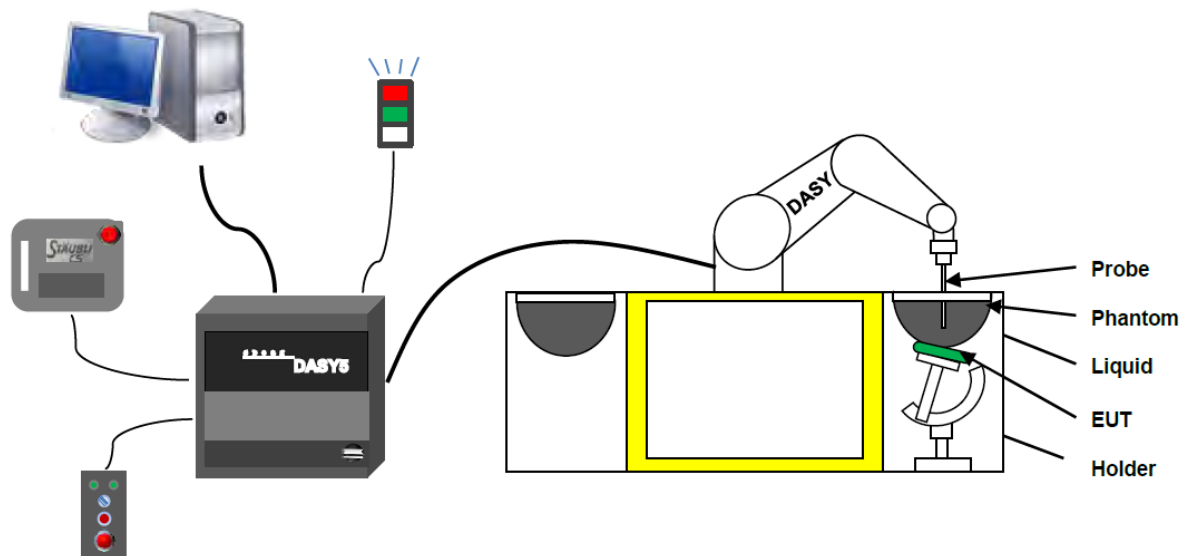
$$SAR = \frac{\sigma E^2}{\rho}$$

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 DASYS measurement server.
6. The DASYS measurement server, which performs all real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operation.
7. DASYS 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 fields 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 system Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., glycolether)
Calibration	ISO/IEC 17025 calibration service available
Frequency	10 MHz to 6 GHz; Linearity: ± 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 μ W/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

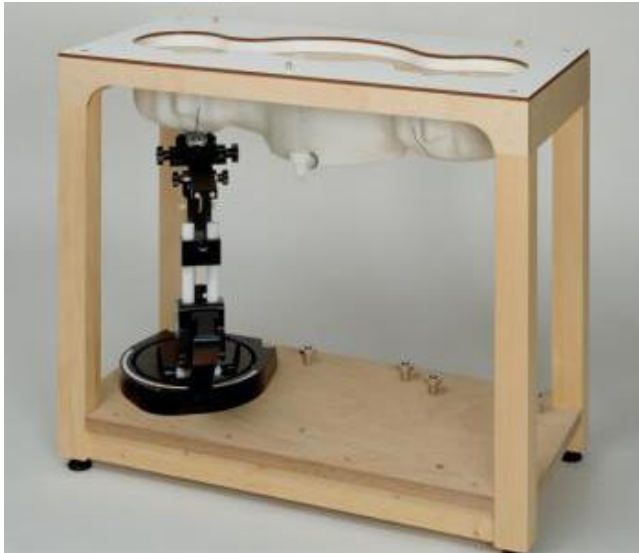
The data acquisition electronics (DAE) consist of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converte and a command decoder with a control logic unit. Transmission to the measurement server is accomplished through an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



- Input Impedance: 200M Ω m
- 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 hand
- Right hand
- Flat phantom

Photo of Phantom SN1576



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

4.2.6 Device Holder

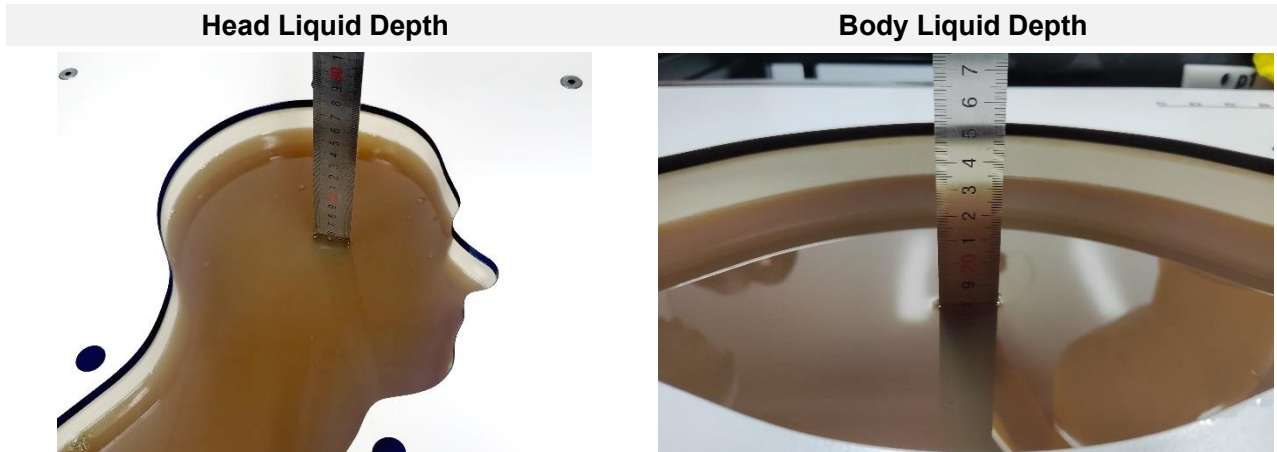
The DASY5 device holder has two scales for device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear openings). The plane between the ear openings and the mouth tip has a rotation angle of 65° . The bottom plate contains three pair of bolts for 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%.



The following table gives the recipes for tissue simulating liquid.

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

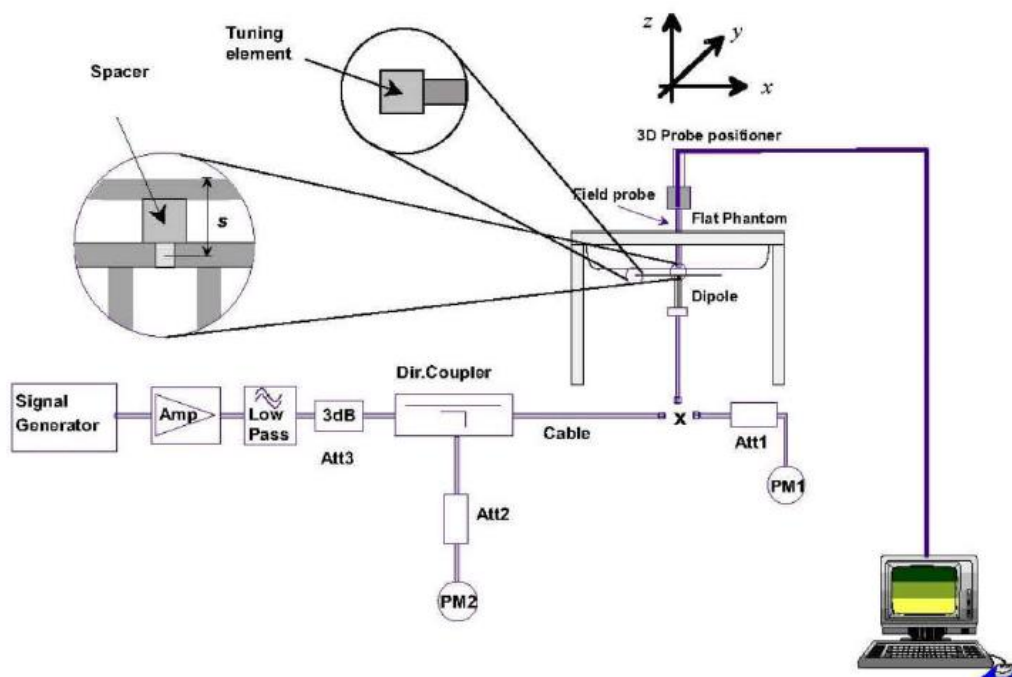
5 SYSTEM VERIFICATION

5.1 Purpose of System Check

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

5.2 System Check Setup

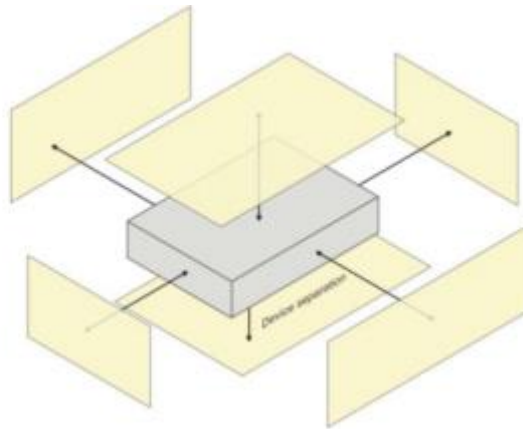
In the simplified setup for system evaluation, the EUT is replaced by a calibrated dipole and the power source is replaced by a continuous wave that comes from a signal generator. The calibrated dipole must be placed beneath the flat phantom section of the SAM twin phantom with the correct distance holder.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



6 TEST POSITION CONFIGURATIONS

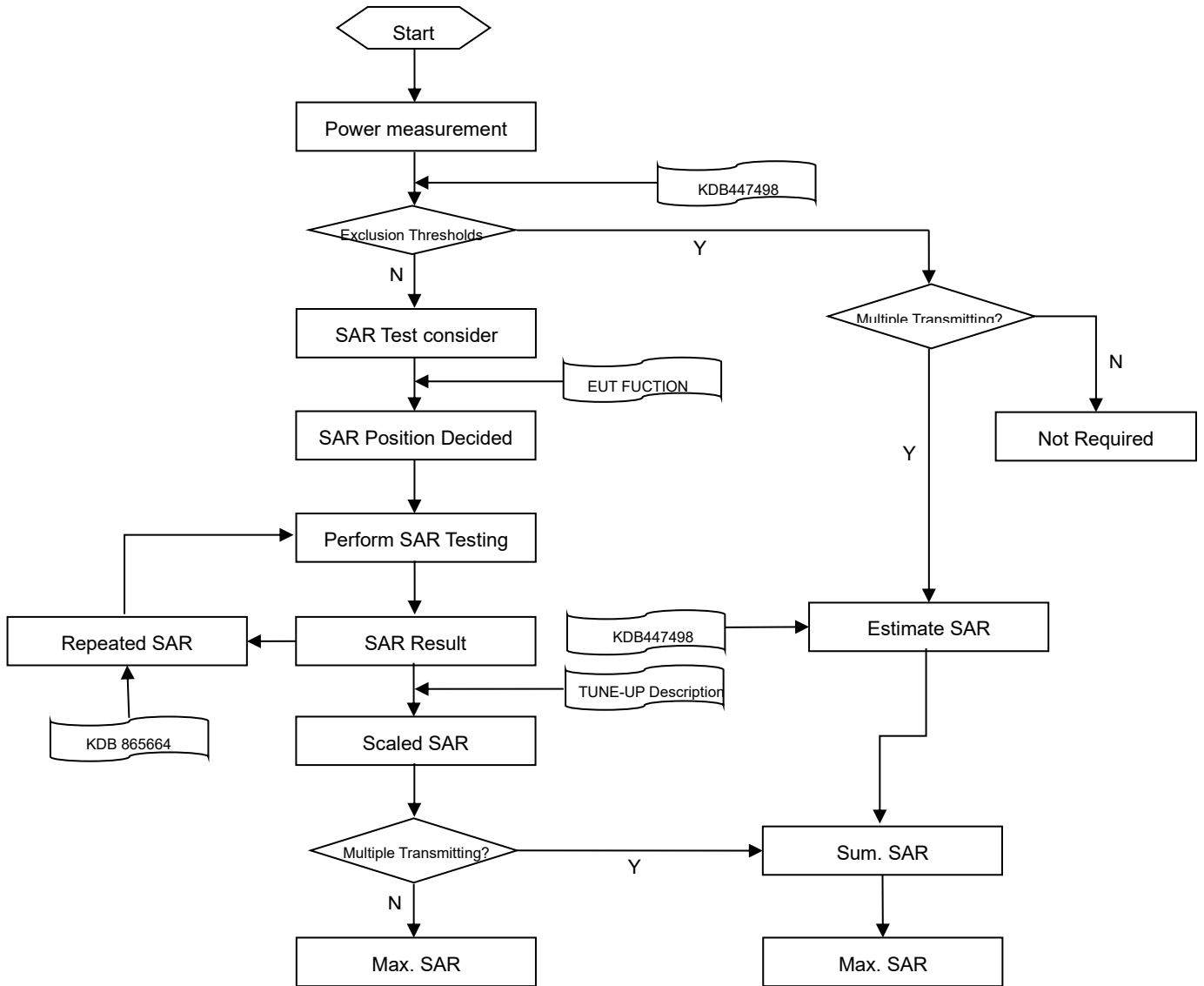
6.1 Hotspot Mode Exposure Position Conditions

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



7 MEASUREMENT PROCEDURE

7.1 Measurement Process Diagram



7.2 SAR Scan General Requirement

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

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

Note:

1. 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.

7.3 Measurement Procedure

The following steps are used for each test position

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

7.4 Area & Zoom Scan Procedure

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10 g. Area scan and zoom scan resolution setting follows KDB 865664 D01v01r04 quoted below.

When the 1 g SAR of the highest peak is within 2 dB of the SAR limit, additional zoom scans are required for other peaks within 2 dB of the highest peak that have not been included in any zoom scan to ensure there is no increase in SAR.

8 CONDUCTED RF OUPUT POWER

8.1 WCDMA

Please refer the document “BL-SH2480529-AP Power List.pdf”.

8.2 LTE

Please refer the document “BL-SH2480529-AP Power List.pdf”.

8.3 WIFI

8.3.1 2.4G WIFI

Band (GHz)	Mode	Channel	Freq. (MHz)	Average Power (dBm)	Tune-up Power Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11b	1	2412	17.83	19.00	NO
		6	2437	18.04	19.00	NO
		11	2462	18.07	19.00	YES

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.

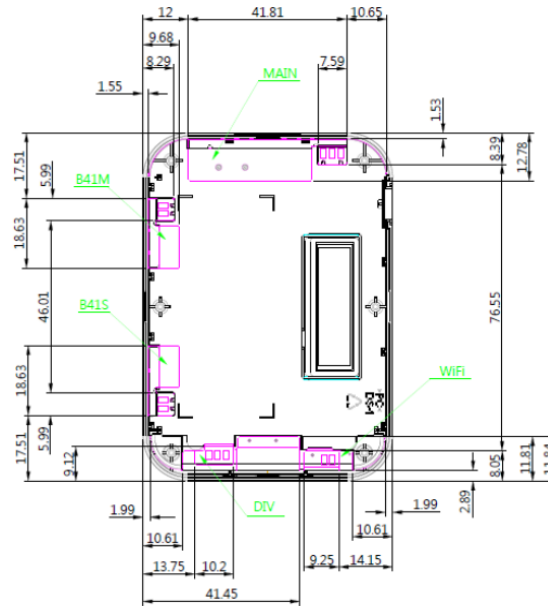
- 1) The largest channel bandwidth configuration is selected between the multiple configurations in a frequency band with the same maximum tune-up output power.
- 2) When multiple transmission modes (802.11b/g/n) have the same maximum tune-up output power, largest channel bandwidth, lowest order modulation 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.

8.3.2 5G WIFI

Band (GHz)	Mode	Channel	Freq. (MHz)	Conducted Power (dBm)	Tune-up Power Limit (dBm)	SAR Test Require.
5.2 (5.15~5.25)	802.11n(HT40)	38	5190	16.37	18.00	NO
		46	5230	16.70	18.00	YES
5.8 (5.725~5.850)	802.11ac(VHT80)	155	5775	17.00	18.00	YES

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.

9 TEST EXCLUSION CONSIDERATION



<The Distance information of Antenna to Edges of Wireless Router>

SAR Test Exclusions Applied

Based on the maximum tune-up tolerance limit of FDD, TDD, and WLAN, and the antenna to use separation distance, Table “EXEMPT” SAR was not required and Table “Measure” SAR was required.

Frequency (MHz)	Output power ^{Note 2, 4}		Separation distances (mm) ^{Note 3 and 4}						SAR Exemption ^{Note 3 and 4}					
	dBm	mW	Rear	Right Edge	Left Edge	Top	Bottom	Front	Rear	Right Edge	Left Edge	Top	Bottom	Front
FDD Antenna														
711	24.00	251	5	80.21	1.53	1.55	5	5	42.33 Measure	321mW EXEMPT	42.33 Measure	42.33 Measure	42.33 Measure	42.33 Measure
844	23.50	224	5	80.21	1.53	1.55	5	5	41.16 Measure	333mW EXEMPT	41.16 Measure	41.16 Measure	41.16 Measure	41.16 Measure
1770	22.00	158	5	80.21	1.53	1.55	5	5	42.04 Measure	415mW EXEMPT	42.04 Measure	42.04 Measure	42.04 Measure	42.04 Measure
1907.6	23.00	200	5	80.21	1.53	1.55	5	5	55.25 Measure	411mW EXEMPT	55.25 Measure	55.25 Measure	55.25 Measure	55.25 Measure
TDD Antenna														
2680	24.00	251	5	56.85	17.51	1.55	54.78	5	82.18 Measure	Measure	22.83 Measure	82.18 Measure	Measure	82.18 Measure
WLAN Antenna														
2462	19.00	79	5	2.89	81.15	1.99	41.06	5	24.79 Measure	24.79 Measure	407mW EXEMPT	24.79 Measure	3.02 Measure	24.79 Measure
5230	18.00	63	5	2.89	81.15	1.99	41.06	5	28.82 Measure	28.82 Measure	377mW EXEMPT	28.82 Measure	3.51 Measure	28.82 Measure
5775	18.00	63	5	2.89	81.15	1.99	41.06	5	30.28 Measure	30.28 Measure	374mW EXEMPT	30.28 Measure	3.69 Measure	30.28 Measure

10 TEST RESULT

10.1 Worst Case of WCDMA Band 2 SAR

Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR(W/kg)	Meas. Power (dBm)	Tune-up power(dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Hotspot											
RMC	Front Side	10	9538	1907.6	-0.02	0.938	22.01	23.00	1.256	1.178	1#
Note: Refer to ANNEX C for the detailed test data for each test configuration.											

10.2 Worst Case of WCDMA Band 4 SAR

Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR(W/kg)	Meas. Power (dBm)	Tune-up power(dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Hotspot											
RMC	Left Edge	10	1513	1752.6	0.04	1.060	21.53	22.00	1.114	1.181	2#
Note: Refer to ANNEX C for the detailed test data for each test configuration.											

10.3 Worst Case of WCDMA Band 5 SAR

Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR(W/kg)	Meas. Power (dBm)	Tune-up power(dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Hotspot											
RMC	Front Side	10	4233	846.6	0.01	0.221	21.15	22.50	1.365	0.302	3#
Note: Refer to ANNEX C for the detailed test data for each test configuration.											

10.4 Worst Case of LTE Band 2 (20MHz Bandwidth)

Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR(W/kg)	Meas. Power (dBm)	Tune-up power(dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Hotspot													
QPSK	Front Side	10	18700	1860	1	LOW	-0.04	1.000	22.01	22.50	1.119	1.119	4#

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

10.5 Worst Case of LTE Band 5 (10MHz Bandwidth)

Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR(W/kg)	Meas. Power (dBm)	Tune-up power(dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Hotspot													
QPSK	Front Side	10	20600	844	1	MID	0.18	0.731	21.33	22.50	1.309	0.957	5#

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

10.6 Worst Case of LTE Band 12 (10MHz Bandwidth)

Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR(W/kg)	Meas. Power(dBm)	Max. tune-power(dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Hotspot													
QPSK	Front Side	10	23060	704	1	MID	-0.17	0.942	23.12	24.00	1.225	1.154	6#

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

10.7 Worst Case of LTE Band 25 (20MHz Bandwidth)

Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR(W/kg)	Meas. Power(dBm)	Max. tune-power(dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Hotspot													
QPSK	Front Side	10	26140	1860	1	LOW	-0.09	1.210	22.51	22.70	1.045	1.264	7#

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

10.8 Worst Case of LTE Band 26 (15MHz Bandwidth)

Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR(W/kg)	Meas. Power(dBm)	Max. tune- power(dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Hotspot													
QPSK	Front Side	10	26965	841.5	1	HIGH	-0.07	0.945	22.63	23.50	1.222	1.155	8#
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

10.9 Worst Case of LTE Band 66 (20MHz Bandwidth)

Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR(W/kg)	Meas. Power(dBm)	Max. tune- power(dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Hotspot													
QPSK	Front Side	10	132572	1770	1	MID	0.03	1.210	21.58	22.00	1.102	1.333	9#
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

10.10 Worst Case of LTE Band 71 (20MHz Bandwidth)

Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR(W/kg)	Meas. Power(dBm)	Max. tune- power(dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Hotspot													
QPSK	Front Side	10	133372	688	1	MID	-0.03	0.737	22.10	23.80	1.479	1.090	10#
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

10.11 Worst Case of LTE Band 41 (20MHz Bandwidth)

Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR(W/kg)	Meas. Power (dBm)	Tune-up power(dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Hotspot													
QPSK	Front Side	10	41055	2636.5	1	MID	-0.03	0.779	22.35	24.00	1.462	1.139	11#
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

10.12 Worst Case of WIFI 2.4GHz

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR(W/kg)	Meas. Power(dBm)	Max. tune-power(dBm)	Scaling Factor	Duty Cycle(%)	Scaling Factor	1 g Scaled SAR (W/kg)
Hotspot													
2.4G	802.11 b	Bottom	10	11	2462	-0.01	0.516	18.07	19.00	1.239	99.00	1.010	12#
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

10.13 Worst Case of WIFI 5GHz

Band	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR(W/kg)	Meas. Power(dBm)	Max. tune-power(dBm)	Scaling Factor	Duty Cycle(%)	Scaling Factor	1 g Scaled SAR (W/kg)
Hotspot													
5.2G	802.11 n40	Back Side	10	46	5230	0.09	0.138	16.70	18.00	1.349	88.78	1.126	13#
5.8G	802.11 ac80	Right Edge	10	155	5775	-0.03	0.135	17.00	18.00	1.259	72.09	1.387	14#
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

11 SAR Measurement Variability

Note: The SAR Measurement Variability please refer to the report F690501-RF-SAR000100-A1, which was issued by by SGS Korea Co., Ltd. on Nov. 23, 2020.

12 SIMULTANEOUS TRANSMISSION

Note: The SIMULTANEOUS TRANSMISSION please refer to the report F690501-RF-SAR000100-A1, which was issued by by SGS Korea Co., Ltd. on Nov. 23, 2020.

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	2024/08/19	2027/08/18
835MHz Validation Dipole	Speag	D835V2	SN: 4d187	2024/05/08	2027/05/07
1750MHz Validation Dipole	Speag	D1750V2	SN: 1130	2024/05/08	2027/05/07
1950MHz Validation Dipole	Speag	D1950V3	SN: 1240	2024/08/22	2027/08/21
2450MHz Validation Dipole	Speag	D2450V2	SN: 952	2024/05/07	2027/05/06
2600MHz Validation Dipole	Speag	D2600V2	SN: 1095	2024/05/08	2027/05/07
5GHz Validation Dipole	Speag	D5GHzV2	SN: 1200	2024/05/09	2027/05/08
Data Acquisition Electronicsr	Speag	DAE4	SN: 1711	2024/03/18	2025/03/17
E-Field Probe	Speag	EX3DV4	SN: 7510	2024/06/25	2025/06/24
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	6201502991	2023/11/14	2024/11/13
Network Analyzer	Agilent	E5071C	MY46103472	2023/11/14	2024/11/13
Thermometer	Elitech	RC-4	EF5238001628	2023/10/09	2024/10/08
Thermometer	Elitech	RC-4HC	EF7239002652	2023/11/17	2024/11/16
Power Amplifier	SATIMO	6552B	22374	N/A	N/A
Phantom	Speag	SAM	SN: 1576	N/A	N/A
Attenuator	COM-MW	ZA-S1-31	1305003187	N/A	N/A
Directional coupler	AA-MCS	AAMCS-UDC	000272	N/A	N/A

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

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

ANNEX A SIMULATING LIQUID VERIFICATION RESULT

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

Date	Liquid Type	Fre. (MHz)	Temp. (°C)	Meas. Conductivity (σ) (S/m)	Meas. Permittivity (ϵ)	Target Conductivity (σ) (S/m)	Target Permittivity (ϵ)	Conductivity Tolerance (%)	Permittivity Tolerance (%)
2024.08.28	Head	750	21.4	0.91	42.42	0.89	41.94	2.25	1.14
2024.08.28	Head	835	21.4	0.88	42.63	0.90	41.50	-2.22	2.72
2024.08.28	Head	1750	21.4	1.37	41.20	1.37	40.08	0.00	2.79
2024.08.28	Head	1950	21.4	1.44	38.61	1.40	40.00	2.86	-3.48
2024.08.28	Head	2450	21.4	1.78	38.64	1.80	39.20	-1.11	-1.43
2024.08.28	Head	2600	21.4	1.94	39.48	1.96	39.01	-1.02	1.20
2024.08.28	Head	5250	21.4	4.78	35.20	4.71	35.93	1.49	-2.03
2024.08.28	Head	5750	21.4	5.19	35.89	5.22	35.36	-0.57	1.50

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

ANNEX B SYSTEM CHECK RESULT

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

Date	Liquid Type	Freq. (MHz)	Power (mW)	Measured SAR (W/kg)	Normalized SAR (W/kg)	Dipole SAR (W/kg)	Tolerance (%)
2024.08.28	Head	750	100	0.852	8.52	8.46	0.71
2024.08.28	Head	835	100	0.971	9.71	9.74	-0.31
2024.08.28	Head	1750	100	3.650	36.50	37.00	-1.35
2024.08.28	Head	1950	100	4.140	41.40	41.70	-0.72
2024.08.28	Head	2450	100	5.430	54.30	52.60	3.23
2024.08.28	Head	2600	100	5.680	56.80	55.90	1.61
2024.08.28	Head	5250	100	7.910	79.10	77.70	1.80
2024.08.28	Head	5750	100	7.780	77.80	77.60	0.26

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

System Performance Check Data (750MHz)

Date: 2024.08.28

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

Medium parameters used (extrapolated): $f = 750$ MHz; $\sigma = 0.909$ S/m; $\epsilon_r = 42.421$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(10.29, 10.29, 10.29); Calibrated: 2024.06.25;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1711; Calibrated: 2024.03.18
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

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

Maximum value of SAR (interpolated) = 0.883 W/kg

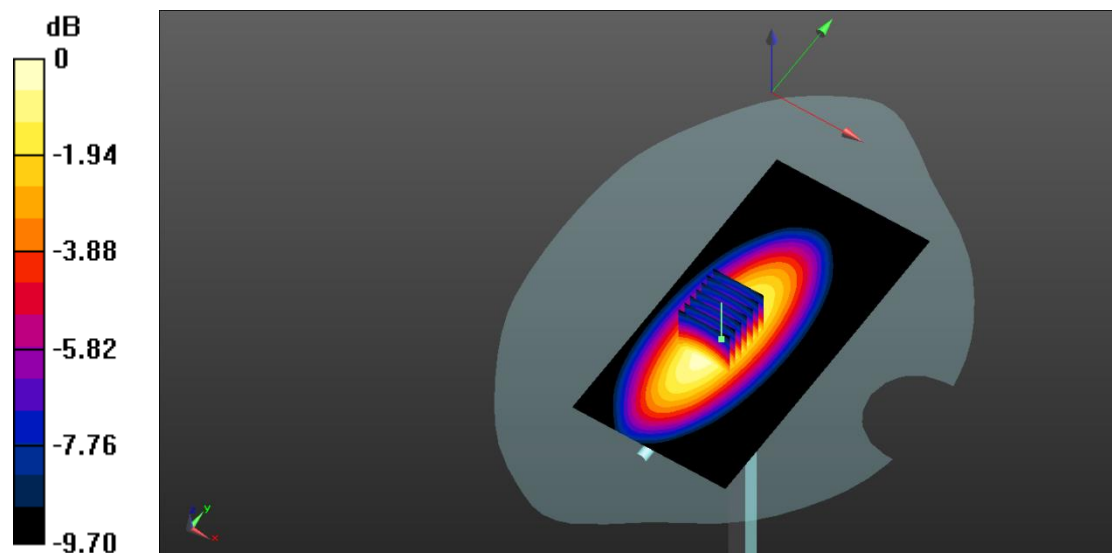
CW 750/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 28.21 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.22 W/kg

SAR(1 g) = 0.852 W/kg; SAR(10 g) = 0.563 W/kg

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



0 dB = 0.872 W/kg

System Performance Check Data (835MHz)

Date: 2024.08.28

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

Medium parameters used: $f = 835$ MHz; $\sigma = 0.878$ S/m; $\epsilon_r = 42.629$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(9.99, 9.99, 9.99); Calibrated: 2024.06.25;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1711; Calibrated: 2024.03.18
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CW 835/Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.11 W/kg

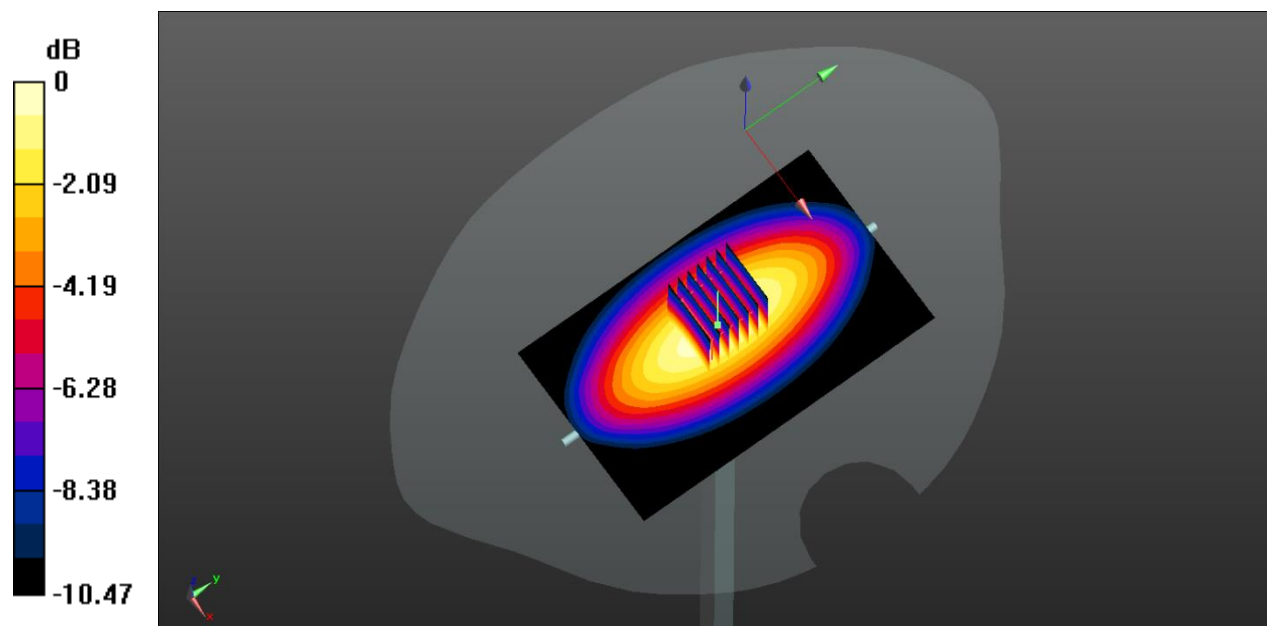
CW 835/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 33.35 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 1.43 W/kg

SAR(1 g) = 0.971 W/kg; SAR(10 g) = 0.631 W/kg

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



0 dB = 1.08 W/kg

System Performance Check Data (1750MHz)

Date: 2024.08.28

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

Medium parameters used (interpolated): $f = 1750$ MHz; $\sigma = 1.65$ S/m; $\epsilon_r = 41.202$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.67, 8.67, 8.67); Calibrated: 2024.06.25;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1711; Calibrated: 2024.03.18
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

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

Maximum value of SAR (interpolated) = 4.44 W/kg

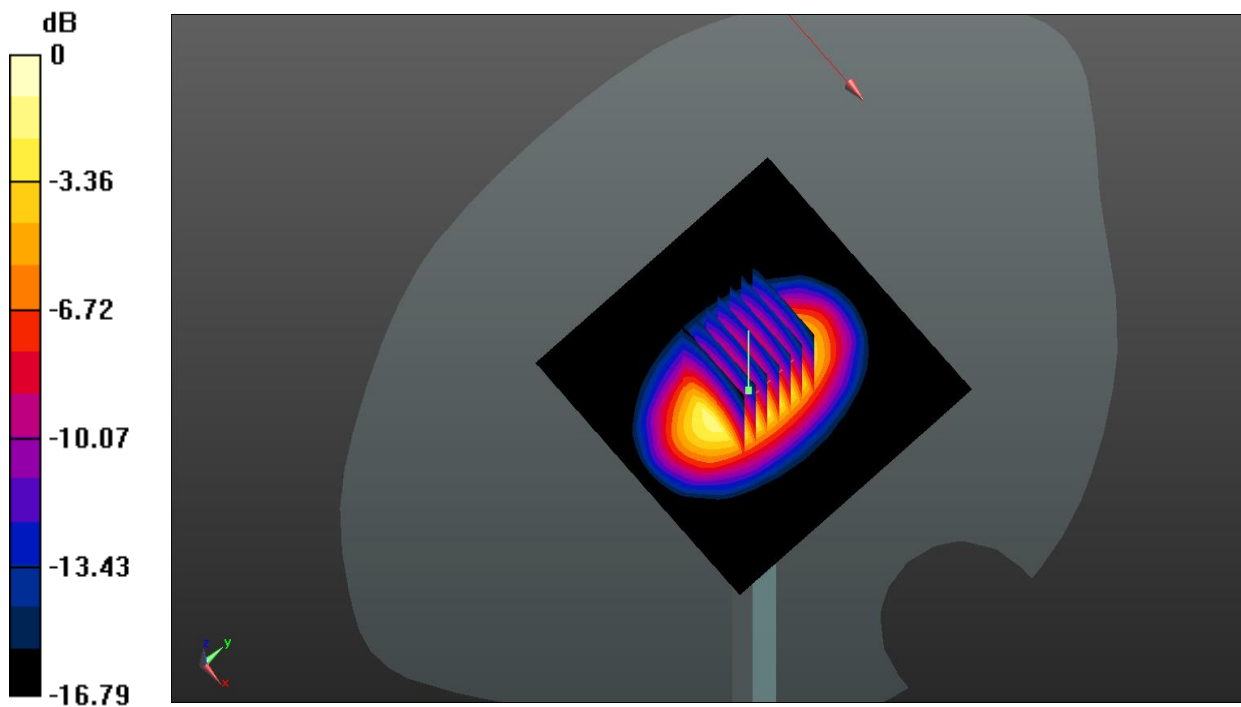
CW 1750/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 54.71 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 7.04 W/kg

SAR(1 g) = 3.65 W/kg; SAR(10 g) = 1.91 W/kg

Maximum value of SAR (measured) = 4.28 W/kg



0 dB = 4.28 W/kg

System Performance Check Data (1950MHz)

Date: 2024.08.28

Communication System Band: D1950 (1950.0 MHz); Frequency: 1950 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1950$ MHz; $\sigma = 1.435$ S/m; $\epsilon_r = 38.612$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.33, 8.33, 8.33); Calibrated: 2024.06.25;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1711; Calibrated: 2024.03.18
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CW 1950/Area Scan (101x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 4.62 W/kg

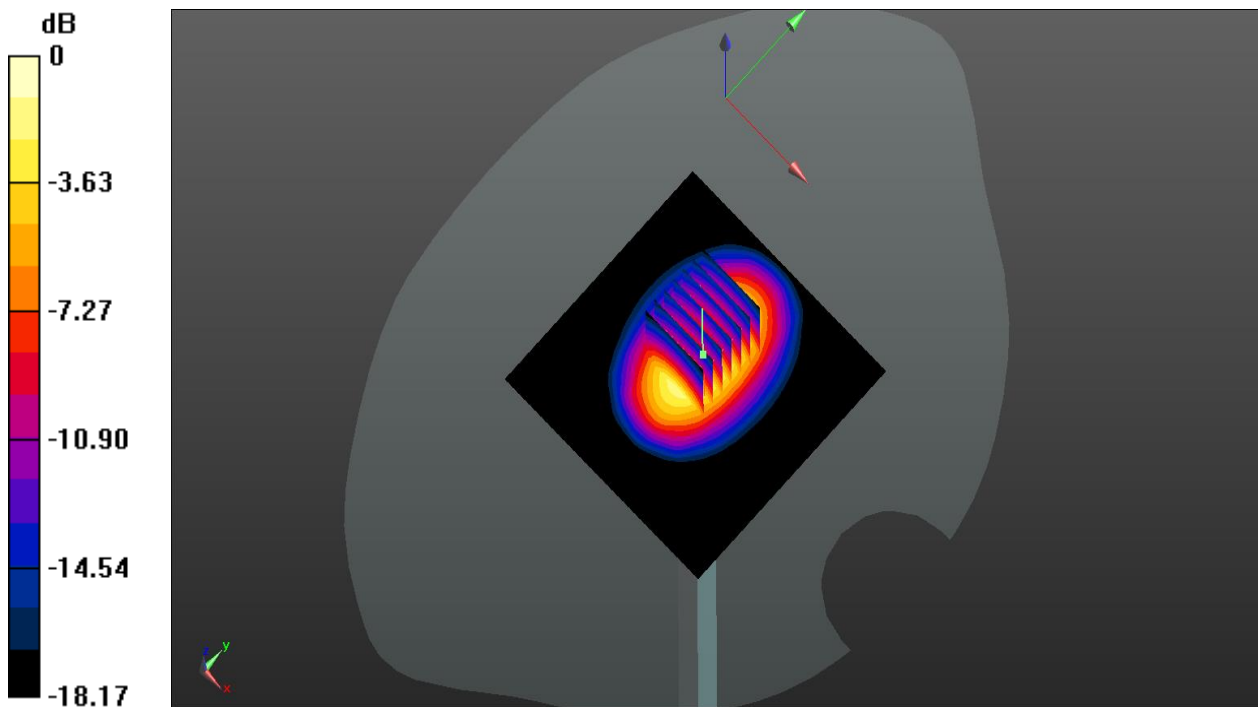
CW 1950/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 53.11 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 7.59 W/kg

SAR(1 g) = 4.14 W/kg; SAR(10 g) = 2.12 W/kg

Maximum value of SAR (measured) = 4.47 W/kg



0 dB = 4.47 W/kg

System Performance Check Data (2450MHz)

Date: 2024.08.28

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

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.781$ S/m; $\epsilon_r = 38.641$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.75, 7.75, 7.75); Calibrated: 2024.06.25;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1711; Calibrated: 2024.03.18
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

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

Maximum value of SAR (interpolated) = 6.38 W/kg

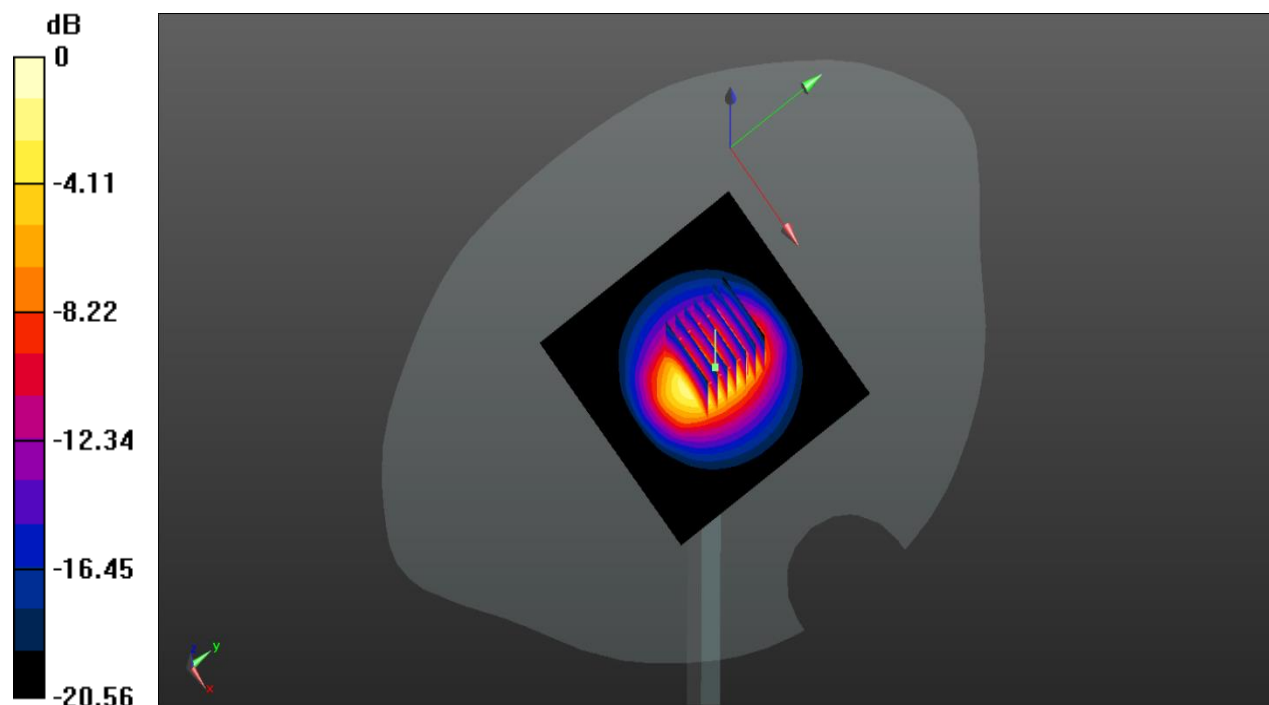
CW 2450/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 58.17 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 11.5 W/kg

SAR(1 g) = 5.43 W/kg; SAR(10 g) = 2.58 W/kg

Maximum value of SAR (measured) = 6.17 W/kg



0 dB = 6.17 W/kg

System Performance Check Data (2600MHz)

Date: 2024.08.28

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

Medium parameters used (interpolated): $f = 2600$ MHz; $\sigma = 1.936$ S/m; $\epsilon_r = 39.482$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.59, 7.59, 7.59); Calibrated: 2024.06.25;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1711; Calibrated: 2024.03.18
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

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

Maximum value of SAR (interpolated) = 6.57 W/kg

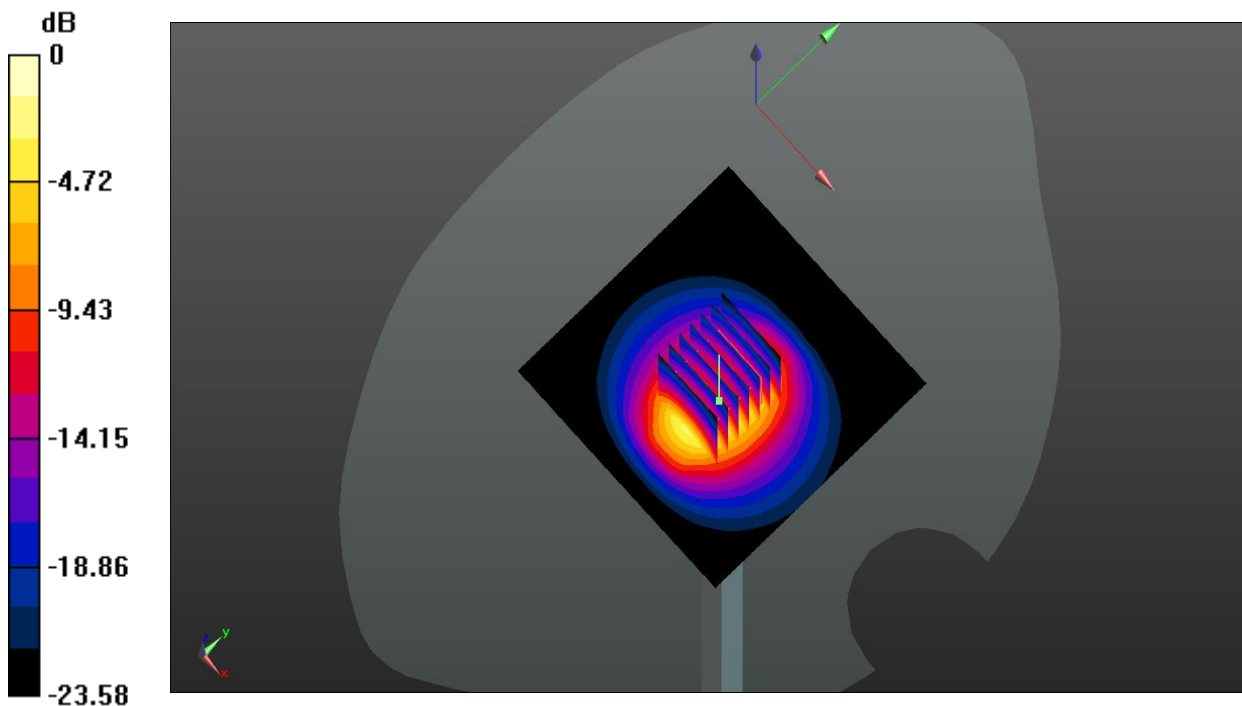
CW 2600/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 45.67 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 12.3 W/kg

SAR(1 g) = 5.68 W/kg; SAR(10 g) = 2.54 W/kg

Maximum value of SAR (measured) = 6.48 W/kg



0 dB = 6.48 W/kg

System Performance Check Data (5250MHz)

Date: 2024.08.28

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

Medium parameters used: $f = 5250$ MHz; $\sigma = 4.78$ S/m; $\epsilon_r = 35.197$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(5.74, 5.74, 5.74); Calibrated: 2024.06.25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1711; Calibrated: 2024.03.18
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

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

Maximum value of SAR (interpolated) = 8.58 W/kg

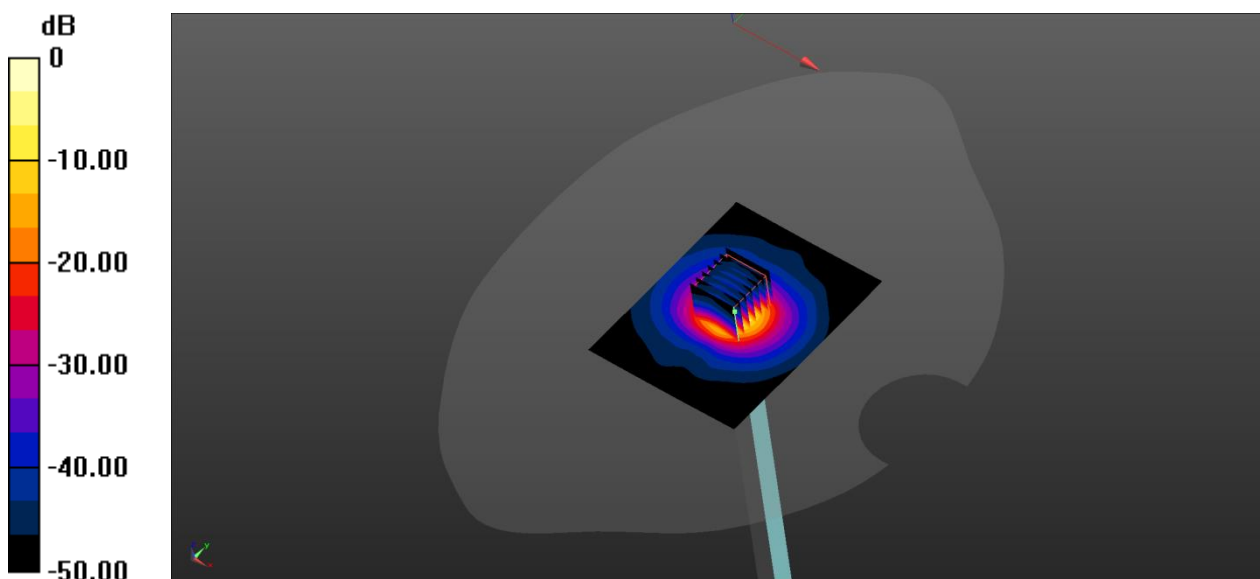
CW 5250/Zoom Scan (7x7x21)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 37.72 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 33.1 W/kg

SAR(1 g) = 7.91 W/kg; SAR(10 g) = 2.25 W/kg

Maximum value of SAR (measured) = 19.8 W/kg



0 dB = 19.8 W/kg

System Performance Check Data (5750MHz)

Date: 2024.08.28

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

Medium parameters used: $f = 5750 \text{ MHz}$; $\sigma = 5.193 \text{ S/m}$; $\epsilon_r = 35.885$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(5.04, 5.04, 5.04); Calibrated: 2024.06.25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1711; Calibrated: 2024.03.18
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CW 5750/Area Scan (81x81x1): Interpolated grid: $dx=1.000 \text{ mm}$, $dy=1.000 \text{ mm}$

Maximum value of SAR (interpolated) = 8.98 W/kg

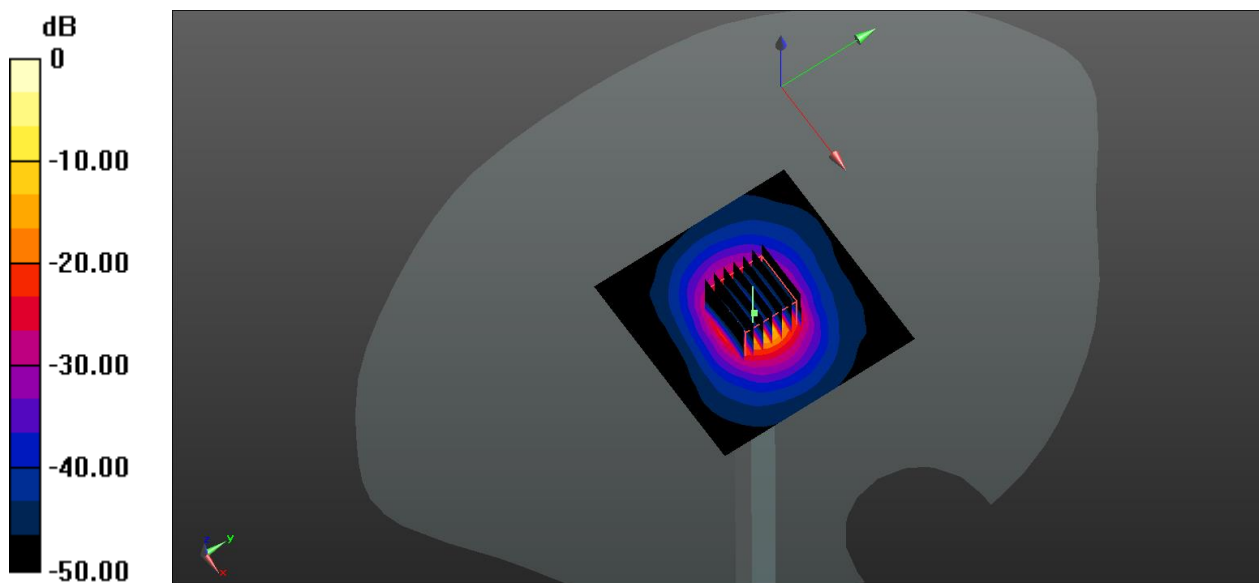
CW 5750/Zoom Scan (7x7x15)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2\text{mm}$

Reference Value = 40.23 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 36.3 W/kg

SAR(1 g) = 7.78 W/kg; SAR(10 g) = 2.14 W/kg

Maximum value of SAR (measured) = 15.8W/kg



0 dB = 15.8 W/kg

ANNEX C TEST DATA

Meas.1 Body Plane with Front Side 10mm on Low Channel in WCDMA Band2

Date: 2024.08.28

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

Medium parameters used (interpolated): $f = 1907.6$ MHz; $\sigma = 1.432$ S/m; $\epsilon_r = 38.632$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.33, 8.33, 8.33); Calibrated: 2024.06.25;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1711; Calibrated: 2024.03.18
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CH9538/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

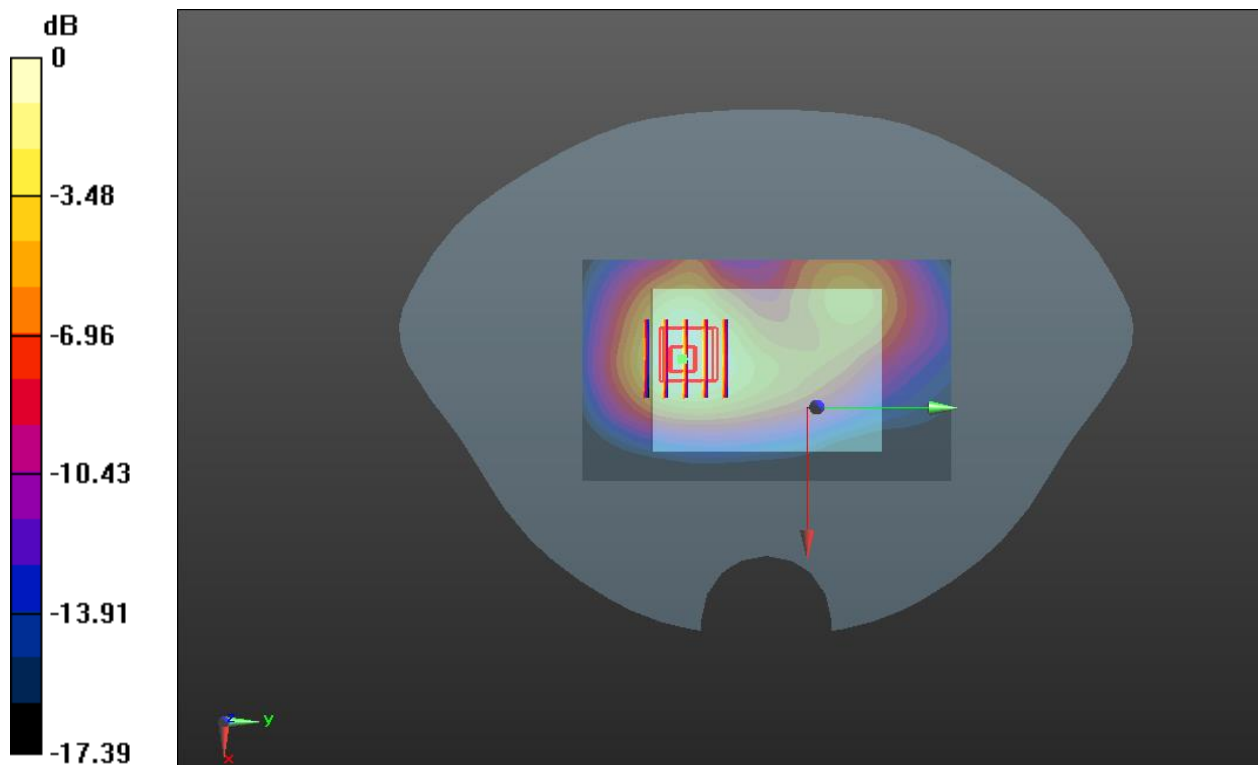
CH9538/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.21 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 1.50 W/kg

SAR(1 g) = 0.938 W/kg; SAR(10 g) = 0.567 W/kg

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



0 dB = 1.02 W/kg

Meas.2 Body Plane with Left Edge 10mm on Low Channel in WCDMA Band4

Date: 2024.08.28

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

Medium parameters used (interpolated): $f = 1752.6$ MHz; $\sigma = 1.37$ S/m; $\epsilon_r = 41.005$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.67, 8.67, 8.67); Calibrated: 2024.06.25;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1711; Calibrated: 2024.03.18
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CH1513/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.21 W/kg

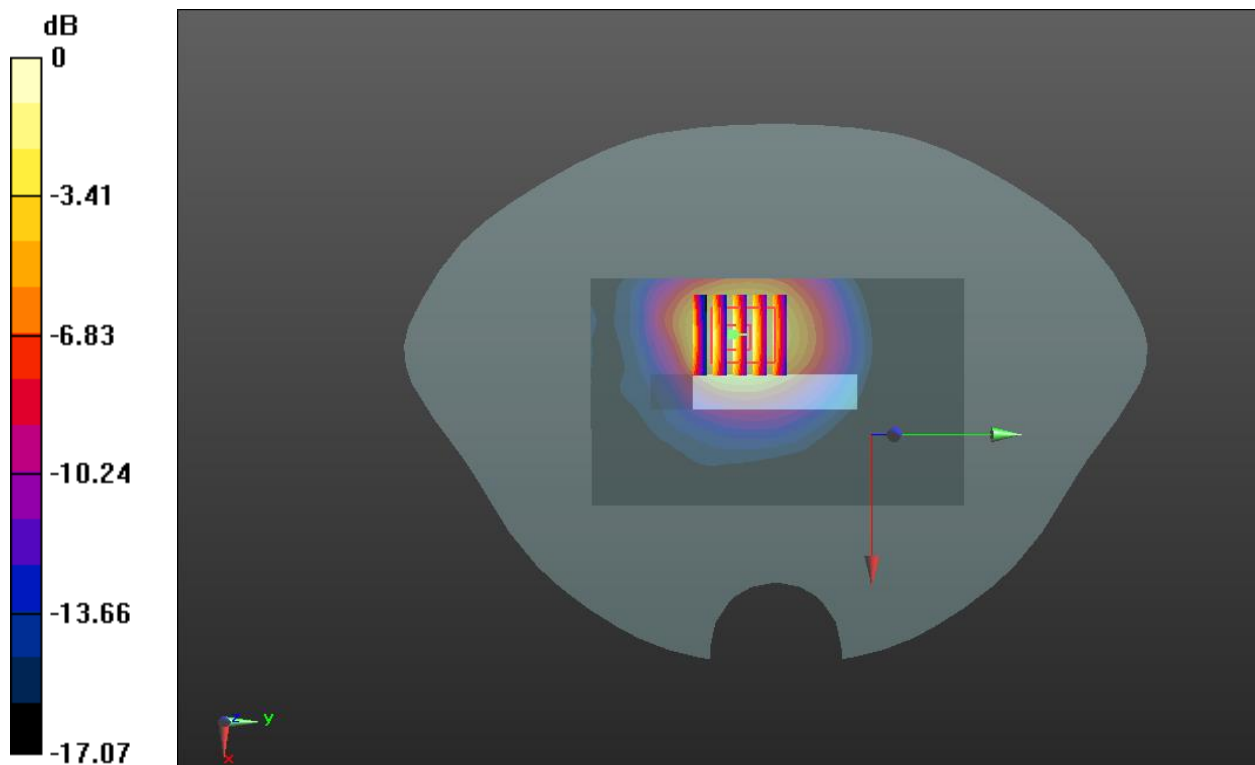
CH1513/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.30 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.73 W/kg

SAR(1 g) = 1.06 W/kg; SAR(10 g) = 0.616 W/kg

Maximum value of SAR (measured) = 1.17 W/kg



0 dB = 1.17 W/kg

Meas.3 Body Plane with Front Side 10mm on Low Channel in WCDMA Band5

Date: 2024.08.28

Communication System Band: WCDMA Band V(826.4-846.6); Frequency: 846.6 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 846.6$ MHz; $\sigma = 0.933$ S/m; $\epsilon_r = 40.209$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(9.99, 9.99, 9.99); Calibrated: 2024.06.25;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1711; Calibrated: 2024.03.18
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CH4233/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.308 W/kg

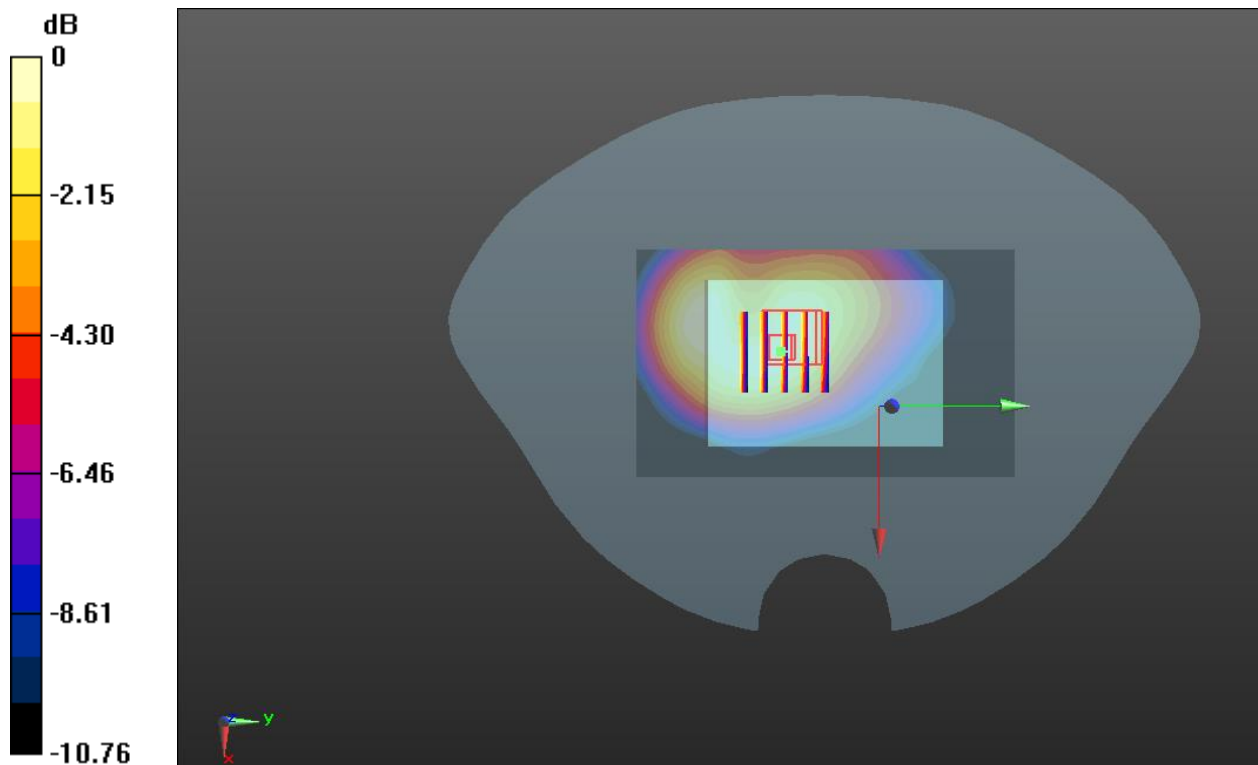
CH4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.962 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.367 W/kg

SAR(1 g) = 0.221 W/kg; SAR(10 g) = 0.105W/kg

Maximum value of SAR (measured) = 0.305 W/kg



0 dB = 0.305 W/kg

Meas.4 Body Plane with Front Side 10mm on Low Channel in LTE Band2

Date: 2024.08.28

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

Medium parameters used (interpolated): $f = 1860$ MHz; $\sigma = 1.369$ S/m; $\epsilon_r = 39.488$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.33, 8.33, 8.33); Calibrated: 2024.06.25;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1711; Calibrated: 2024.03.18
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CH18700/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.13 W/kg

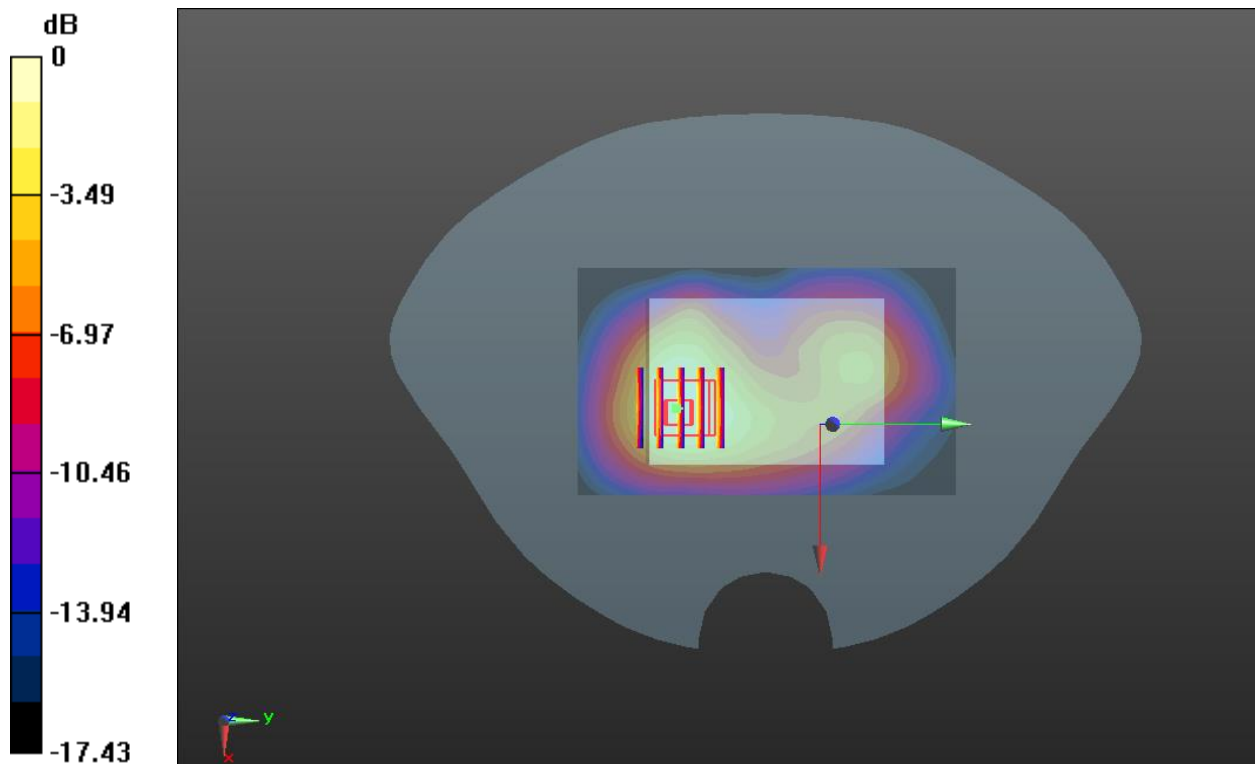
CH18700/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.59 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 1.64 W/kg

SAR(1 g) = 1 W/kg; SAR(10 g) = 0.597 W/kg

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



0 dB = 1.08 W/kg

Meas.5 Body Plane with Front Side 10mm on Low Channel in LTE Band5

Date: 2024.08.28

Communication System Band: BAND 5; Frequency: 844 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 844 \text{ MHz}$; $\sigma = 0.918 \text{ S/m}$; $\epsilon_r = 40.529$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(9.99, 9.99, 9.99); Calibrated: 2024.06.25;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1711; Calibrated: 2024.03.18
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CH20600/Area Scan (61x101x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 0.803 W/kg

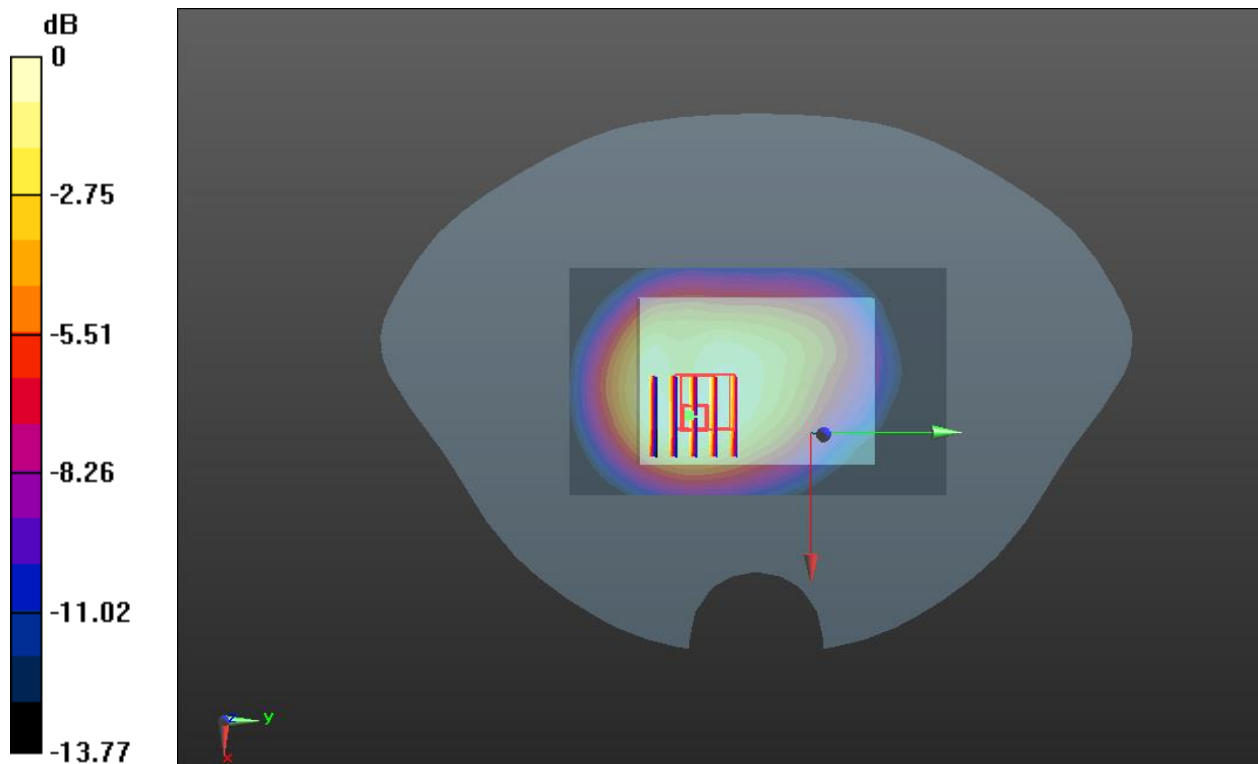
CH20600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 24.45 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 1.25 W/kg

SAR(1 g) = 0.731 W/kg; SAR(10 g) = 0.470 W/kg

Maximum value of SAR (measured) = 0.793 W/kg



0 dB = 0.793 W/kg

Meas.6 Body Plane with Front Side 10mm on Low Channel in LTE Band12

Date: 2024.08.28

Communication System Band: BAND 12; Frequency: 704 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 704 \text{ MHz}$; $\sigma = 0.899 \text{ S/m}$; $\epsilon_r = 42.744$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(10.29, 10.29, 10.29); Calibrated: 2024.06.25;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1711; Calibrated: 2024.03.18
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CH23060/Area Scan (61x101x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 1.05 W/kg

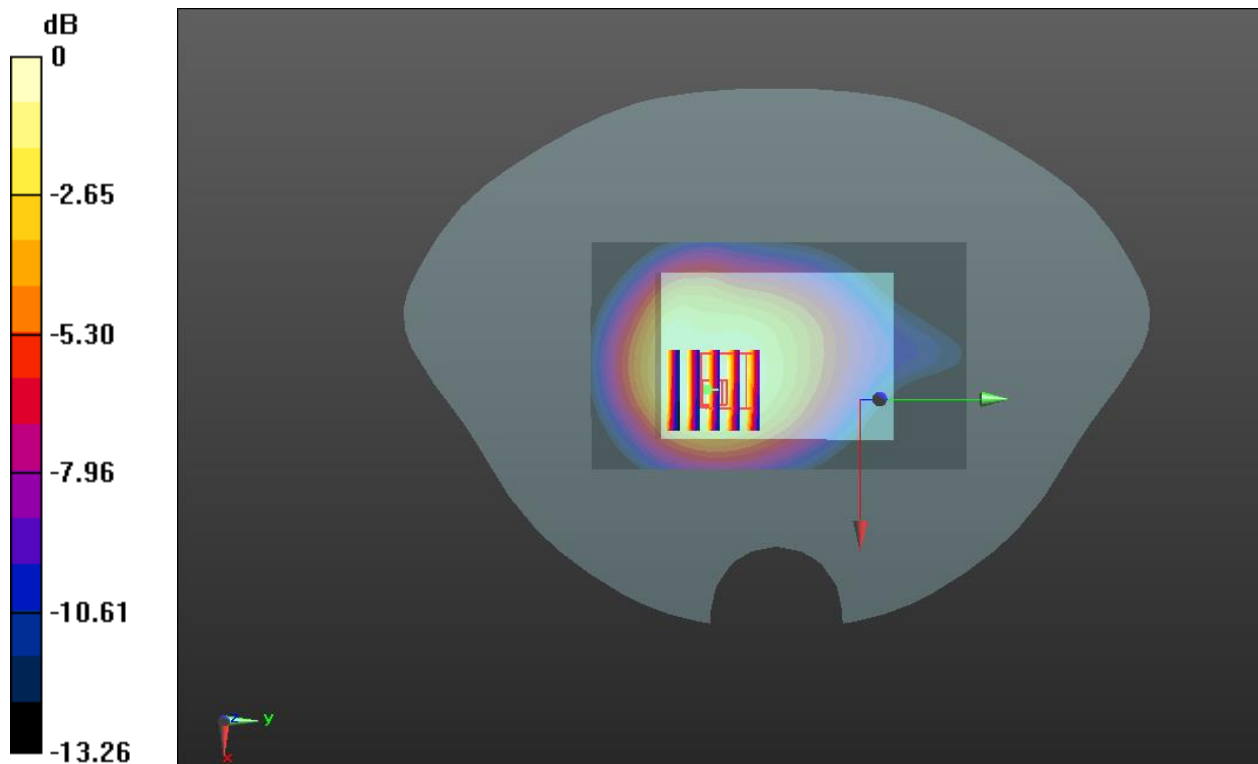
CH23060/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 25.84 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 1.60 W/kg

SAR(1 g) = 0.942 W/kg; SAR(10 g) = 0.603 W/kg

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



0 dB = 1.02 W/kg

Meas.7 Body Plane with Front Side 10mm on Low Channel in LTE Band25

Date: 2024.08.28

Communication System Band: BAND 25; Frequency: 1860 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1860$ MHz; $\sigma = 1.369$ S/m; $\epsilon_r = 39.488$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.33, 8.33, 8.33); Calibrated: 2024.06.25;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1711; Calibrated: 2024.03.18
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CH26140/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.55 W/kg

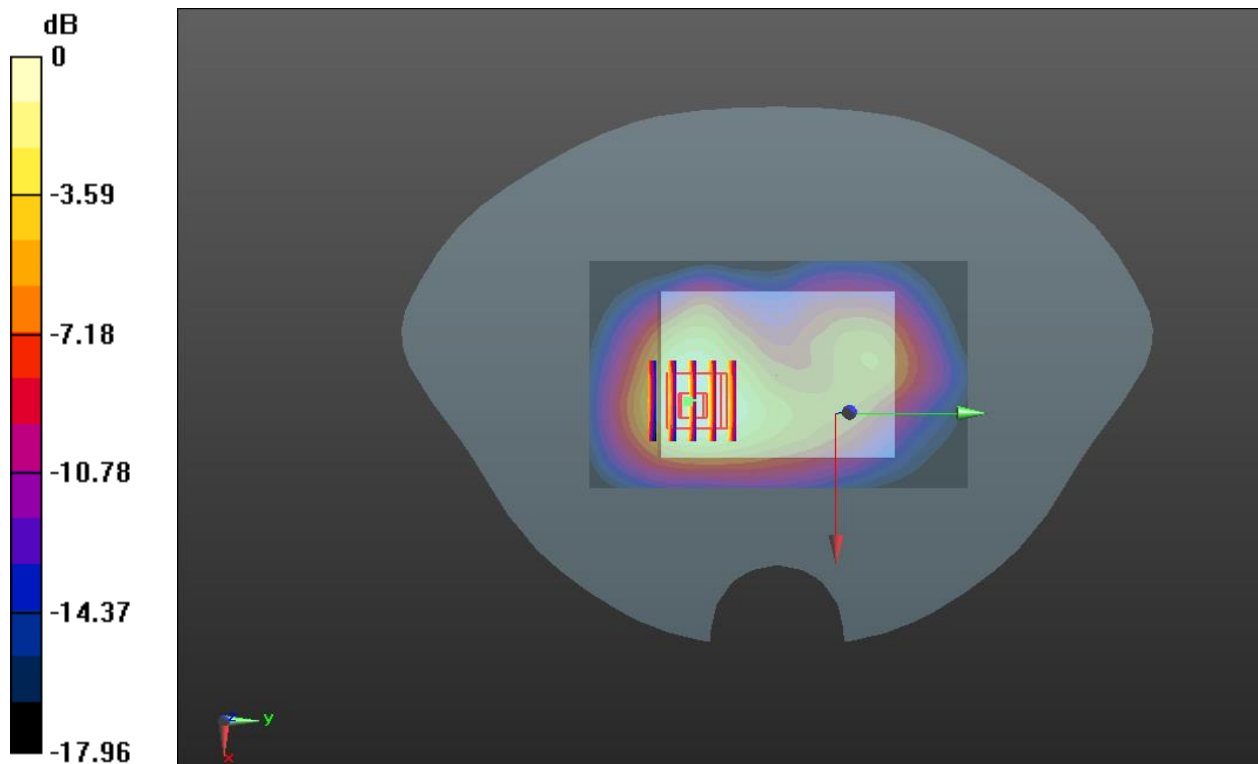
CH26140/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.32 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 2.19 W/kg

SAR(1 g) = 1.21 W/kg; SAR(10 g) = 0.671 W/kg

Maximum value of SAR (measured) = 1.41 W/kg



0 dB = 1.41 W/kg

Meas.8 Body Plane with Front Side 10mm on Low Channel in LTE Band26

Date: 2024.08.28

Communication System Band: BAND 26; Frequency: 841.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 841.5 \text{ MHz}$; $\sigma = 0.911 \text{ S/m}$; $\epsilon_r = 40.633$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(9.99, 9.99, 9.99); Calibrated: 2024.06.25;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1711; Calibrated: 2024.03.18
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CH26965/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.13 W/kg

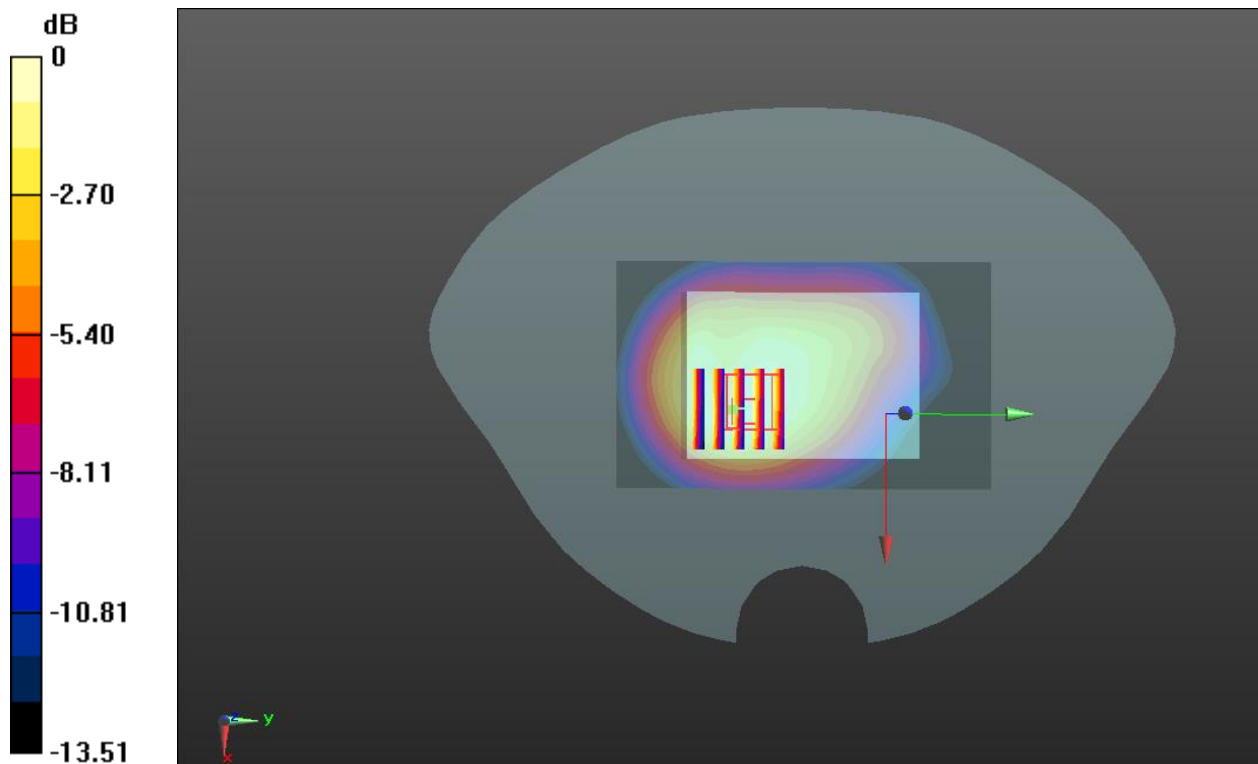
CH26965/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 27.41 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 1.49 W/kg

SAR(1 g) = 0.945 W/kg; SAR(10 g) = 0.613 W/kg

Maximum value of SAR (measured) = 1.00 W/kg



0 dB = 1.00 W/kg

Meas.9 Body Plane with Front Side 10mm on Low Channel in LTE Band66

Date: 2024.08.28

Communication System Band: BAND 66; Frequency: 1770 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1770$ MHz; $\sigma = 1.399$ S/m; $\epsilon_r = 40.901$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.67, 8.67, 8.67); Calibrated: 2024.06.25;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1711; Calibrated: 2024.03.18
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CH132572/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.59 W/kg

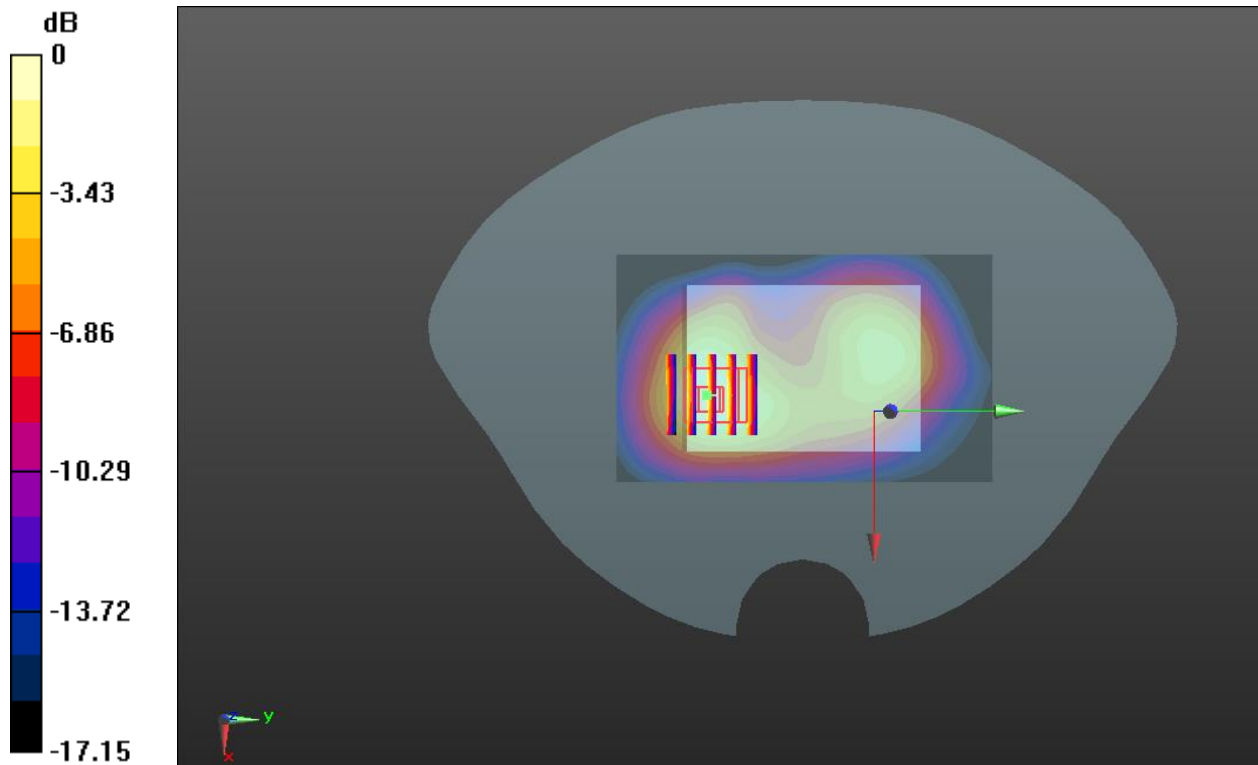
CH132572/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.26 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 2.32 W/kg

SAR(1 g) = 1.21 W/kg; SAR(10 g) = 0.710 W/kg

Maximum value of SAR (measured) = 1.52 W/kg



0 dB = 1.52 W/kg

Meas.10 Body Plane with Front Side 10mm on Low Channel in LTE Band71 with Antenna

Date: 2024.08.28

Communication System Band: BAND 71; Frequency: 688 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 688 \text{ MHz}$; $\sigma = 0.892 \text{ S/m}$; $\epsilon_r = 42.724$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(10.29, 10.29, 10.29); Calibrated: 2024.06.25;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1711; Calibrated: 2024.03.18
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CH133372/Area Scan (61x101x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 0.862 W/kg

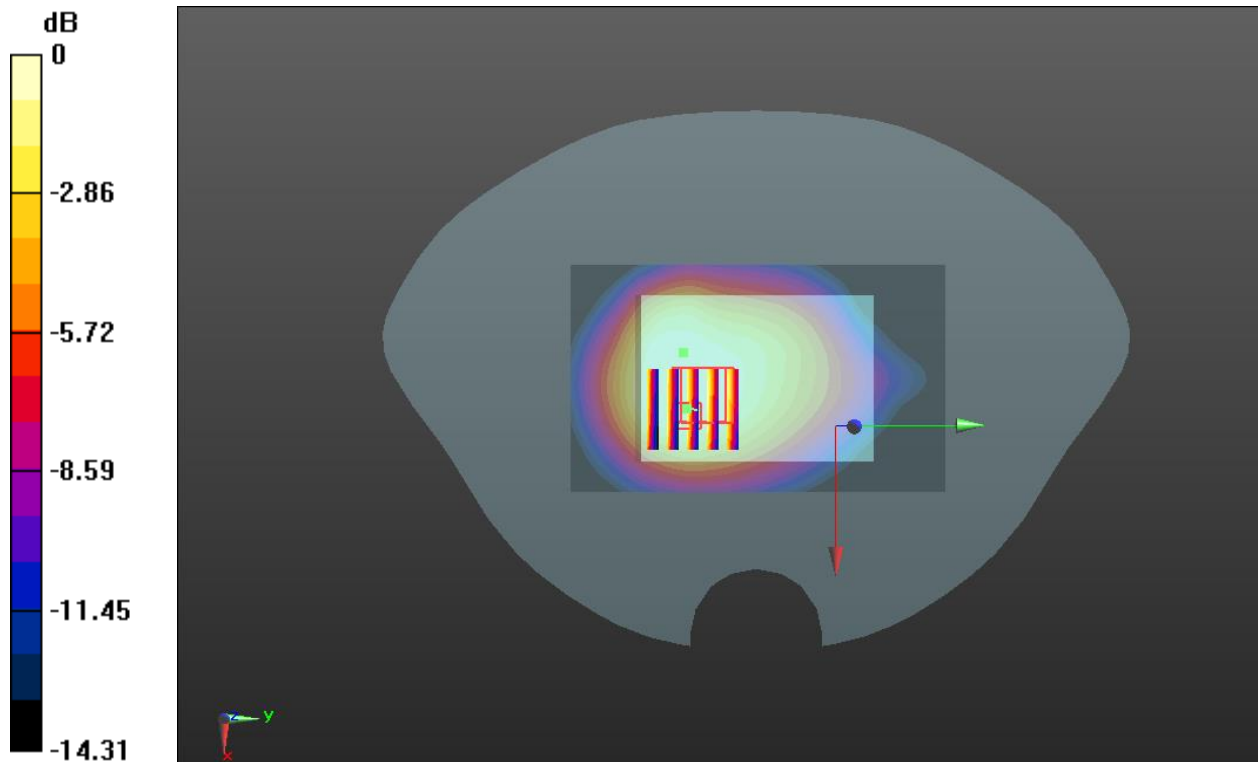
CH133372/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 23.96 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.42 W/kg

SAR(1 g) = 0.737 W/kg; SAR(10 g) = 0.478 W/kg

Maximum value of SAR (measured) = 0.778 W/kg



0 dB = 0.778 W/kg

Meas.11 Body Plane with Front Side 10mm on Low Channel in LTE Band41

Date: 2024.08.28

Communication System Band: BAND41; Frequency: 2636.5 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 2636.5$ MHz; $\sigma = 2.018$ S/m; $\epsilon_r = 37.785$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.59, 7.59, 7.59); Calibrated: 2024.06.25;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1711; Calibrated: 2024.03.18
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CH41055/Area Scan (81x131x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.913 W/kg

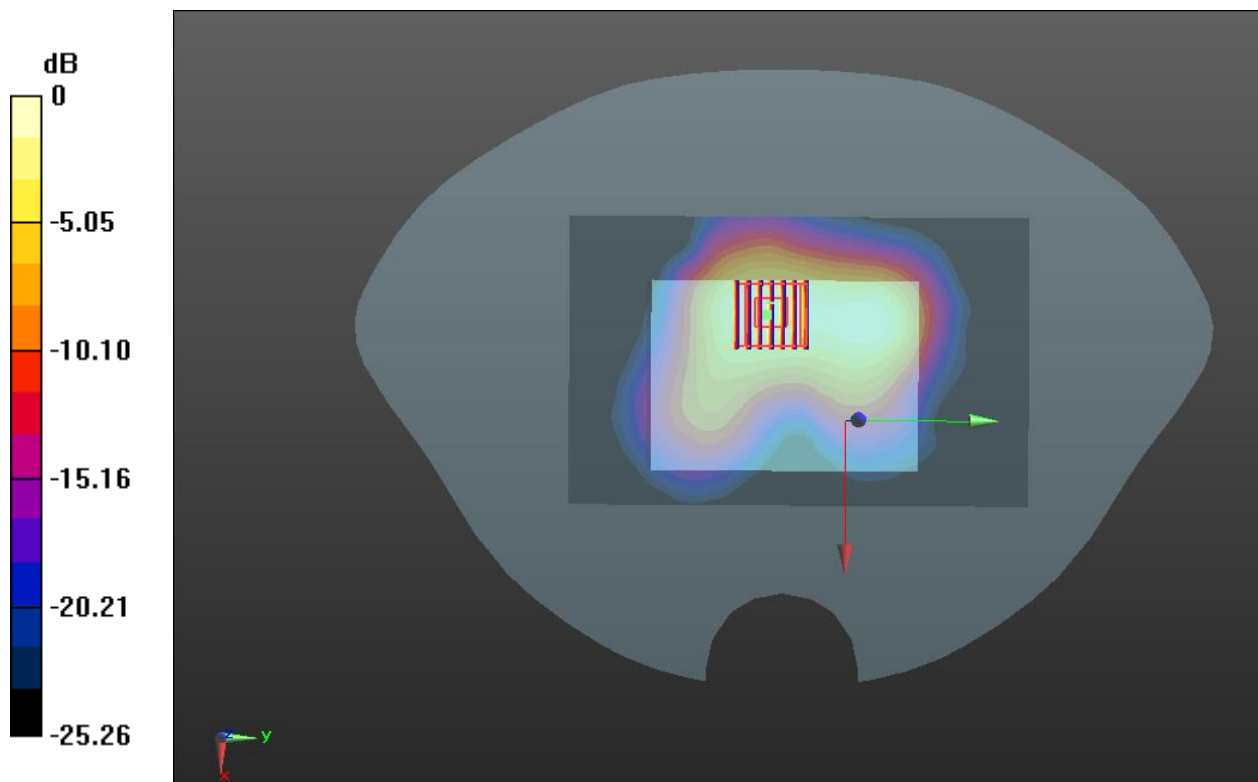
CH41055/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 10.83 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.66 W/kg

SAR(1 g) = 0.779 W/kg; SAR(10 g) = 0.356 W/kg

Maximum value of SAR (measured) = 0.880 W/kg



0 dB = 0.880 W/kg

Meas.12 Body Plane with Bottom Edge 10mm on 6 Channel in IEEE802.11b

Date: 2024.08.28

Communication System Band: WI-FI(2412-2462); Frequency: 2462 MHz;Duty Cycle: 1:1.010

Medium parameters used (interpolated): $f = 2462$ MHz; $\sigma = 1.864$ S/m; $\epsilon_r = 38.196$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.75, 7.75, 7.75); Calibrated: 2024.06.25;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1711; Calibrated: 2024.03.18
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Configuration/CH6/Area Scan (81x131x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.507 W/kg

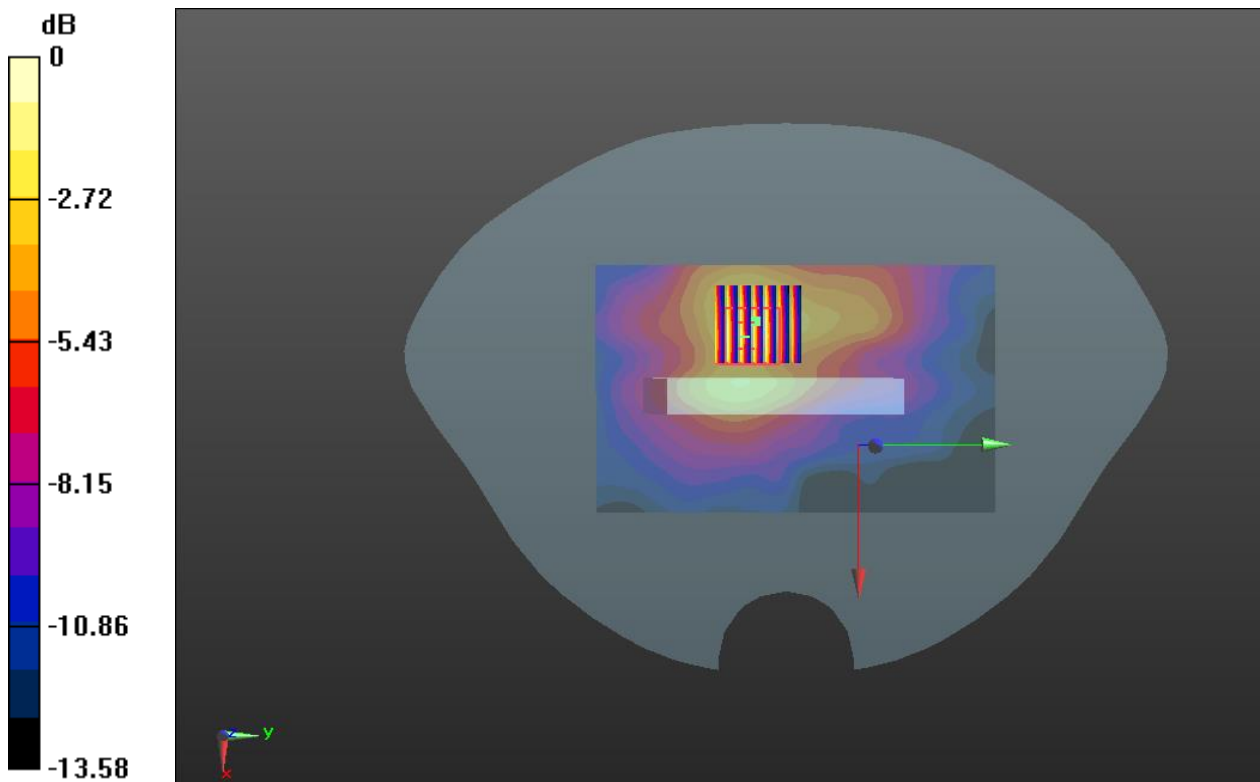
Configuration/CH6/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 9.921 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.877 W/kg

SAR(1 g) = 0.516 W/kg; SAR(10 g) = 0.303 W/kg

Maximum value of SAR (measured) = 0.557 W/kg



0 dB = 0.557 W/kg

Meas.13 Body Plane with Back Side 10mm on 46 Channel in IEEE802.11N40

Date: 2024.08.28

Communication System Band: 5.2G; Frequency: 5210 MHz;Duty Cycle: 1:1.126

Medium parameters used (interpolated): $f = 5230$ MHz; $\sigma = 4.614$ S/m; $\epsilon_r = 35.359$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(5.74, 5.74, 5.74); Calibrated: 2024.06.25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1711; Calibrated: 2024.03.18
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CH42/Area Scan (101x161x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.172 W/kg

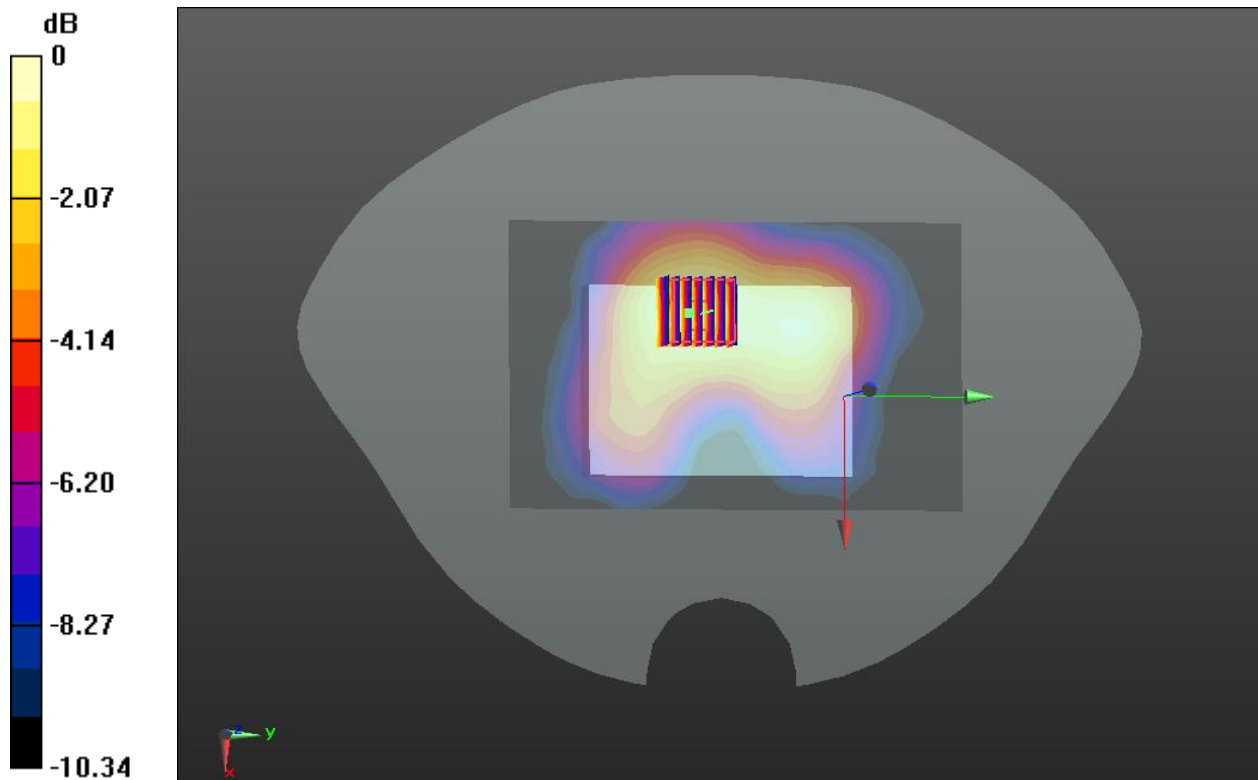
CH42/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 3.312 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.194 W/kg

SAR(1 g) = 0.138 W/kg; SAR(10 g) = 0.085 W/kg

Maximum value of SAR (measured) = 0.171 W/kg



0 dB = 0.171 W/kg

Meas.14 Body Plane with Right Edge 10mm on 155 Channel in IEEE802.11AC80

Date: 2024.08.28

Communication System Band: WI-FI(5745-5825); Frequency: 5775 MHz;Duty Cycle: 1:1.387

Medium parameters used (interpolated): $f = 5775$ MHz; $\sigma = 5.386$ S/m; $\epsilon_r = 34.168$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(5.04, 5.04, 5.04); Calibrated: 2024.06.25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1711; Calibrated: 2024.03.18
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1576
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CH155 2/Area Scan (91x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

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

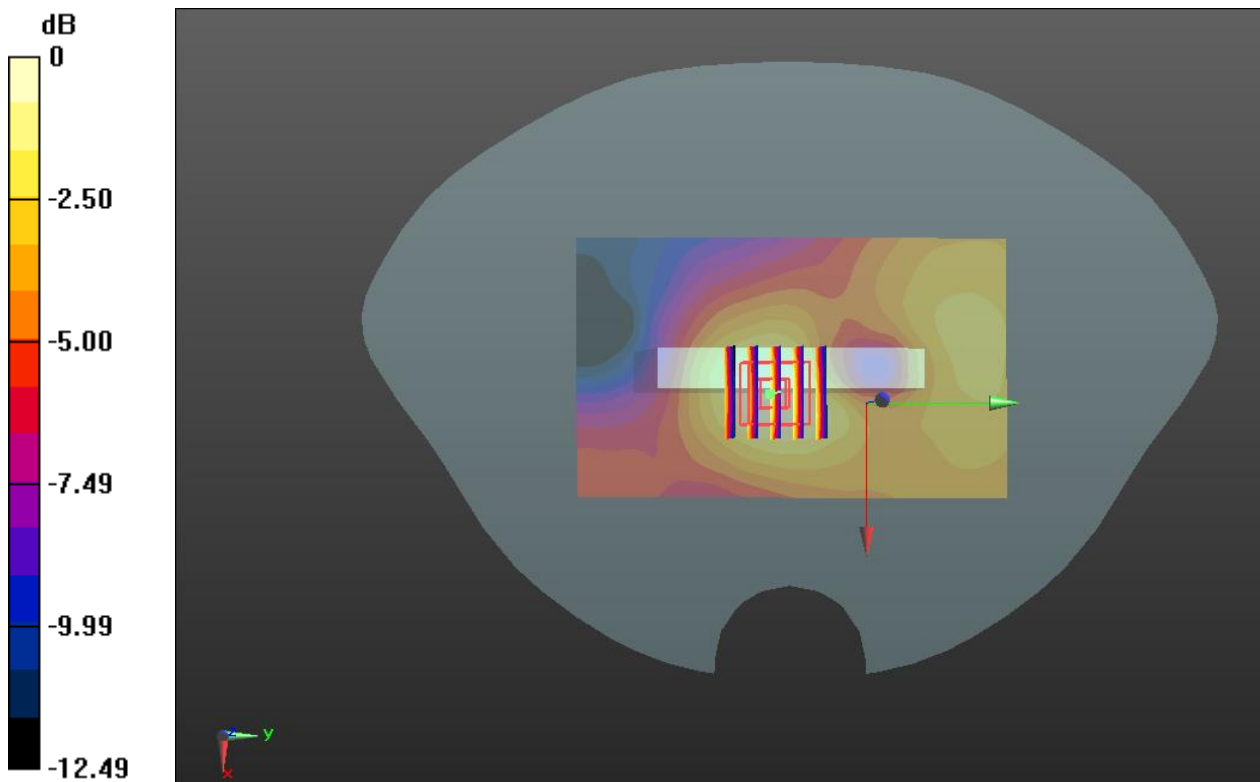
CH155 2/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 3.331 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.223 W/kg

SAR(1 g) = 0.135 W/kg; SAR(10 g) = 0.068 W/kg

Maximum value of SAR (measured) = 0.187 W/kg



0 dB = 0.187 W/kg

ANNEX D EUT EXTERNAL PHOTOS

Please refer the document “BL-SH2480529-AW.pdf”.

ANNEX E SAR TEST SETUP PHOTOS

Please refer the document “BL-SH2480529-AS.pdf”.

ANNEX F CALIBRATION REPORT

Please refer the document “BL-SH2480529-AC.pdf”.

ANNEX G TUNE-UP PROCEDURE

Please refer the document “BL-SH2480529-AT.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--