

TEST REPORT

Applicant: TECNO MOBILE LIMITED
Address: ROOMS 05-15, 13A/F., SOUTH TOWER, WORLD FINANCE CENTRE, HARBOUR CITY, HARBOUR Hong Kong
Equipment Type: Mobile Phone
Model Name: KM6
Brand Name: TECNO
FCC ID: 2ADYY-KM6
Test Standard: FCC 47 CFR Part 2.1093 (refer section 3.1)
Maximum SAR: Head (1 g@0mm): 1.18 W/kg
Body-worn (1 g@10mm): 0.99 W/kg
Hotspot (1 g@10mm): 0.99 W/kg
Extremity (10 g@0mm): 0.33 W/kg
Sample Arrival Date: Mar. 26, 2025
Test Date: May. 10, 2025 - May. 18, 2025
Date of Issue: May. 20, 2025

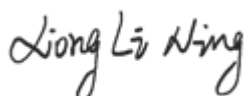
ISSUED BY:

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(Testing Director)



Revision History

Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>May. 20, 2025</u>	<u>Initial Issue</u>

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1 GENERAL INFORMATION

1.1 Test Laboratory

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

1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	☐ 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°C to 25°C
Ambient Relative Humidity	30% to 70%

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	TECNO MOBILE LIMITED
Address	ROOMS 05-15, 13A/F., SOUTH TOWER, WORLD FINANCE CENTRE, HARBOUR CITY, HARBOUR Hong Kong

2.2 Manufacturer Information

Manufacturer	TECNO MOBILE LIMITED
Address	ROOMS 05-15, 13A/F., SOUTH TOWER, WORLD FINANCE CENTRE, HARBOUR CITY, HARBOUR Hong Kong

2.3 Factory Information

Factory	SHENZHEN TECNO TECHNOLOGY CO., LTD.
Address	101, Building 24, Waijing Industrial Park, Fumin Community, Fucheng Street, Longhua District, Shenzhen City, P.R. China

2.4 General Description for Equipment under Test (EUT)

EUT Name	Mobile Phone
Model Name Under Test	KM6
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	N/A
Software Version	N/A
Dimensions (Approx.)	163.67*75.87*6.85mm
Weight (Approx.)	N/A

2.5 Ancillary Equipment

Ancillary Equipment 1	Battery	
	Brand Name	N/A
	Model No.	BL-50FT
	Serial No.	N/A
	Capacitance	Rated Capacity: 5060mAh Typical Capacity: 5160mAh
	Rated Voltage	3.92 V
	Limited Voltage	4.53 V
	Manufacturer	Dongguan Amperex Technology Limited

Ancillary Equipment 2	Battery	
	Brand Name	N/A
	Model No.	BL-50FT
	Serial No.	N/A
	Capacitance	Rated Capacity: 5060mAh Typical Capacity: 5160mAh
	Rated Voltage	3.92 V
	Limited Voltage	4.53 V
	Manufacturer	Dongguan Liwinon Energy Technology Co.,Ltd
Note 1: All Batteries are tested, only the worst data of Battery shown in this report.		

2.6 Technical Information

Network and Wireless connectivity	2G Network GSM/GPRS/EDGE 850/1900 MHz 3G Network WCDMA/HSDPA/HSUPA Band 2/4/5 4G Network LTE FDD Band 2/4/5/7/12/17/66 LTE TDD Band 38/41 UL CA:CA_2C/CA_5B/ CA_7C /CA_38C/CA_41C/CA_66C 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) ,5.8G SRD, GPS, GLONASS, BDS, Galileo, FM receiver,NFC
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 WIFI, 5G WIFI, Bluetooth, NFC		
Frequency Range	GSM 850	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	GSM 1900	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	WCDMA Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	LTE Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	LTE Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 7	TX: 2500 ~ 2570 MHz	RX: 2620 ~ 2690 MHz
	LTE Band 12	TX: 699 ~ 716 MHz	RX: 729 ~ 746 MHz
	LTE Band 17	TX: 704 ~ 716 MHz	RX: 734 ~ 746 MHz
	LTE Band 66	TX: 1710 ~ 1780 MHz	RX: 2110 ~ 2180 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	
	NFC	13.56 MHz	
Antenna Type	WWAN: PIFA Antenna WIFI: PIFA Antenna Bluetooth: PIFA Antenna		
DTM	N/A		
Hotspot Function	Support		
Power Reduction	Support		
Exposure Category	General Population/Uncontrolled exposure		
Product Type	Portable Device		
EUT Type	☒ Production unit		☐ Identical prototype

3 SUMMARY OF TEST RESULT

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 2.1093	Radiofrequency radiation exposure evaluation: portable devices
2	ANSI C95.1-1992	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz
3	IEEE Std. 1528-2013	IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate(SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
4	KDB 447498 D04 v01	447498 D04 Interim General RF Exposure Guidance v01
5	KDB 941225 D01 v03r01	3G SAR MEAUREMENT PROCEDURES
6	KDB 941225 D05 v02r05	SAR Evaluation Considerations for LTE Devices
7	KDB 941225 D06 v02r01	SAR EVALUATION PROCEDURES FOR PORTABLE DEVICES WITH WIRELESS ROUTER CAPABILITIES
8	KDB 865664 D01 v01r04	SAR Measurement 100 MHz to 6 GHz
9	KDB 648474 D04 v01r03	SAR EVALUATION CONSIDERATIONS FOR WIRELESS HANDSETS

10	KDB 248227 D01 v02r02	SAR GUIDANCE FOR IEEE 802.11 (Wi-Fi) TRANSMITTERS
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3.2 Device Category and SAR Limit

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

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

Table of Exposure Limits:

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

NOTE:

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

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

3.3 Test Result Summary

3.3.1 Highest SAR Values

Equipment Class	Band	Maximum Scaled SAR (W/kg)				Maximum Report SAR (W/kg)					
		Head (0mm)	Body-worn (10mm)	Hotspot (10mm)	Extremity (0mm)	Head (0mm)	Body-worn (10mm)	Hotspot (10mm)	Extremity (0mm)		
		1g SAR			10g SAR	1g SAR			10g SAR		
PCE	GSM 850	0.33	0.14	0.48	/	1.18	0.99	0.99	0.33		
	GSM 1900	1.18	0.64	0.71	/						
	WCDMA Band 2	1.14	0.55	0.55	/						
	WCDMA Band 4	0.72	0.30	0.31	/						
	WCDMA Band 5	0.48	0.22	0.22	/						
	LTE Band 2	0.71	0.38	0.38	/						
	LTE Band 5	0.56	0.59	0.59	/						
	LTE Band 7	1.09	0.99	0.99	/						
	LTE Band 12	0.21	0.22	0.33	/						
	LTE Band 66	1.08	0.40	0.41	/						
	LTE Band 41	0.79	0.76	0.76	/						
DTS	2.4G WIFI	0.45	0.14	0.17	/						
NII	5G WIFI	0.50	0.28	0.33	0.33						
DSS	Bluetooth	0.44	0.26	0.29	/						
Limit (W/kg)		1.6			4.0	1.6			4.0		
Verdict		PASS									

Note: This device supports LTE B4/17/38 and LTE B12/66/41. Since the supported frequency span for LTE B4/12/38 falls completely within the supports frequency span for LTE B12/66/41, these LTE bands share the same transmission path, and LTE B4/17/38 have lower or the same target power as LTE B12/66/41; Therefore, SAR was only assessed for LTE B12/66/41.

3.3.2 Highest Simultaneous Transmission SAR Values

Equipment Class	Maximum Scaled SAR (W/kg)		
	Head 1g (0mm)	Body-worn 1g (10mm)	Hotspot 1g (10mm)
PCE	1.55	1.53	1.57
DTS	1.22	1.13	1.13
NII	1.55	1.53	1.57
DSS	1.55	1.53	1.57
Limit (W/Kg)	1.60	1.60	1.60
Verdict	Pass		
Note: The highest simultaneous SAR please refer section 12.2			

3.4 Test Uncertainty

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

The maximum 1 g SAR for the EUT in this report is 1.18 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 0.33 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:

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

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

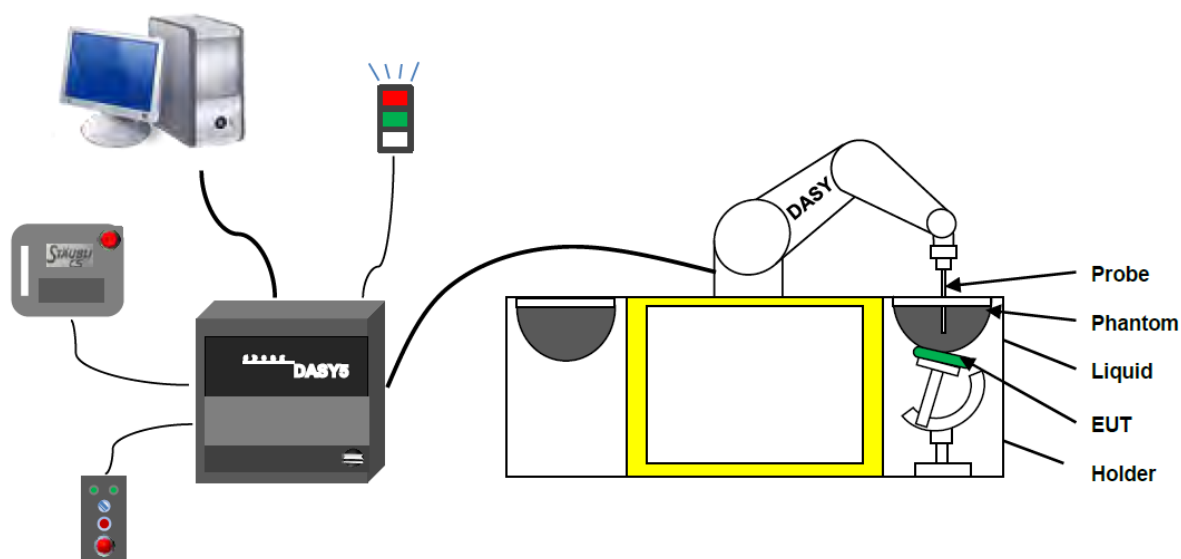
$$\text{SAR} = \frac{\sigma E^2}{\rho}$$

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 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:3748 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 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

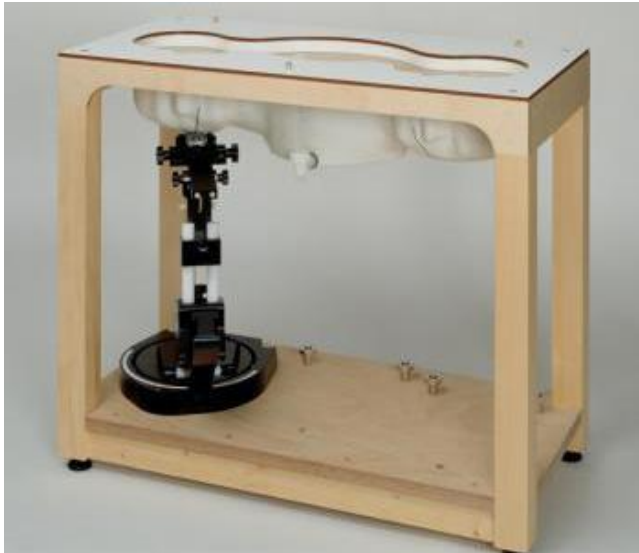
The data acquisition electronics (DAE) consist of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder with a control logic unit. Transmission to the measurement server is accomplished through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



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

4.2.5 Phantoms

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



- Left head
- Right head
- Flat phantom

Photo of Phantom SN1857



Serial Number	Material	Length	Height
SN 1857 SAM1	Vinylester, glass fiber reinforced	1000	500

4.2.6 Device Holder

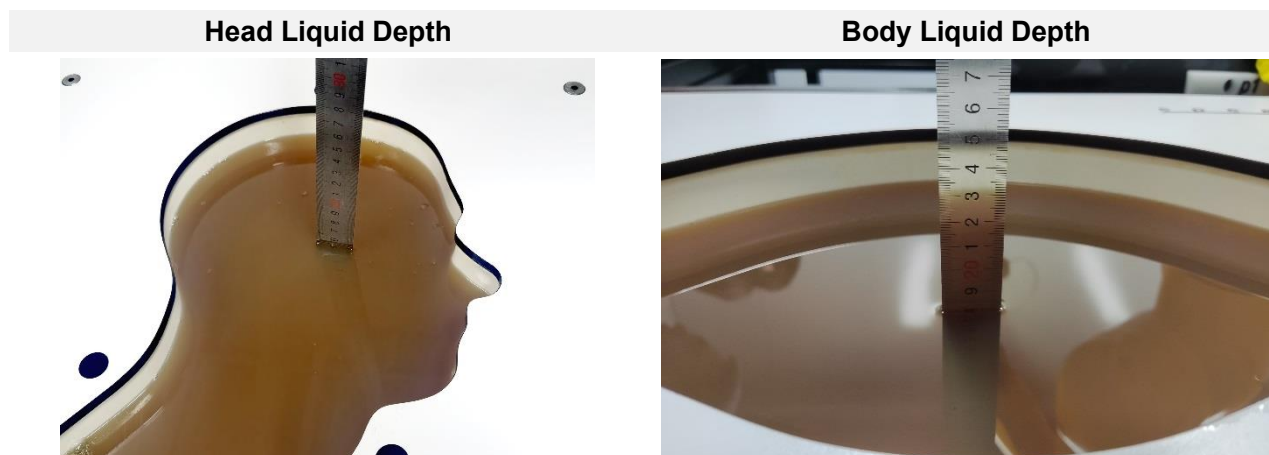
The DASY5 device holder has two scales for device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear openings). The plane between the ear openings and the mouth tip has a rotation angle of 65° . The bottom plate contains three pair of bolts for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

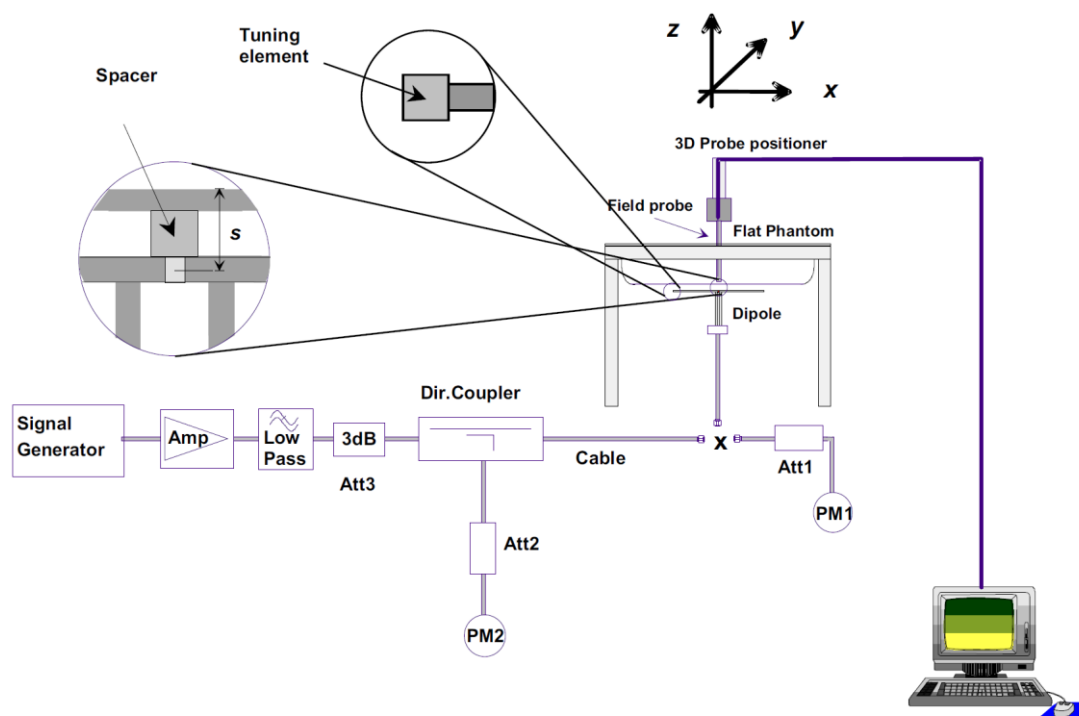
5 SYSTEM VERIFICATION

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

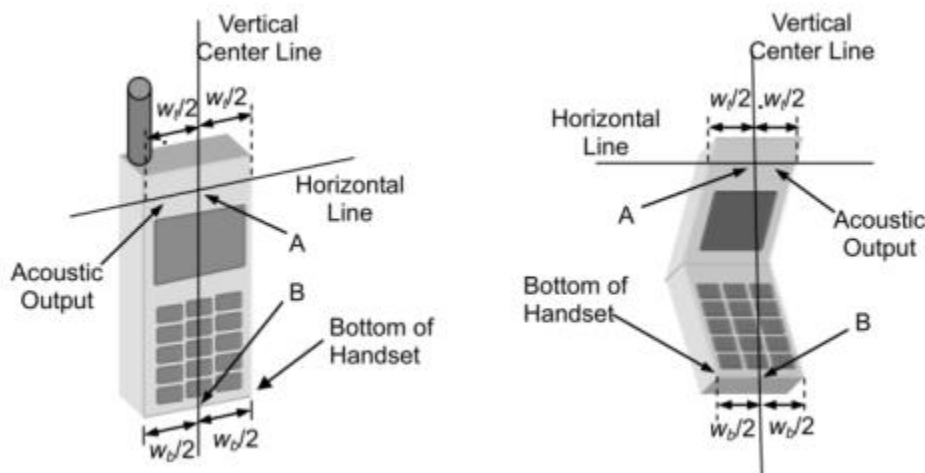
According to KDB 648474 D04 Handset, handsets are tested for SAR compliance in head, body-worn accessory and other use configurations described in the following subsections.

6.1 Head Exposure Conditions

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

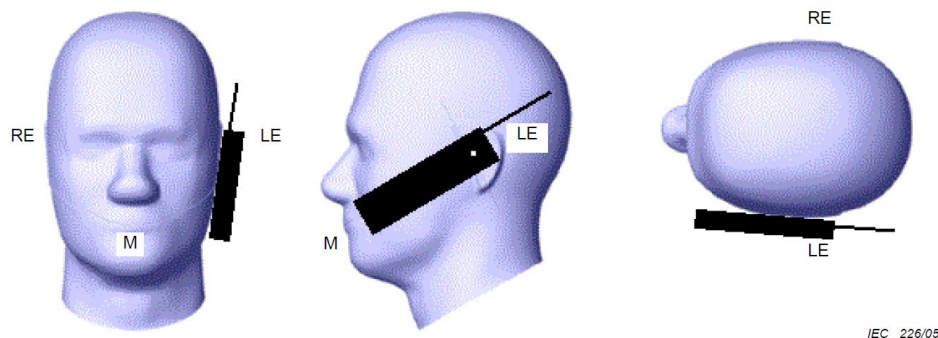
6.1.1 Two Imaginary Lines on the Handset

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



6.1.2 Cheek Position

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



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.

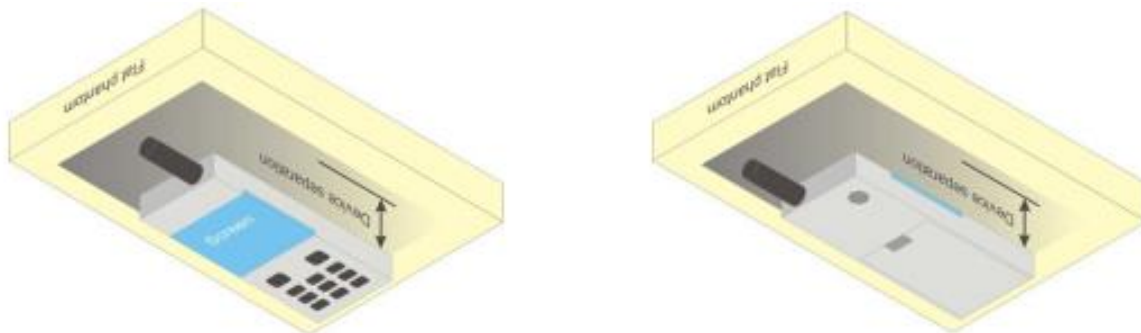


6.2 Body-worn Position Conditions

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.

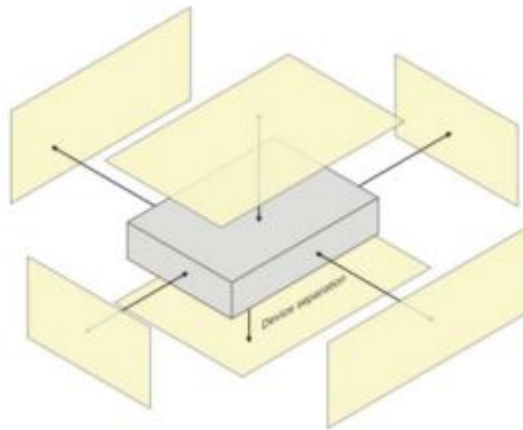
Body-worn accessories that do not contain metallic or conductive components may be tested according to worst-case exposure configurations, typically according to the smallest test separation distance required for the group of body-worn accessories with similar operating and exposure characteristics.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



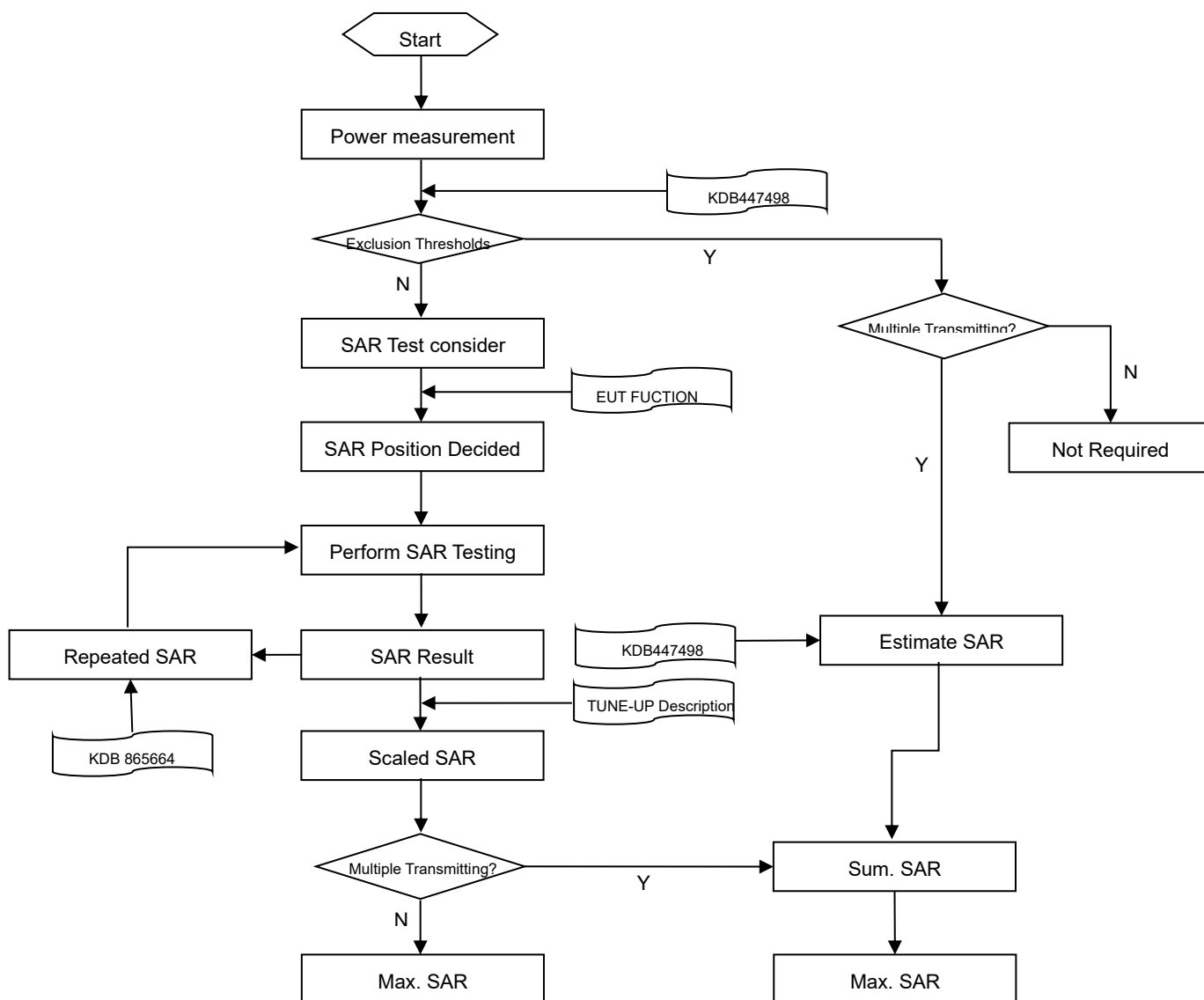
6.4 Product Specific 10g Exposure Consideration

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.

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	3–4 GHz: ≤ 3 mm
				4–5 GHz: ≤ 2.5 mm
				5–6 GHz: ≤ 2 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.

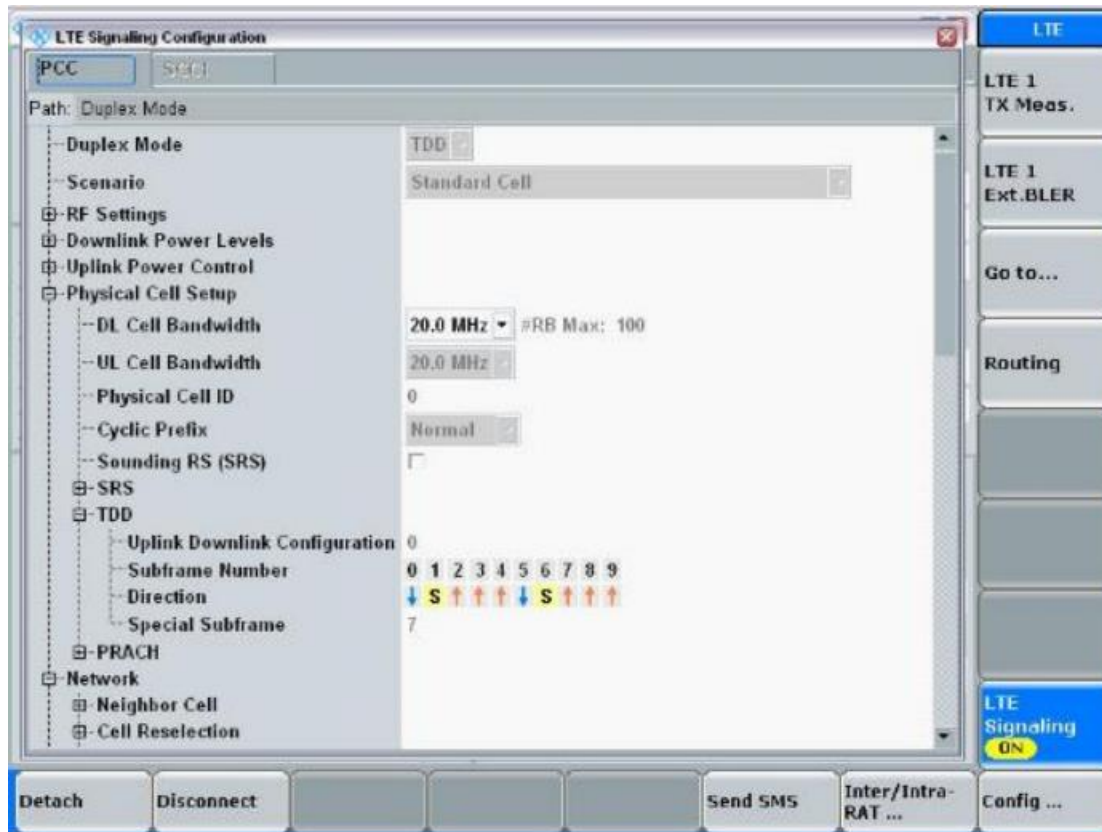
7.4 Area & Zoom Scan Procedure

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.

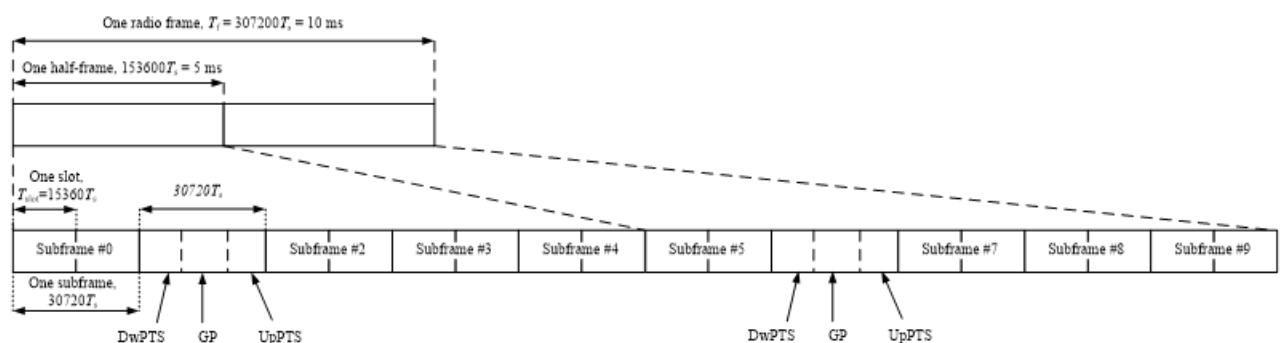
When the 1 g SAR of the highest peak is within 2 dB of the SAR limit, additional zoom scans are required for other peaks within 2 dB of the highest peak that have not been included in any zoom scan to ensure there is no increase in SAR.

7.5 LTE (TDD) Considerations

During TDD-LTE SAR testing, the EUT was commanded to transmit on maximum output power and maximum transmitting bandwidth. The uplink and downlink slot configuration as below in one radio frame.



According to 3GPP Per 3GPP TS 36.211. Each radio frame of length ($T_f = 307200 \cdot T_s = 10\text{ms}$) of two half-frames of length ($153600 \cdot T_s = 5\text{ms}$). Each half-frame consists of five sub-frames of length ($30720 \cdot T_s = 1\text{ms}$)



And the special sub-frame with the three fields DwPTS, GP and UpPTS.

The length of DwPTS and UpPTS is given by below table subject to the total length of DwPTS, GP and UpPTS being equal to $30720 \cdot T_s = 1\text{ms}$.

Configuration of special sub-frame (lengths of DwPTS/GP/UpPTS)

Special sub-frame configuration	Normal cyclic prefix in downlink			Extended cyclic prefix in downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	$6592 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$	$7680 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$
1	$19760 \cdot T_s$			$20480 \cdot T_s$		
2	$21592 \cdot T_s$			$23040 \cdot T_s$		
3	$24144 \cdot T_s$			$25600 \cdot T_s$		
4	$26336 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$7680 \cdot T_s$	$2560 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$			$20480 \cdot T_s$		
6	$19760 \cdot T_s$			$23040 \cdot T_s$		
7	$21592 \cdot T_s$			$12800 \cdot T_s$	-	-
8	$24144 \cdot T_s$			-		
9	$13168 \cdot T_s$			-	-	-

For special sub-frame uplink time we used the largest cyclic prefix for duty cycle calculate;

Maximum uplink time of one special sub-frame=(largest cyclic prefix)/(one sub-frame of length)* time of one sub-frame= $5120 \cdot T_s / 30720 \cdot T_s \cdot 1\text{ms} = 0.167\text{ms}$

One radio frame with 6 uplink sub-frames and two special sub-frame,

there for the maximum Uplink time in one radio frame is: **$6 \cdot 1\text{ ms} + 2 \cdot 0.167\text{ ms} = 6.334\text{ms}$**

So, the duty cycle for TDD-LTE is: **$6.334\text{ms} / 10\text{ms} = 1: 1.58$**

8 CONDUCTED RF OUPUT POWER

8.1 GSM

Please refer the document “BL-SH2530273-AP Power List.pdf”.

8.2 WCDMA

Please refer the document “BL-SH2530273-AP Power List.pdf”.

8.3 LTE

Please refer the document “BL-SH2530273-AP Power List.pdf”.

8.4 WIFI

8.4.1 2.4G WIFI

Band (GHz)	Mode	Channel	Freq. (MHz)	Conducted Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11b	1	2412	11.16	12.00	No
		6	2437	11.62	12.5.0	Yes
		11	2462	11.08	12.00	No
	802.11g	1	2412	10.64	11.50	No
		6	2437	10.56	11.50	No
		11	2462	10.14	11.00	No
	802.11n(HT20)	1	2412	11.03	12.00	No
		6	2437	11.05	12.00	No
		11	2462	10.42	11.50	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 ≤ 1.2 W/kg, OFDM SAR test is not required.

Adjusted SAR = $0.447 * (17.78\text{mW}/22.39\text{mW}) = 0.354$ W/Kg, so 2.4G OFDM SAR test is not required.

8.4.2 5G WIFI

Band (GHz)	Mode	Channel	Freq. (MHz)	Conducted Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
5.2 (5.15~5.25)	802.11a	36	5180	11.29	12.50	No
		44	5220	10.07	11.00	No
		48	5240	9.96	11.00	No
	802.11n(HT20)	36	5180	11.96	13.00	Yes
		44	5220	10.95	12.00	No
		48	5240	10.88	12.00	No
	802.11n(HT40)	38	5190	11.40	12.50	No
		46	5230	10.98	12.00	No
	802.11ac(VHT20)	36	5180	11.41	12.50	No
		44	5220	10.94	12.00	No
		48	5240	11.25	12.50	No
	802.11ac(VHT40)	38	5190	11.48	12.50	No

		46	5230	10.91	12.00	No
	802.11ac(VHT80)	42	5210	11.05	12.00	No
5.3 (5.25~5.35)	802.11a	52	5260	10.89	12.00	No
		60	5300	10.53	11.50	No
		64	5320	9.92	11.00	No
	802.11n(HT20)	52	5260	11.81	13.00	Yes
		60	5300	11.02	12.00	No
		64	5320	10.65	11.50	No
	802.11n(HT40)	54	5270	11.39	12.50	No
		62	5310	10.89	12.00	No
	802.11ac(VHT20)	52	5260	11.11	12.00	No
		60	5300	10.91	12.00	No
		64	5320	10.70	11.50	No
	802.11ac(VHT40)	54	5270	11.35	12.50	No
		62	5310	10.89	12.00	No
	802.11ac(VHT80)	58	5290	11.57	12.50	No
5.6 (5.47~5.725)	802.11a	100	5500	9.78	11.00	No
		116	5580	9.37	10.50	No
		140	5700	10.09	11.00	No
	802.11n(HT20)	100	5500	10.84	12.00	No
		116	5580	10.16	11.00	No
		140	5700	11.04	12.00	No
	802.11n(HT40)	102	5510	10.77	12.00	No
		118	5590	10.58	11.50	No
		134	5670	10.93	12.00	No
	802.11ac(VHT20)	100	5500	10.76	12.00	No
		116	5580	10.37	11.50	No
		140	5700	11.02	12.00	Yes
	802.11ac(VHT40)	102	5510	10.79	12.00	No
		118	5590	10.58	11.50	No
		134	5670	10.99	12.00	No
	802.11ac(VHT80)	106	5530	10.83	12.00	No
		122	5690	10.40	11.50	Yes
5.8 (5.725~5.850)	802.11a	149	5745	10.10	11.00	No
		157	5785	9.51	10.50	No
		165	5825	9.19	10.00	No
	802.11n(HT20)	149	5745	11.04	12.00	No
		157	5785	10.43	11.50	No
		165	5825	10.17	11.00	No

	802.11n(HT40)	151	5755	11.11	12.00	No
		159	5795	10.37	11.50	No
	802.11ac(VHT20)	149	5745	10.94	12.00	No
		157	5785	10.48	11.50	No
		165	5825	10.07	11.00	No
	802.11ac(VHT40)	151	5755	11.12	12.00	Yes
		159	5795	10.40	11.50	No
	802.11ac(VHT80)	155	5775	10.61	11.50	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.

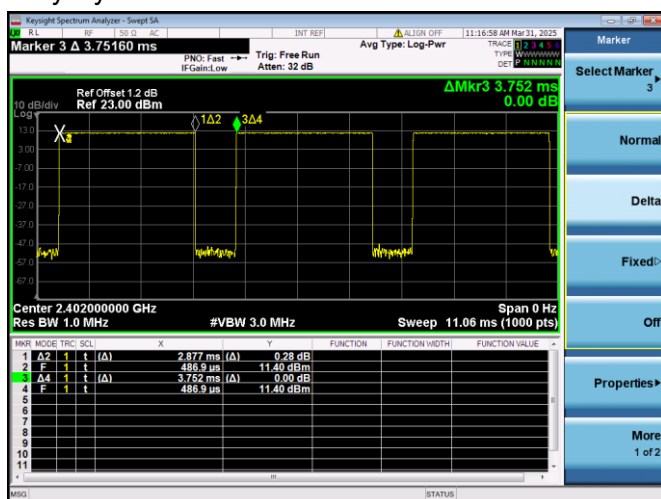
8.5 Bluetooth

Mode	GFSK			$\pi/4$ -DQPSK		
Channel	0	39	78	0	39	78
Frequency (MHz)	2402	2441	2480	2402	2441	2480
Conducted Power (dBm)	11.79	14.88	15.40	10.89	13.44	15.12
Tune-Up Limit (dBm)	13.00	15.00	16.50	12.00	14.50	16.00
SAR Test Require	NO	NO	YES	NO	NO	NO
Mode	8-DPSK			/		
Channel	0	39	78	/	/	/
Frequency (MHz)	2402	2441	2480	/	/	/
Conducted Power (dBm)	10.87	13.65	15.00	/	/	/
Tune-Up Limit (dBm)	12.00	14.50	16.00	/		
SAR Test Require	NO	NO	NO	NO	NO	NO
Mode	BLE-1Mbps			BLE-2Mbps		
Channel	0	19	39	1	19	38
Frequency (MHz)	2402	2440	2480	2404	2440	2478
Conducted Power (dBm)	-5.05	-2.47	-3.93	-4.72	-2.41	-4.00
Tune-Up Limit (dBm)	-4.00	-1.50	-3.00	-3.50	-1.50	-3.00
SAR Test Require	NO	NO	NO	NO	NO	NO

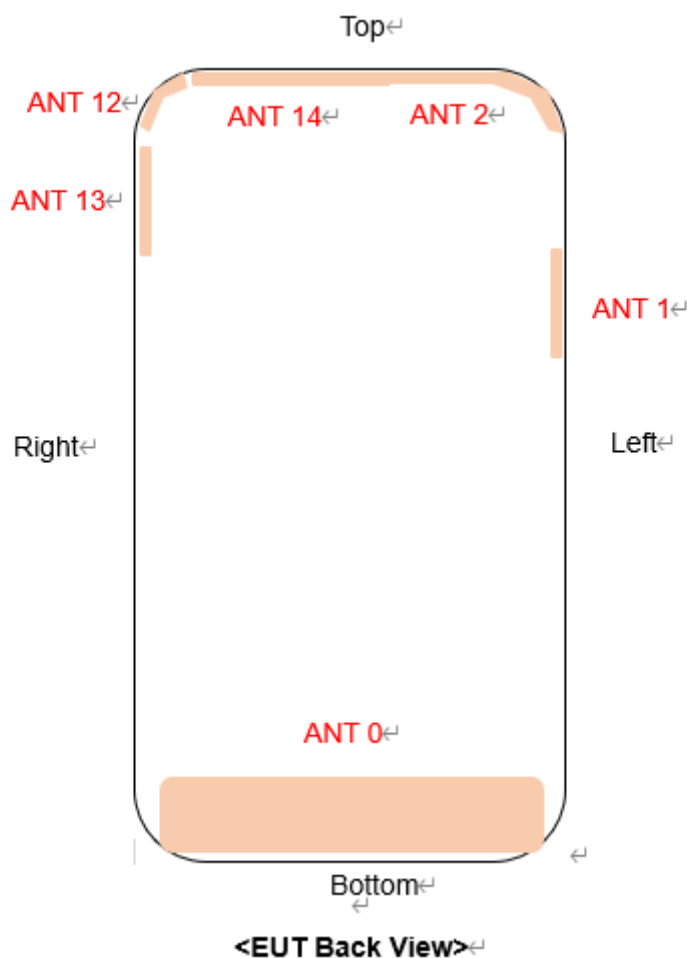
Note 1: Since Bluetooth BR mode is the maximum output power mode, SAR measurements were performed with test software using DH5 modulation, and SAR measurement is not required for the EDR and LE. When the secondary mode is $\leq \frac{1}{4}$ dB higher than the primary mode.

Note: The Bluetooth duty cycle is 76.7 % as following figure, according to 2016 Oct. TCB workshop for Bluetooth SAR scaling need further consideration and the maximum duty cycle is 100%, therefore the actual duty cycle will be scaled up to 100% for Bluetooth reported SAR calculation.

Duty Cycle



9 TEST EXCLUSION CONSIDERATION



Antenna	Support Bands
ANT 0	GSM 850/1900; WCDMA B2/4/5; LTE B2/4/5/7/12/17/66/38/41
ANT 1	LTE CA(DL)
ANT 2	GSM 850/1900; WCDMA B2/4/5; LTE B2/4/5/7/12/17/66/38/41
ANT 12	GPS
ANT 13	2.4G WLAN, BT
ANT 14	5G WLAN

Antenna	Front Side(mm)	Back Side(mm)	Left Edge(mm)	Right Edge(mm)	Top Edge(mm)	Bottom Edge(mm)
ANT 0	<25	<25	<25	<25	>25	<25
ANT 2	<25	<25	<25	<25	<25	>25
ANT 13	<25	<25	>25	<25	<25	>25
ANT 14	<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	Test Position	Dist.	Test Mode	Channel	Freq.(MHz)	Power Drift(dB)	Measured 1-g SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power(dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head												
Ant.0	Left cheek	0mm	GPRS 3TX	190	836.6	-0.01	0.180	30.27	31.50	1.327	0.239	/
	Left tilt			190	836.6	0.04	0.109	30.27	31.50	1.327	0.145	/
	Right cheek			190	836.6	-0.08	0.191	30.27	31.50	1.327	0.254	/
	Right tilt			190	836.6	-0.03	0.107	30.27	31.50	1.327	0.142	/
Ant.2	Left cheek	0mm	GPRS 2TX	190	836.6	-0.07	0.206	32.20	33.50	1.349	0.278	/
	Left tilt			190	836.6	0.11	0.191	32.20	33.50	1.349	0.258	/
	Right cheek			190	836.6	-0.05	0.245	32.20	33.50	1.349	0.330	1
	Right tilt			190	836.6	0.04	0.234	32.20	33.50	1.349	0.316	/
Body-worn& Hotspot												
Ant.0	Front side	10mm	GPRS 3TX	190	836.6	-0.15	0.237	30.27	31.50	1.327	0.315	/
	Back side			190	836.6	-0.17	0.309	30.27	31.50	1.327	0.410	/
	Left side			190	836.6	-0.04	0.103	30.27	31.50	1.327	0.137	/
	Right side			190	836.6	-0.16	0.211	30.27	31.50	1.327	0.280	/
	Bottom side			190	836.6	-0.20	0.362	30.27	31.50	1.327	0.481	2
Ant.2	Front side	10mm	GPRS 2TX	190	836.6	0.18	0.061	32.20	33.50	1.349	0.082	/
	Back side			190	836.6	0.16	0.110	32.20	33.50	1.349	0.148	/
	Left side			190	836.6	0.07	0.010	32.20	33.50	1.349	0.013	/
	Right side			190	836.6	-0.05	0.021	32.20	33.50	1.349	0.028	/
	Top side			190	836.6	0.13	0.106	32.20	33.50	1.349	0.143	/

10.2 GSM 1900

Antenna	Test Position	Dist.	Test Mode	Channel	Freq.(MHz)	Power Drift(dB)	Measured 1-g SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power(dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head												
Ant.0	Left cheek	0mm	GPRS 3TX	661	1880	-0.08	0.032	26.74	27.50	1.191	0.038	/
	Left tilt			661	1880	-0.03	0.025	26.74	27.50	1.191	0.030	/
	Right cheek			661	1880	0.10	0.048	26.74	27.50	1.191	0.057	/
	Right tilt			661	1880	-0.19	0.030	26.74	27.50	1.191	0.036	/
Ant.2	Left cheek	0mm	GPRS 2TX	661	1880	0.10	0.516	26.81	27.50	1.172	0.605	/
	Left tilt			661	1880	0.15	0.632	26.81	27.50	1.172	0.741	/
	Right cheek			661	1880	0.17	0.692	26.81	27.50	1.172	0.811	/
	Right tilt			661	1880	-0.18	0.811	26.81	27.50	1.172	0.951	/
	Right tilt			512	1850.2	0.09	0.980	26.70	27.50	1.202	1.178	3
	Right tilt			512	1850.2	-0.04	0.972	26.70	27.50	1.202	1.169	repeat
	Right tilt			810	1909.8	0.11	0.888	26.79	27.50	1.178	1.046	/
Body-worn& Hotspot												
Ant.0	Front side	10mm	GPRS 3TX	661	1880	0.08	0.269	26.74	27.50	1.191	0.320	/
	Back side			661	1880	0.15	0.281	26.74	27.50	1.191	0.335	/
	Left side			661	1880	-0.14	0.090	26.74	27.50	1.191	0.107	/
	Right side			661	1880	-0.15	0.058	26.74	27.50	1.191	0.069	/
	Bottom side			661	1880	0.03	0.594	26.74	27.50	1.191	0.708	4
Ant.2	Front side	10mm	GPRS 2TX	661	1880	-0.08	0.208	26.81	27.50	1.172	0.244	/
	Back side			661	1880	0.07	0.546	26.81	27.50	1.172	0.640	/
	Left side			661	1880	0.15	0.066	26.81	27.50	1.172	0.077	/
	Right side			661	1880	0.11	0.050	26.81	27.50	1.172	0.059	/
	Top side			661	1880	-0.06	0.483	26.70	27.50	1.202	0.581	/

10.3WCDMA Band 2

Antenna	Test Position	Dist.	Test Mode	Channel	Freq.(MHz)	Power Drift(dB)	Measured 1-g SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power(dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head												
Ant0	Left cheek	0mm	RMC	9400	1880	0.04	0.065	18.67	19.50	1.211	0.079	/
	Left tilt			9400	1880	0.18	0.036	18.67	19.50	1.211	0.044	/
	Right cheek			9400	1880	-0.17	0.025	18.67	19.50	1.211	0.030	/
	Right tilt			9400	1880	0.03	0.035	18.67	19.50	1.211	0.042	/
Ant2	Left cheek	0mm	RMC	9400	1880	-0.14	0.438	18.98	20.00	1.265	0.554	/
	Left tilt			9400	1880	0.15	0.542	18.98	20.00	1.265	0.685	/
	Right cheek			9400	1880	-0.03	0.563	18.98	20.00	1.265	0.712	/
	Right tilt			9400	1880	-0.06	0.717	18.98	20.00	1.265	0.907	/
	Right tilt			9262	1852.4	0.08	0.891	18.92	20.00	1.282	1.143	5
	Right tilt			9262	1852.4	0.07	0.867	18.92	20.00	1.282	1.112	repeat
	Right tilt			9538	1907.6	0.07	0.613	18.81	20.00	1.315	0.806	/
Body-worn& Hotspot												
Ant0	Front side	10mm	RMC	9400	1880	-0.10	0.181	18.67	19.50	1.211	0.219	/
	Back side			9400	1880	0.19	0.181	18.67	19.50	1.211	0.219	/
	Left side			9400	1880	0.14	0.059	18.67	19.50	1.211	0.071	/
	Right side			9400	1880	0.03	0.045	18.67	19.50	1.211	0.054	/
	Bottom side			9400	1880	-0.12	0.414	18.67	19.50	1.211	0.501	/
Ant2	Front side	10mm	RMC	9400	1880	-0.01	0.185	18.98	20.00	1.265	0.234	/
	Back side			9400	1880	0.05	0.434	18.98	20.00	1.265	0.549	6
	Left side			9400	1880	0.05	0.057	18.98	20.00	1.265	0.072	/
	Right side			9400	1880	0.18	0.050	18.98	20.00	1.265	0.063	/
	Top side			9400	1880	-0.18	0.388	18.98	20.00	1.265	0.491	/

10.4WCDMA Band 4

Antenna	Test Position	Dist.	Test Mode	Channel	Freq.(MHz)	Power Drift(dB)	Measured 1-g SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power(dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head												
Ant0	Left cheek	0mm	RMC	1412	1732.4	-0.06	0.036	17.84	19.00	1.306	0.047	/
	Left tilt			1412	1732.4	0.16	0.032	17.84	19.00	1.306	0.042	/
	Right cheek			1412	1732.4	-0.09	0.025	17.84	19.00	1.306	0.033	/
	Right tilt			1412	1732.4	0.11	0.021	17.84	19.00	1.306	0.027	/
Ant2	Left cheek	0mm	RMC	1412	1732.4	0.05	0.324	18.14	19.00	1.219	0.395	/
	Left tilt			1412	1732.4	-0.10	0.420	18.14	19.00	1.219	0.512	/
	Right cheek			1412	1732.4	-0.06	0.424	18.14	19.00	1.219	0.517	/
	Right tilt			1412	1732.4	0.14	0.588	18.14	19.00	1.219	0.717	7
Body-worn& Hotspot												
Ant0	Front side	10mm	RMC	1412	1732.4	-0.12	0.090	17.84	19.00	1.306	0.118	/
	Back side			1412	1732.4	0.02	0.091	17.84	19.00	1.306	0.119	/
	Left side			1412	1732.4	0.07	0.030	17.84	19.00	1.306	0.039	/
	Right side			1412	1732.4	-0.19	0.041	17.84	19.00	1.306	0.054	/
	Bottom side			1412	1732.4	0.15	0.207	17.84	19.00	1.306	0.270	/
Ant2	Front side	10mm	RMC	1412	1732.4	-0.07	0.129	18.14	19.00	1.219	0.157	/
	Back side			1412	1732.4	-0.13	0.246	18.14	19.00	1.219	0.300	/
	Left side			1412	1732.4	0.14	0.046	18.14	19.00	1.219	0.056	/
	Right side			1412	1732.4	0.01	0.022	18.14	19.00	1.219	0.027	/
	Top side			1412	1732.4	0.16	0.256	18.14	19.00	1.219	0.312	8

10.5WCDMA Band 5

Antenna	Test Position	Dist.	Test Mode	Channel	Freq.(MHz)	Power Drift(dB)	Measured 1-g SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power(dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head												
Ant0	Left cheek	0mm	RMC	4182	836.4	0.14	0.152	23.60	24.50	1.230	0.187	/
	Left tilt			4182	836.4	0.18	0.093	23.60	24.50	1.230	0.114	/
	Right cheek			4182	836.4	-0.05	0.174	23.60	24.50	1.230	0.214	/
	Right tilt			4182	836.4	0.07	0.102	23.60	24.50	1.230	0.125	/
Ant2	Left cheek	0mm	RMC	4182	836.4	0.10	0.334	23.86	25.00	1.300	0.434	/
	Left tilt			4182	836.4	0.12	0.308	23.86	25.00	1.300	0.400	/
	Right cheek			4182	836.4	0.09	0.370	23.86	25.00	1.300	0.481	9
	Right tilt			4182	836.4	0.02	0.359	23.86	25.00	1.300	0.467	/
Body-worn& Hotspot												
Ant0	Front side	10mm	RMC	4182	836.4	0.04	0.165	23.60	24.50	1.230	0.203	/
	Back side			4182	836.4	-0.11	0.179	23.60	24.50	1.230	0.220	10
	Left side			4182	836.4	-0.15	0.110	23.60	24.50	1.230	0.135	/
	Right side			4182	836.4	-0.06	0.166	23.60	24.50	1.230	0.204	/
	Bottom side			4182	836.4	-0.19	0.165	23.60	24.50	1.230	0.203	/
Ant2	Front side	10mm	RMC	4182	836.4	0.19	0.092	23.86	25.00	1.300	0.120	/
	Back side			4182	836.4	0.17	0.168	23.86	25.00	1.300	0.218	/
	Left side			4182	836.4	-0.12	0.080	23.86	25.00	1.300	0.104	/
	Right side			4182	836.4	0.03	0.045	23.86	25.00	1.300	0.059	/
	Top side			4182	836.4	-0.17	0.127	23.86	25.00	1.300	0.165	/

10.6LTE Band 2 (20MHz Bandwidth)

Antenna	Test Position	Dist.	Test Mode	Test Channel	Freq.(MHz)	RB num.	RB Start	Power Drift(dB)	Measured 1-g SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power(dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head														
Ant.0	Left cheek	0mm	QPSK-20MHz	18900	1880	1	0	0.06	0.036	16.76	17.50	1.186	0.043	/
	Left tilt			18900	1880	1	0	0.10	0.032	16.76	17.50	1.186	0.038	/
	Right cheek			18900	1880	1	0	-0.07	0.028	16.76	17.50	1.186	0.033	/
	Right tilt			18900	1880	1	0	-0.02	0.025	16.76	17.50	1.186	0.030	/
Ant.0	Left cheek	0mm	QPSK-20MHz	18900	1880	50	0	0.15	0.023	15.75	16.50	1.189	0.027	/
	Left tilt			18900	1880	50	0	-0.13	0.022	15.75	16.50	1.189	0.026	/
	Right cheek			18900	1880	50	0	-0.15	0.028	15.75	16.50	1.189	0.033	/
	Right tilt			18900	1880	50	0	0.16	0.019	15.75	16.50	1.189	0.023	/
Ant.2	Left cheek	0mm	QPSK-20MHz	18900	1880	1	0	-0.15	0.304	17.19	18.00	1.205	0.366	/
	Left tilt			18900	1880	1	0	-0.08	0.372	17.19	18.00	1.205	0.448	/
	Right cheek			18900	1880	1	0	0.16	0.385	17.19	18.00	1.205	0.464	/
	Right tilt			18900	1880	1	0	0.08	0.586	17.19	18.00	1.205	0.706	11
Ant.2	Left cheek	0mm	QPSK-20MHz	18900	1880	50	0	-0.06	0.240	16.18	17.00	1.208	0.290	/
	Left tilt			18900	1880	50	0	0.01	0.306	16.18	17.00	1.208	0.370	/
	Right cheek			18900	1880	50	0	0.04	0.300	16.18	17.00	1.208	0.362	/
	Right tilt			18900	1880	50	0	-0.18	0.367	16.18	17.00	1.208	0.443	/
Body-worn& Hotspot														
Ant.0	Front side	10mm	QPSK-20MHz	18900	1880	1	0	0.18	0.116	16.76	17.50	1.186	0.138	/
	Back side			18900	1880	1	0	0.01	0.120	16.76	17.50	1.186	0.142	/
	Left side			18900	1880	1	0	0.05	0.041	16.76	17.50	1.186	0.049	/
	Right side			18900	1880	1	0	0.08	0.036	16.76	17.50	1.186	0.043	/
	Bottom side			18900	1880	1	0	-0.18	0.251	16.76	17.50	1.186	0.298	/
Ant.0	Front side	10mm	QPSK-20MHz	18900	1880	50	0	0.19	0.093	15.75	16.50	1.189	0.111	/
	Back side			18900	1880	50	0	-0.04	0.094	15.75	16.50	1.189	0.112	/
	Left side			18900	1880	50	0	0.11	0.040	15.75	16.50	1.189	0.048	/
	Right side			18900	1880	50	0	-0.09	0.045	15.75	16.50	1.189	0.053	/
	Bottom side			18900	1880	50	0	0.13	0.214	15.75	16.50	1.189	0.254	/
Ant.2	Front side	10mm	QPSK-20MHz	18900	1880	1	0	0.02	0.126	17.19	18.00	1.205	0.152	/
	Back side			18900	1880	1	0	0.06	0.319	17.19	18.00	1.205	0.384	12
	Left side			18900	1880	1	0	0.02	0.036	17.19	18.00	1.205	0.043	/
	Right side			18900	1880	1	0	0.02	0.027	17.19	18.00	1.205	0.033	/
	Top side			18900	1880	1	0	0.04	0.260	17.19	18.00	1.205	0.313	/
Ant.2	Front side	10mm	QPSK-20MHz	18900	1880	50	0	-0.19	0.099	16.18	17.00	1.208	0.120	/
	Back side			18900	1880	50	0	-0.08	0.204	16.18	17.00	1.208	0.246	/
	Left side			18900	1880	50	0	0.09	0.024	16.18	17.00	1.208	0.029	/
	Right side			18900	1880	50	0	-0.03	0.022	16.18	17.00	1.208	0.027	/

	Top side			18900	1880	50	0	0.11	0.212	16.18	17.00	1.208	0.256	/
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10.7LTE Band 2 Worse case for CA Test

Antenna	Test Position	Dist.	Test Mode	Test Channel	Freq.(MHz)	RB num.	RB Start	Power Drift(dB)	Meas 1-g SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head-CA														
ANT 2	Right tilt	0mm	QPSK	18900+19098	1880	1+1	99+0	0.08	0.420	16.64	17.50	1.219	0.512	/
Body-worn& Hotspot														
ANT 2	Back side	10mm	QPSK	18900+19098	1880	1+1	99+0	-0.12	0.311	16.64	17.50	1.219	0.379	/

10.8LTE Band 5 (10MHz Bandwidth)

Antenna	Test Position	Dist.	Test Mode	Test Channel	Freq.(MHz)	RB num.	RB Start	Power Drift(dB)	Measured 1-g SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power(dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head														
Ant.0	Left cheek	0mm	QPSK-10MHz	20525	836.5	1	0	-0.08	0.158	23.84	25.00	1.306	0.206	/
	Left tilt			20525	836.5	1	0	-0.19	0.095	23.84	25.00	1.306	0.124	/
	Right cheek			20525	836.5	1	0	0.01	0.177	23.84	25.00	1.306	0.231	/
	Right tilt			20525	836.5	1	0	-0.16	0.105	23.84	25.00	1.306	0.137	/
Ant.0	Left cheek	0mm	QPSK-10MHz	20525	836.5	25	0	0.09	0.131	22.76	24.00	1.330	0.174	/
	Left tilt			20525	836.5	25	0	-0.12	0.078	22.76	24.00	1.330	0.104	/
	Right cheek			20525	836.5	25	0	0.01	0.144	22.76	24.00	1.330	0.192	/
	Right tilt			20525	836.5	25	0	-0.17	0.089	22.76	24.00	1.330	0.118	/
Ant.2	Left cheek	0mm	QPSK-10MHz	20525	836.5	1	0	-0.16	0.352	23.95	25.00	1.274	0.448	/
	Left tilt			20525	836.5	1	0	0.19	0.312	23.95	25.00	1.274	0.397	/
	Right cheek			20525	836.5	1	0	0.10	0.441	23.95	25.00	1.274	0.562	13
	Right tilt			20525	836.5	1	0	0.07	0.414	23.95	25.00	1.274	0.527	/
Ant.2	Left cheek	0mm	QPSK-10MHz	20525	836.5	25	0	0.03	0.295	22.84	24.00	1.306	0.385	/
	Left tilt			20525	836.5	25	0	-0.14	0.275	22.84	24.00	1.306	0.359	/
	Right cheek			20525	836.5	25	0	0.14	0.403	22.84	24.00	1.306	0.526	/
	Right tilt			20525	836.5	25	0	0.18	0.348	22.84	24.00	1.306	0.455	/
Body-worn& Hotspot														
Ant.0	Front side	10mm	QPSK-10MHz	20525	836.5	1	0	-0.10	0.250	23.84	25.00	1.306	0.327	/
	Back side			20525	836.5	1	0	0.03	0.305	23.84	25.00	1.306	0.398	/
	Left side			20525	836.5	1	0	0.06	0.106	23.84	25.00	1.306	0.138	/
	Right side			20525	836.5	1	0	-0.08	0.223	23.84	25.00	1.306	0.291	/
	Bottom side			20525	836.5	1	0	0.09	0.269	23.84	25.00	1.306	0.351	/
	Back side			20450	829	1	0	-0.07	0.270	23.72	25.00	1.343	0.363	/
	Back side			20600	844	1	0	-0.10	0.442	23.77	25.00	1.327	0.587	14
Ant.0	Front side	10mm	QPSK-10MHz	20525	836.5	25	0	-0.03	0.203	22.76	24.00	1.330	0.270	/
	Back side			20525	836.5	25	0	-0.12	0.249	22.76	24.00	1.330	0.331	/
	Left side			20525	836.5	25	0	-0.14	0.085	22.76	24.00	1.330	0.113	/
	Right side			20525	836.5	25	0	-0.17	0.177	22.76	24.00	1.330	0.235	/
	Bottom side			20525	836.5	25	0	0.19	0.231	22.76	24.00	1.330	0.307	/
Ant.2	Front side	10mm	QPSK-10MHz	20525	836.5	1	0	-0.18	0.094	23.95	25.00	1.274	0.120	/
	Back side			20525	836.5	1	0	-0.08	0.166	23.95	25.00	1.274	0.211	/
	Left side			20525	836.5	1	0	0.09	0.081	23.95	25.00	1.274	0.103	/
	Right side			20525	836.5	1	0	0.04	0.048	23.95	25.00	1.274	0.061	/
	Top side			20525	836.5	1	0	-0.17	0.107	23.95	25.00	1.274	0.136	/
Ant.2	Front side	10mm	QPSK-10MHz	20525	836.5	25	0	0.15	0.075	22.84	24.00	1.306	0.098	/
	Back side			20525	836.5	25	0	0.15	0.132	22.84	24.00	1.306	0.172	/

	Left side			20525	836.5	25	0	0.14	0.066	22.84	24.00	1.306	0.086	/
	Right side			20525	836.5	25	0	-0.19	0.015	22.84	24.00	1.306	0.020	/
	Top side			20525	836.5	25	0	0.14	0.109	22.84	24.00	1.306	0.142	/

10.9LTE Band 5 Worse case for CA Test

Antenna	Test Position	Dist.	Test Mode	Test Channel	Freq.(MHz)	RB num.	RB Start	Power Drift(dB)	Meas 1-g SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head-CA														
ANT 2	Right tilt	0mm	QPSK	20525+20624	836.5	1+1	49+0	0.03	0.415	23.80	25.00	1.318	0.547	/
Body-worn& Hotspot														
ANT 0	Back side	10mm	QPSK	20600+20501	844	1+1	0+49	0.01	0.373	23.78	25.00	1.324	0.494	/

10.10 LTE Band 7 (20MHz Bandwidth)

Antenna	Test Position	Dist.	Test Mode	Test Channel	Freq.(MHz)	RB num.	RB Start	Power Drift(dB)	Measured 1-g SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power(dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head														
Ant.0	Left cheek	0mm	QPSK-20MHz	21100	2535	1	0	-0.05	0.090	19.18	20.00	1.208	0.109	/
	Left tilt			21100	2535	1	0	0.17	0.042	19.18	20.00	1.208	0.051	/
	Right cheek			21100	2535	1	0	0.08	0.061	19.18	20.00	1.208	0.074	/
	Right tilt			21100	2535	1	0	-0.08	0.043	19.18	20.00	1.208	0.052	/
Ant.0	Left cheek	0mm	QPSK-20MHz	21100	2535	50	0	0.14	0.059	18.13	19.00	1.222	0.072	/
	Left tilt			21100	2535	50	0	-0.03	0.038	18.13	19.00	1.222	0.046	/
	Right cheek			21100	2535	50	0	0.02	0.045	18.13	19.00	1.222	0.055	/
	Right tilt			21100	2535	50	0	0.12	0.040	18.13	19.00	1.222	0.049	/
Ant.2	Left cheek	0mm	QPSK-20MHz	21100	2535	1	0	0.19	0.267	19.93	21.00	1.279	0.342	/
	Left tilt			21100	2535	1	0	-0.14	0.348	19.93	21.00	1.279	0.445	/
	Right cheek			21100	2535	1	0	-0.09	0.609	19.93	21.00	1.279	0.779	/
	Right tilt			21100	2535	1	0	0.19	0.852	19.93	21.00	1.279	1.090	15
	Right tilt			21100	2535	1	0	0.11	0.833	19.93	21.00	1.279	1.066	repeat
	Right tilt			20850	2510	1	0	0.13	0.842	19.88	21.00	1.294	1.090	/
	Right tilt			21350	2560	1	0	-0.05	0.682	19.87	21.00	1.297	0.885	/
	Right tilt													
Ant.2	Left cheek	0mm	QPSK-20MHz	21100	2535	50	0	-0.17	0.221	18.89	20.00	1.291	0.285	/
	Left tilt			21100	2535	50	0	0.13	0.297	18.89	20.00	1.291	0.383	/
	Right cheek			21100	2535	50	0	-0.07	0.439	18.89	20.00	1.291	0.567	/
	Right tilt			21100	2535	50	0	-0.06	0.590	18.89	20.00	1.291	0.762	/
	Right tilt			21100	2535	100	0	0.03	0.611	18.77	20.00	1.327	0.811	/
Body-worn& Hotspot														
Ant.0	Front side	10mm	QPSK-20MHz	21100	2535	1	0	-0.12	0.193	19.18	20.00	1.208	0.233	/
	Back side			21100	2535	1	0	0.17	0.165	19.18	20.00	1.208	0.199	/
	Left side			21100	2535	1	0	-0.16	0.069	19.18	20.00	1.208	0.083	/
	Right side			21100	2535	1	0	0.16	0.128	19.18	20.00	1.208	0.155	/
	Bottom side			21100	2535	1	0	0.05	0.330	19.18	20.00	1.208	0.399	/
Ant.0	Front side	10mm	QPSK-20MHz	21100	2535	50	0	0.05	0.163	18.13	19.00	1.222	0.199	/
	Back side			21100	2535	50	0	0.08	0.136	18.13	19.00	1.222	0.166	/
	Left side			21100	2535	50	0	0.17	0.056	18.13	19.00	1.222	0.068	/
	Right side			21100	2535	50	0	0.19	0.108	18.13	19.00	1.222	0.132	/
	Bottom side			21100	2535	50	0	-0.05	0.275	18.13	19.00	1.222	0.336	/
Ant.2	Front side	10mm	QPSK-20MHz	21100	2535	1	0	0.18	0.161	19.93	21.00	1.279	0.206	/
	Back side			21100	2535	1	0	0.14	0.733	19.93	21.00	1.279	0.938	/
	Left side			21100	2535	1	0	0.03	0.061	19.93	21.00	1.279	0.078	/
	Right side			21100	2535	1	0	-0.06	0.050	19.93	21.00	1.279	0.064	/

	Top side			21100	2535	1	0	-0.15	0.605	19.93	21.00	1.279	0.774	/
	Back side			20850	2510	1	0	0.07	0.767	19.88	21.00	1.294	0.993	16
	Back side			20850	2510	1	0	0.02	0.734	19.88	21.00	1.294	0.950	repeat
	Back side			21350	2560	1	0	0.09	0.636	19.87	21.00	1.297	0.825	/
Ant.2	Front side	10mm	QPSK-20MHz	21100	2535	50	0	-0.13	0.121	18.89	20.00	1.291	0.156	/
	Back side			21100	2535	50	0	0.08	0.561	18.89	20.00	1.291	0.724	/
	Left side			21100	2535	50	0	0.17	0.044	18.89	20.00	1.291	0.057	/
	Right side			21100	2535	50	0	-0.09	0.026	18.89	20.00	1.291	0.034	/
	Top side			21100	2535	50	0	-0.06	0.473	18.89	20.00	1.291	0.611	/
	Back side			21100	2535	100	0	0.01	0.058	18.77	20.00	1.327	0.077	

10.11 LTE Band 7 Worse case for CA Test

Antenna	Test Position	Dist.	Test Mode	Test Channel	Freq.(MHz)	RB num.	RB Start	Power Drift(dB)	Meas 1-g SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head-CA														
ANT 2	Right tilt	0mm	QPSK	21100+21198	2535	1+1	99+0	-0.13	0.826	19.81	21.00	1.315	1.086	/
	Right tilt			20850+21048	2510	1+1	99+0	0.08	0.831	19.88	21.00	1.294	1.075	/
	Right tilt			21350+21152	2560	1+1	0+99	-0.18	0.779	19.84	21.00	1.306	1.018	/
Body-worn& Hotspot														
ANT 2	Back side	10mm	QPSK	21100+21198	2535	1+1	99+0	-0.14	0.752	19.81	21.00	1.315	0.989	/
	Back side			20850+21048	2510	1+1	99+0	0.06	0.739	19.88	21.00	1.294	0.956	/
	Back side			21350+21152	2560	1+1	0+99	0.07	0.742	19.84	21.00	1.306	0.969	/

10.12 LTE Band 12 (10MHz Bandwidth)

Antenna	Test Position	Dist.	Test Mode	Test Channel	Freq.(MHz)	RB num.	RB Start	Power Drift(dB)	Measured 1-g SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power(dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head														
Ant.0	Left cheek	0mm	QPSK-10MHz	23095	707.5	1	0	-0.17	0.088	23.88	25.00	1.294	0.114	/
	Left tilt			23095	707.5	1	0	-0.14	0.051	23.88	25.00	1.294	0.066	/
	Right cheek			23095	707.5	1	0	-0.14	0.105	23.88	25.00	1.294	0.136	/
	Right tilt			23095	707.5	1	0	0.07	0.063	23.88	25.00	1.294	0.082	/
Ant.0	Left cheek	0mm	QPSK-10MHz	23095	707.5	25	0	0.03	0.075	22.76	24.00	1.330	0.100	/
	Left tilt			23095	707.5	25	0	0.09	0.045	22.76	24.00	1.330	0.060	/
	Right cheek			23095	707.5	25	0	0.10	0.089	22.76	24.00	1.330	0.118	/
	Right tilt			23095	707.5	25	0	0.14	0.055	22.76	24.00	1.330	0.073	/
Ant.2	Left cheek	0mm	QPSK-10MHz	23095	707.5	1	0	-0.10	0.142	23.89	25.00	1.291	0.183	/
	Left tilt			23095	707.5	1	0	-0.02	0.138	23.89	25.00	1.291	0.178	/
	Right cheek			23095	707.5	1	0	-0.01	0.160	23.89	25.00	1.291	0.207	17
	Right tilt			23095	707.5	1	0	0.06	0.159	23.89	25.00	1.291	0.205	/
Ant.2	Left cheek	0mm	QPSK-10MHz	23095	707.5	25	0	0.11	0.119	22.76	24.00	1.330	0.158	/
	Left tilt			23095	707.5	25	0	0.17	0.114	22.76	24.00	1.330	0.152	/
	Right cheek			23095	707.5	25	0	0.11	0.146	22.76	24.00	1.330	0.194	/
	Right tilt			23095	707.5	25	0	0.12	0.154	22.76	24.00	1.330	0.205	/
Body-worn& Hotspot														
Ant.0	Front side	10mm	QPSK-10MHz	23095	707.5	1	0	0.09	0.150	23.88	25.00	1.294	0.194	/
	Back side			23095	707.5	1	0	-0.04	0.170	23.88	25.00	1.294	0.220	/
	Left side			23095	707.5	1	0	-0.16	0.142	23.88	25.00	1.294	0.184	/
	Right side			23095	707.5	1	0	-0.03	0.256	23.88	25.00	1.294	0.331	18
	Bottom side			23095	707.5	1	0	-0.08	0.127	23.88	25.00	1.294	0.164	/
Ant.0	Front side	10mm	QPSK-10MHz	23095	707.5	25	0	0.11	0.124	22.76	24.00	1.330	0.165	/
	Back side			23095	707.5	25	0	0.16	0.143	22.76	24.00	1.330	0.190	/
	Left side			23095	707.5	25	0	-0.18	0.117	22.76	24.00	1.330	0.156	/
	Right side			23095	707.5	25	0	0.09	0.235	22.76	24.00	1.330	0.313	/
	Bottom side			23095	707.5	25	0	0.17	0.110	22.76	24.00	1.330	0.146	/
Ant.2	Front side	10mm	QPSK-10MHz	23095	707.5	1	0	-0.05	0.051	23.89	25.00	1.291	0.066	/
	Back side			23095	707.5	1	0	-0.09	0.076	23.89	25.00	1.291	0.098	/
	Left side			23095	707.5	1	0	-0.06	0.102	23.89	25.00	1.291	0.132	/
	Right side			23095	707.5	1	0	-0.12	0.049	23.89	25.00	1.291	0.063	/
	Top side			23095	707.5	1	0	0.13	0.055	23.89	25.00	1.291	0.071	/
Ant.2	Front side	10mm	QPSK-10MHz	23095	707.5	25	0	0.13	0.044	22.76	24.00	1.330	0.059	/
	Back side			23095	707.5	25	0	-0.10	0.067	22.76	24.00	1.330	0.089	/
	Left side			23095	707.5	25	0	-0.07	0.083	22.76	24.00	1.330	0.110	/
	Right side			23095	707.5	25	0	-0.05	0.043	22.76	24.00	1.330	0.057	/
	Top side			23095	707.5	25	0	-0.16	0.031	22.76	24.00	1.330	0.041	/

10.13 LTE Band 66 (20MHz Bandwidth)

Antenna	Test Position	Dist.	Test Mode	Test Channel	Freq.(MHz)	RB num.	RB Start	Power Drift(dB)	Measured 1-g SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power(dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head														
Ant.0	Left cheek	0mm	QPSK-20MHz	132322	1745	1	0	0.13	0.056	19.03	20.00	1.250	0.070	/
	Left tilt			132322	1745	1	0	0.12	0.050	19.03	20.00	1.250	0.063	/
	Right cheek			132322	1745	1	0	0.18	0.048	19.03	20.00	1.250	0.060	/
	Right tilt			132322	1745	1	0	0.04	0.041	19.03	20.00	1.250	0.051	/
Ant.0	Left cheek	0mm	QPSK-20MHz	132322	1745	50	0	0.03	0.036	17.97	19.00	1.268	0.046	/
	Left tilt			132322	1745	50	0	-0.19	0.032	17.97	19.00	1.268	0.041	/
	Right cheek			132322	1745	50	0	0.13	0.028	17.97	19.00	1.268	0.035	/
	Right tilt			132322	1745	50	0	-0.04	0.022	17.97	19.00	1.268	0.028	/
Ant.2	Left cheek	0mm	QPSK-20MHz	132322	1745	1	0	0.13	0.448	19.21	20.00	1.199	0.537	/
	Left tilt			132322	1745	1	0	-0.14	0.554	19.21	20.00	1.199	0.665	/
	Right cheek			132322	1745	1	0	0.03	0.545	19.21	20.00	1.199	0.654	/
	Right tilt			132322	1745	1	0	-0.17	0.701	19.21	20.00	1.199	0.841	/
	Right tilt			132072	1720	1	0	-0.04	0.725	19.14	20.00	1.219	0.884	/
	Right tilt			132572	1770	1	0	0.07	0.885	19.13	20.00	1.222	1.081	19
	Right tilt			132572	1770	1	0	-0.03	0.849	19.13	20.00	1.222	1.037	repeat
	Right tilt			132572	1770	100	0	0.02	0.602	18.09	19.00	1.233	0.742	/
Body-worn& Hotspot														
Ant.0	Front side	10mm	QPSK-20MHz	132322	1745	1	0	-0.03	0.095	19.03	20.00	1.250	0.119	/
	Back side			132322	1745	1	0	-0.14	0.095	19.03	20.00	1.250	0.119	/
	Left side			132322	1745	1	0	-0.12	0.025	19.03	20.00	1.250	0.031	/
	Right side			132322	1745	1	0	-0.17	0.023	19.03	20.00	1.250	0.029	/
	Bottom side			132322	1745	1	0	-0.01	0.208	19.03	20.00	1.250	0.260	
Ant.0	Front side	10mm	QPSK-20MHz	132322	1745	50	0	-0.19	0.091	17.97	19.00	1.268	0.115	/
	Back side			132322	1745	50	0	-0.15	0.095	17.97	19.00	1.268	0.120	/
	Left side			132322	1745	50	0	-0.07	0.025	17.97	19.00	1.268	0.032	/
	Right side			132322	1745	50	0	0.05	0.022	17.97	19.00	1.268	0.028	/
	Bottom side			132322	1745	50	0	-0.19	0.202	17.97	19.00	1.268	0.256	/
Ant.2	Front side	10mm	QPSK-20MHz	132322	1745	1	0	-0.05	0.157	19.21	20.00	1.199	0.188	/
	Back side			132322	1745	1	0	-0.01	0.337	19.21	20.00	1.199	0.404	/
	Left side			132322	1745	1	0	-0.14	0.055	19.21	20.00	1.199	0.066	/
	Right side			132322	1745	1	0	-0.15	0.024	19.21	20.00	1.199	0.029	/
	Top side			132322	1745	1	0	0.18	0.345	19.21	20.00	1.199	0.414	20
Ant.2	Front side	10mm		132322	1745	50	0	-0.19	0.143	18.23	19.00	1.194	0.171	/
	Back side			132322	1745	50	0	0.04	0.306	18.23	19.00	1.194	0.365	/

	Left side		QPSK- 20MHz	132322	1745	50	0	-0.14	0.023	18.23	19.00	1.194	0.027	/
	Right side			132322	1745	50	0	0.07	0.026	18.23	19.00	1.194	0.031	/
	Top side			132322	1745	50	0	-0.06	0.290	18.23	19.00	1.194	0.346	/

10.14 LTE Band 66 Worse case for CA Test

Antenna	Test Position	Dist.	Test Mode	Test Channel	Freq.(MHz)	RB num.	RB Start	Power Drift(dB)	Meas 1-g SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head-CA														
ANT 2	Right tilt	0mm	QPSK	132572+132374	1770	1+1	0+99	0.04	0.798	19.10	20.00	1.230	0.982	/
Body-worn& Hotspot														
ANT 2	Top side	10mm	QPSK	132322+132520	1745	1+1	99+0	0.07	0.332	19.15	20.00	1.216	0.404	/

10.15 LTE Band 41 (20MHz Bandwidth)

Antenna	Test Position	Dist.	Test Mode	Channe	Freq.(MHz)	RB num.	RB Start	Power Drift(dB)	Measured 1-g CSAR (W/kg)	Meas. Power (dBm)	Max. tune-up power(dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head														
Ant.0	Left cheek	0mm	QPSK-20MHz	40670	2598	1	1	-0.06	0.064	20.76	21.50	1.186	0.076	/
	Left tilt			40670	2598	1	1	-0.02	0.042	20.76	21.50	1.186	0.050	/
	Right cheek			40670	2598	1	1	0.19	0.052	20.76	21.50	1.186	0.062	/
	Right tilt			40670	2598	1	1	-0.09	0.036	20.76	21.50	1.186	0.043	/
Ant.0	Left cheek	0mm	QPSK-20MHz	40670	2598	50	0	0.17	0.063	19.55	20.50	1.245	0.078	/
	Left tilt			40670	2598	50	0	-0.07	0.040	19.55	20.50	1.245	0.050	/
	Right cheek			40670	2598	50	0	0.07	0.049	19.55	20.50	1.245	0.061	/
	Right tilt			40670	2598	50	0	-0.16	0.032	19.55	20.50	1.245	0.040	/
Ant.2	Left cheek	0mm	QPSK-20MHz	40670	2598	1	1	-0.01	0.240	21.10	22.00	1.230	0.295	/
	Left tilt			40670	2598	1	1	0.08	0.299	21.10	22.00	1.230	0.368	/
	Right cheek			40670	2598	1	1	-0.02	0.455	21.10	22.00	1.230	0.560	/
	Right tilt			40670	2598	1	1	0.08	0.640	21.10	22.00	1.230	0.787	21
Ant.2	Left cheek	0mm	QPSK-20MHz	40670	2598	50	0	-0.09	0.175	19.97	21.00	1.268	0.222	/
	Left tilt			40670	2598	50	0	-0.03	0.234	19.97	21.00	1.268	0.297	/
	Right cheek			40670	2598	50	0	0.06	0.365	19.97	21.00	1.268	0.463	/
	Right tilt			40670	2598	50	0	-0.06	0.470	19.97	21.00	1.268	0.596	/
Body-worn&Hotspot														
Ant.0	Front side	10mm	QPSK-20MHz	40670	2598	1	0	0.07	0.177	20.76	21.50	1.186	0.210	/
	Back side			40670	2598	1	0	-0.08	0.152	20.76	21.50	1.186	0.180	/
	Left side			40670	2598	1	0	-0.16	0.059	20.76	21.50	1.186	0.070	/
	Right side			40670	2598	1	0	-0.07	0.094	20.76	21.50	1.186	0.111	/
	Bottom side			40670	2598	1	0	-0.04	0.342	20.76	21.50	1.186	0.406	/
Ant.0	Front side	10mm	QPSK-20MHz	40670	2598	50	0	-0.06	0.175	19.55	20.50	1.245	0.218	/
	Back side			40670	2598	50	0	0.03	0.149	19.55	20.50	1.245	0.185	/
	Left side			40670	2598	50	0	-0.06	0.052	19.55	20.50	1.245	0.065	/
	Right side			40670	2598	50	0	-0.08	0.092	19.55	20.50	1.245	0.114	/
	Bottom side			40670	2598	50	0	0.05	0.340	19.55	20.50	1.245	0.423	/
Ant.2	Front side	10mm	QPSK-20MHz	40670	2598	1	0	-0.13	0.130	21.10	22.00	1.230	0.160	/
	Back side			40670	2598	1	0	0.17	0.615	21.10	22.00	1.230	0.757	22
	Left side			40670	2598	1	0	0.11	0.059	21.10	22.00	1.230	0.073	/
	Right side			40670	2598	1	0	-0.02	0.046	21.10	22.00	1.230	0.057	/
	Top side			40670	2598	1	0	0.11	0.491	21.10	22.00	1.230	0.604	/
Ant.2	Front side	10mm	QPSK-20MHz	40670	2598	50	0	-0.18	0.098	19.97	21.00	1.268	0.124	/
	Back side			40670	2598	50	0	-0.13	0.467	19.97	21.00	1.268	0.592	/
	Left side			40670	2598	50	0	0.01	0.021	19.97	21.00	1.268	0.027	/
	Right side			40670	2598	50	0	0.12	0.030	19.97	21.00	1.268	0.038	/

	Top side			40670	2598	50	0	-0.17	0.355	19.97	21.00	1.268	0.450	/
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10.16 LTE Band 41 Worse case for CA Test

Antenna	Test Position	Dist.	Test Mode	Test Channel	Freq.(MHz)	RB num.	RB Start	Power Drift(dB)	Meas 1-g SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head-CA														
ANT 2	Right tilt	0mm	QPSK	40670+40526	2598	1+1	99+0	-0.10	0.612	21.04	22.00	1.247	0.763	/
Body-worn& Hotspot														
ANT 2	Back side	10mm	QPSK	40670+40526	2598	1+1	99+0	0.09	0.594	21.04	22.00	1.247	0.741	/

10.17 WIFI 2.4GHz

Antenna	Test Position	Dist.	Test Mode	Test Channe	Freq.(MHz)	Power Setting	Power Drift(dB)	Measured 1-g SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power(dBm)	Scaling Factor	Duty cycle (%)	Duty cycle Factor	1g Scaled SAR (W/kg)	Meas. No.
Head															
Ant.13	Left cheek	0mm	802.11b 1Mbps	6	2437	11.5	0.02	0.367	11.67	12.50	1.211	99.40	1.006	0.447	23
	Left tilt			6	2437	11.5	0.11	0.128	11.67	12.50	1.211	99.40	1.006	0.156	/
	Right cheek			6	2437	11.5	0.17	0.070	11.67	12.50	1.211	99.40	1.006	0.085	/
	Right tilt			6	2437	11.5	0.07	0.036	11.67	12.50	1.211	99.40	1.006	0.044	/
Body-worn& Hotspot															
Ant.13	Front side	10mm	802.11b 1Mbps	6	2437	11.5	0.02	0.068	11.67	12.50	1.211	99.40	1.006	0.083	/
	Back side			6	2437	11.5	0.12	0.118	11.67	12.50	1.211	99.40	1.006	0.144	/
	Right side			6	2437	11.5	0.05	0.136	11.67	12.50	1.211	99.40	1.006	0.166	24
	Top side			6	2437	11.5	0.14	0.021	11.67	12.50	1.211	99.40	1.006	0.026	/

10.18 WIFI 5GHz

Antenna	Test Position	Dist.	Test Mode	Test Channe	Freq.(MHz)	Power Setting	Power Drift(dB)	Measured 1-g SAR (Wkg)	Meas. Power (dBm)	Max. tune-up power(dBm)	Scaling Factor	Max. tune-up power(dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas No
Head															
Ant.14	Left cheek	0mm	802.11n 20M	52	5260	11	0.03	0.294	11.02	12.00	1.253	99.40	1.006	0.371	25
	Left tilt			52	5260	11	0.11	0.184	11.02	12.00	1.253	99.40	1.006	0.232	
	Right cheek			52	5260	11	0.12	0.164	11.02	12.00	1.253	99.40	1.006	0.207	
	Right tilt			52	5260	11	-0.14	0.167	11.02	12.00	1.253	99.40	1.006	0.210	
Ant.14	Left cheek	0mm	802.11ac 20M	140	5700	11	0.18	0.225	10.37	11.50	1.297	93.37	1.071	0.313	
	Left tilt			140	5700	11	-0.15	0.357	10.37	11.50	1.297	93.37	1.071	0.496	26
	Right cheek			140	5700	11	0.12	0.193	10.37	11.50	1.297	93.37	1.071	0.268	
	Right tilt			140	5700	11	-0.14	0.194	10.37	11.50	1.297	93.37	1.071	0.269	
Ant.14	Left cheek	0mm	802.11ac 40M	151	5755	11	0.03	0.340	11.12	12.00	1.226	93.37	1.071	0.446	27
	Left tilt			151	5755	11	-0.04	0.220	11.12	12.00	1.226	93.37	1.071	0.289	
	Right cheek			151	5755	11	0.06	0.203	11.12	12.00	1.226	93.37	1.071	0.266	
	Right tilt			151	5755	11	-0.11	0.214	11.12	12.00	1.226	93.37	1.071	0.281	
Body-worn															
Ant.14	Front side	10mm	802.11n 20M	52	5260	11	-0.13	0.073	11.02	12.00	1.253	99.40	1.006	0.092	
	Back side			52	5260	11	0.09	0.201	11.02	12.00	1.253	99.40	1.006	0.253	28
Ant.14	Front side	10mm	802.11ac 20M	140	5700	11	0.01	0.093	10.37	11.50	1.297	93.37	1.071	0.129	
	Back side			140	5700	11	-0.14	0.202	10.37	11.50	1.297	93.37	1.071	0.281	29
Ant.14	Front side	10mm	802.11ac 40M	151	5755	11	0.12	0.074	11.12	12.00	1.226	93.37	1.071	0.097	
	Back side			151	5755	11	0.01	0.187	11.12	12.00	1.226	93.37	1.071	0.245	30
Hotspot															
Ant.14	Front side	10mm	802.11n 20M	36	5180	11	-0.07	0.115	10.95	12.00	1.273	99.40	1.006	0.147	
	Back side			36	5180	11	-0.08	0.255	10.95	12.00	1.273	99.40	1.006	0.327	31
	Left side			36	5180	11	0.09	0.064	10.95	12.00	1.273	99.40	1.006	0.082	
	Right side			36	5180	11	-0.07	0.056	10.95	12.00	1.273	99.40	1.006	0.072	
	Top side			36	5180	11	-0.10	0.136	10.95	12.00	1.273	99.40	1.006	0.174	
Ant.14	Front side	10mm	802.11ac 40M	151	5755	11	-0.18	0.106	11.12	12.00	1.226	93.37	1.071	0.139	
	Back side			151	5755	11	-0.01	0.204	11.12	12.00	1.226	93.37	1.071	0.268	32
	Left side			151	5755	11	0.19	0.059	11.12	12.00	1.226	93.37	1.071	0.077	
	Right side			151	5755	11	-0.01	0.111	11.12	12.00	1.226	93.37	1.071	0.146	
	Top side			151	5755	11	0.12	0.195	11.12	12.00	1.226	93.37	1.071	0.256	

Antenna	Test Position	Dist.	Test Mode	Test Channe	Freq.(MHz)	Power Setting	Power Drift(dB)	Measured 10-g SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power(dBm)	Scaling Factor	Max. tune-up power(dBm)	Scaling Factor	10g Scaled SAR (W/kg)	Meas. No.
Extremity															
Ant.14	Front side	0mm	802.11n 20M	52	5260	11	-0.02	0.204	11.02	12.00	1.253	99.40	1.006	0.257	
	Back side			52	5260	11	-0.15	0.215	11.02	12.00	1.253	99.40	1.006	0.271	
	Left side			52	5260	11	-0.19	0.069	11.02	12.00	1.253	99.40	1.006	0.087	
	Right side			52	5260	11	-0.11	0.129	11.02	12.00	1.253	99.40	1.006	0.163	
	Top side			52	5260	11	-0.16	0.231	11.02	12.00	1.253	99.40	1.006	0.291	33
Ant.14	Front side	0mm	802.11ac 20M	140	5700	11	0.09	0.197	10.37	11.50	1.297	93.37	1.071	0.274	
	Back side			140	5700	11	-0.01	0.216	10.37	11.50	1.297	93.37	1.071	0.300	
	Left side			140	5700	11	0.17	0.052	10.37	11.50	1.297	93.37	1.071	0.072	
	Right side			140	5700	11	0.09	0.162	10.37	11.50	1.297	93.37	1.071	0.225	
	Top side			140	5700	11	-0.15	0.239	10.37	11.50	1.297	93.37	1.071	0.332	34

10.19 Bluetooth

Antenna	Test Position	Dist.	Test Mode	Test Channel	Test Freq.(MHz)	Power Drift(dB)	Measured 1-g SAR (Wkg)	Meas. Power (dBm)	Max. tune-up power(dBm)	Scaling Factor	Duty cycle (%)	Duty cycle Factor	1g Scaled SAR (W/kg)	Meas. No.
Ant.13	Head													
	Left cheek	0mm	DH5	39	2441	-0.11	0.316	14.88	15.00	1.028	76.67	1.304	0.424	35
	Left tilt			39	2441	-0.13	0.183	14.88	15.00	1.028	76.67	1.304	0.245	/
	Right cheek			39	2441	-0.02	0.131	14.88	15.00	1.028	76.67	1.304	0.176	/
	Right tilt			39	2441	-0.12	0.068	14.88	15.00	1.028	76.67	1.304	0.091	/
	Body-worn& Hotspot													
	Front side	10mm	DH5	39	2441	-0.08	0.101	14.88	15.00	1.028	76.67	1.304	0.135	/
	Back side			39	2441	-0.11	0.188	14.88	15.00	1.028	76.67	1.304	0.252	/
	Left side			39	2441	-0.18	0.012	14.88	15.00	1.028	76.67	1.304	0.016	/
	Right side			39	2441	0.04	0.209	14.88	15.00	1.028	76.67	1.304	0.280	36
	Top side			0	2402	-0.18	0.021	11.79	13.00	1.320	76.67	1.304	0.036	/

10.20 worst-case for battery

GSM 1900

Antenna	Test Position	Dist.	Test Mode	Channel	Freq.(MHz)	Power Drift(dB)	Measured 1-g SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power(dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Head												
Ant.0	Left cheek	0mm	GPRS 3TX	661	1880	0.06	0.040	26.74	27.50	1.191	0.048	/
	Left tilt			661	1880	-0.07	0.020	26.74	27.50	1.191	0.024	/
	Right cheek			661	1880	0.05	0.040	26.74	27.50	1.191	0.048	/
	Right tilt			661	1880	0.06	0.030	26.74	27.50	1.191	0.036	/
Ant.2	Left cheek	0mm	GPRS 2TX	661	1880	-0.13	0.580	26.81	27.50	1.172	0.680	/
	Left tilt			661	1880	0.11	0.610	26.81	27.50	1.172	0.715	/
	Right cheek			661	1880	-0.08	0.660	26.81	27.50	1.172	0.774	/
	Right tilt			661	1880	-0.12	0.790	26.81	27.50	1.172	0.926	/
	Right tilt			512	1850.2	-0.15	0.960	26.70	27.50	1.202	1.154	/
	Right tilt			810	1909.8	0.14	0.880	26.79	27.50	1.178	1.36	/

LTE Band41 (20MHz Bandwidth)

Antenna	Test Position	Dist.	Test Mode	Test Channel	Freq.(MHz)	RB num.	RB Start	Power Drift(dB)	Measured 1-g SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power(dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body-worn& Hotspot														
Ant.0	Front side	10mm	QPSK-20MHz	21100	2535	1	0	0.02	0.210	19.18	20.00	1.208	0.254	/
	Back side			21100	2535	1	0	0.19	0.140	19.18	20.00	1.208	0.169	/
	Left side			21100	2535	1	0	-0.10	0.040	19.18	20.00	1.208	0.048	/
	Right side			21100	2535	1	0	-0.03	0.090	19.18	20.00	1.208	0.109	/
	Bottom side			21100	2535	1	0	0.17	0.370	19.18	20.00	1.208	0.447	/
Ant.0	Front side	10mm	QPSK-20MHz	21100	2535	50	0	-0.09	0.130	18.13	19.00	1.222	0.159	/
	Back side			21100	2535	50	0	-0.17	0.110	18.13	19.00	1.222	0.134	/
	Left side			21100	2535	50	0	0.08	0.040	18.13	19.00	1.222	0.049	/
	Right side			21100	2535	50	0	-0.13	0.130	18.13	19.00	1.222	0.159	/
	Bottom side			21100	2535	50	0	-0.04	0.240	18.13	19.00	1.222	0.293	/
Ant.2	Front side	10mm	QPSK-20MHz	21100	2535	1	0	0.05	0.130	19.93	21.00	1.279	0.166	/
	Back side			21100	2535	1	0	-0.18	0.680	19.93	21.00	1.279	0.870	/
	Left side			21100	2535	1	0	0.05	0.040	19.93	21.00	1.279	0.051	/
	Right side			21100	2535	1	0	0.02	0.050	19.93	21.00	1.279	0.064	/
	Top side			21100	2535	1	0	-0.02	0.660	19.93	21.00	1.279	0.844	/
	Back side			20850	2510	1	0	0.01	0.730	19.88	21.00	1.294	0.945	/
	Back side			21350	2560	1	0	0.09	0.650	19.87	21.00	1.297	0.843	/
	Back side			21100	2535	50	0	-0.10	0.140	18.89	20.00	1.291	0.181	/
Ant.2	Back side	10mm	QPSK-20MHz	21100	2535	50	0	0.09	0.590	18.89	20.00	1.291	0.762	/
	Left side			21100	2535	50	0	0.08	0.040	18.89	20.00	1.291	0.052	/
	Right side			21100	2535	50	0	-0.09	0.020	18.89	20.00	1.291	0.026	/
	Top side			21100	2535	50	0	-0.04	0.490	18.89	20.00	1.291	0.633	/
	Back side			21100	2535	100	0	0.14	0.610	18.77	20.00	1.327	0.810	

10.21 NFC

1. According to the 2022.04 TCBC Workshop meeting, the power threshold is $\leq 100\text{MHz}$, refer to P6s.

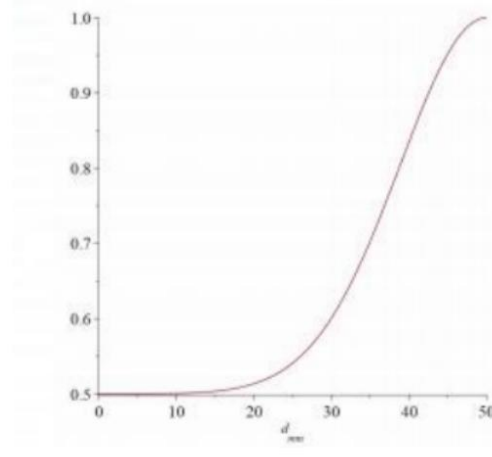
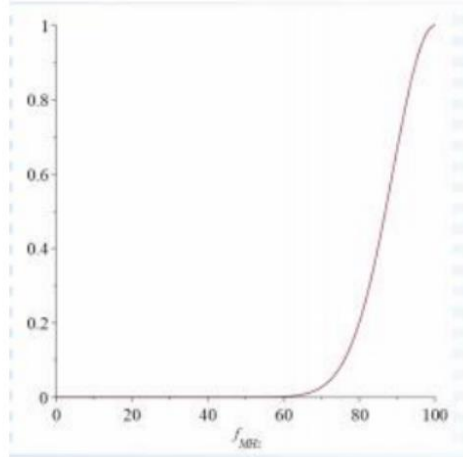
$$P_{7X}(d_{mm}, f_{MHz}) := \begin{cases} P_{6S}(d_{mm}, f_{MHz}) & f_{MHz} \leq 100 \\ P_{6to7}(d_{mm}, f_{MHz}) & 100 < f_{MHz} \leq 300 \\ P_7(d_{mm}, f_{MHz}) & 300 < f_{MHz} \end{cases}$$

2. For portable products, when using a distance of $\leq 50\text{mm}$, such as mobile phone NFC, P6s is calculated with the following formula calculate.

$$S_f(f_{MHz}) \cdot P_{431a}(d_{mm}, f_{MHz}) + (1 - S_f(f_{MHz})) \cdot S_d(d_{mm}) \cdot P_{431b1}(50., 100.) \cdot \left(1 + \log_{10}\left(\frac{100.}{f_{MHz}}\right)\right) \quad d_{mm} \leq 50 \text{ and } f_{MHz} \leq 100$$

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

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



d≤50mm			
f Max(MHz)	100	d Max(mm)	50
f MHz	13.56	d(mm)	5
Δf(MHz)	100	Δd	50
S _f (f _{MHz})	0.000568861	S _d (d _{mm})	0.50015177
P6s(mW)	443.1257378		
Note: SAR testing is required when the distance is 5mm and the power is greater than 443.13mW.			

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 EIRP 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 $\leq$ 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 EIRP of all chains in linear terms (e.g., Watts, mW).
- e) Convert the resultant EIRP level to an equivalent electric field strength using the following relationship: $E = \text{EIRP} - 20\log D + 104.8$

where:

E = electric field strength in dB μ V/m,

EIRP = equivalent isotropic radiated power in dBm

D = specified measurement distance in meters.

Mode	f (MHz)	Max. E-Field strength (dB μ V/m)	D (m)	Ground reflection factor (dB)	ERP (dBm)
NFC (13.56MHz)	13.56	50.31	3	6	-22.60
Note: 1. Add the appropriate maximum ground reflection factor to the ERP level (6 dB for frequencies $\leq$ 30 MHz). 2. ERP= 50.31+20*Log(10) - 104.8 + 6 =-28.49 (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)	-28.49	Pmeas.(mW)	0.001
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 ^{1st} Measured SAR (W/kg)	Largest to Smallest SAR Ratio
Band 2	GSM	Head	Right tilt	0.980	Yes	0.972	1.00
Band 2	WCDMA	Head	Right tilt	0.891	Yes	0.844	1.05
Band 7	LTE	Head	Right tilt	0.852	Yes	0.833	1.02
Band 66	LTE	Head	Right tilt	0.885	Yes	0.849	1.04
Note: The ratio of largest to smallest SAR for the original and first repeated measurements is < 1.20 , the second repeated measurement. Is not required.							

12 SIMULTANEOUS TRANSMISSION

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

12.1 Simultaneous Transmission Mode Consider

No.	Simultaneous Tx Combination	Head	Body-worn	Hotspot
1	WWAN+2.4G WIFI	Yes	Yes	Yes
2	WWAN+BT	Yes	Yes	Yes
3	WWAN+5G WIFI+BT	Yes	Yes	Yes

Note:

1. WWAN antennas can switch automatically, the standards supported by WWAN are(GSM Voice/GPRS/EDGE/WCDMA/LTE).
2. 2.4G WIFI can't transmit simultaneously with Bluetooth or 5G WIFI.
3. 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.
4. The maximum SAR summation is calculated based on the same configuration and test position.

12.2 Sum SAR of Simultaneous Transmission

12.2.1 Sum Head SAR of Simultaneous Transmission

Band	Antenna	Position	Stand alone SAR				SUM SAR		
			1	2	3	4			
			WWAN	2.4GWIFI	5G WIFI	Bluetooth	1+2	1+4	1+3+4
GSM 850	Ant.0	Left Cheek	0.239	0.447	0.446	0.424	0.686	0.663	1.109
		Left Tilt	0.145	0.156	0.496	0.245	0.301	0.390	0.886
		Right Cheek	0.254	0.085	0.268	0.176	0.339	0.429	0.697
		Right Tilt	0.142	0.044	0.281	0.091	0.186	0.233	0.514
	Ant.2	Left Cheek	0.278	0.447	0.446	0.424	0.725	0.702	1.148
		Left Tilt	0.258	0.156	0.496	0.245	0.414	0.503	0.999
		Right Cheek	0.330	0.085	0.268	0.176	0.416	0.506	0.774
		Right Tilt	0.316	0.044	0.281	0.091	0.360	0.407	0.688
GSM 1900	Ant.0	Left Cheek	0.038	0.447	0.446	0.424	0.485	0.462	0.908
		Left Tilt	0.030	0.156	0.496	0.245	0.186	0.275	0.771
		Right Cheek	0.057	0.085	0.268	0.176	0.142	0.233	0.501
		Right Tilt	0.036	0.044	0.281	0.091	0.080	0.127	0.408
	Ant.2	Left Cheek	0.605	0.447	0.446	0.424	1.052	1.029	1.475
		Left Tilt	0.741	0.156	0.496	0.245	0.897	0.986	1.482
		Right Cheek	0.811	0.085	0.268	0.176	0.896	0.987	1.255
		Right Tilt	1.178	0.044	0.281	0.091	1.222	1.269	1.550
WCDMA B2	Ant.0	Left Cheek	0.079	0.447	0.446	0.424	0.526	0.502	0.949
		Left Tilt	0.044	0.156	0.496	0.245	0.199	0.289	0.785
		Right Cheek	0.030	0.085	0.268	0.176	0.116	0.206	0.474
		Right Tilt	0.042	0.044	0.281	0.091	0.086	0.134	0.414
	Ant.2	Left Cheek	0.554	0.447	0.446	0.424	1.001	0.978	1.424
		Left Tilt	0.685	0.156	0.496	0.245	0.841	0.931	1.427
		Right Cheek	0.712	0.085	0.268	0.176	0.797	0.888	1.156
		Right Tilt	1.143	0.044	0.281	0.091	1.186	1.234	1.515
WCDMA B4	Ant.0	Left Cheek	0.047	0.447	0.446	0.424	0.494	0.471	0.917
		Left Tilt	0.042	0.156	0.496	0.245	0.198	0.287	0.783
		Right Cheek	0.033	0.085	0.268	0.176	0.118	0.208	0.476
		Right Tilt	0.027	0.044	0.281	0.091	0.071	0.119	0.399
	Ant.2	Left Cheek	0.395	0.447	0.446	0.424	0.842	0.819	1.265
		Left Tilt	0.512	0.156	0.496	0.245	0.668	0.757	1.253
		Right Cheek	0.517	0.085	0.268	0.176	0.602	0.693	0.961
		Right Tilt	0.717	0.044	0.281	0.091	0.761	0.808	1.089
WCDMA B5	Ant.0	Left Cheek	0.187	0.447	0.446	0.424	0.634	0.611	1.057
		Left Tilt	0.114	0.156	0.496	0.245	0.270	0.360	0.856
		Right Cheek	0.214	0.085	0.268	0.176	0.299	0.390	0.658
		Right Tilt	0.125	0.044	0.281	0.091	0.169	0.217	0.498

	Ant.2	Left Cheek	0.434	0.447	0.446	0.424	0.881	0.858	1.304
		Left Tilt	0.400	0.156	0.496	0.245	0.556	0.646	1.142
		Right Cheek	0.481	0.085	0.268	0.176	0.566	0.657	0.925
		Right Tilt	0.467	0.044	0.281	0.091	0.511	0.558	0.839
LTE B2	Ant.0	Left Cheek	0.043	0.447	0.446	0.424	0.490	0.466	0.913
		Left Tilt	0.038	0.156	0.496	0.245	0.194	0.283	0.779
		Right Cheek	0.033	0.085	0.268	0.176	0.119	0.209	0.477
		Right Tilt	0.030	0.044	0.281	0.091	0.073	0.121	0.402
	Ant.2	Left Cheek	0.366	0.447	0.446	0.424	0.813	0.790	1.236
		Left Tilt	0.448	0.156	0.496	0.245	0.604	0.694	1.190
		Right Cheek	0.464	0.085	0.268	0.176	0.549	0.640	0.908
		Right Tilt	0.706	0.044	0.281	0.091	0.750	0.797	1.078
LTE B5	Ant.0	Left Cheek	0.206	0.447	0.446	0.424	0.653	0.630	1.076
		Left Tilt	0.124	0.156	0.496	0.245	0.280	0.369	0.865
		Right Cheek	0.231	0.085	0.268	0.176	0.316	0.407	0.675
		Right Tilt	0.137	0.044	0.281	0.091	0.181	0.228	0.509
	Ant.2	Left Cheek	0.448	0.447	0.446	0.424	0.895	0.872	1.318
		Left Tilt	0.397	0.156	0.496	0.245	0.553	0.643	1.139
		Right Cheek	0.562	0.085	0.268	0.176	0.647	0.737	1.005
		Right Tilt	0.527	0.044	0.281	0.091	0.571	0.618	0.899
LTE B7	Ant.0	Left Cheek	0.109	0.447	0.446	0.424	0.556	0.532	0.979
		Left Tilt	0.051	0.156	0.496	0.245	0.207	0.296	0.792
		Right Cheek	0.074	0.085	0.268	0.176	0.159	0.249	0.517
		Right Tilt	0.052	0.044	0.281	0.091	0.096	0.143	0.424
	Ant.2	Left Cheek	0.342	0.447	0.446	0.424	0.789	0.765	1.212
		Left Tilt	0.445	0.156	0.496	0.245	0.601	0.691	1.186
		Right Cheek	0.779	0.085	0.268	0.176	0.864	0.955	1.223
		Right Tilt	1.090	0.044	0.281	0.091	1.134	1.181	1.462
LTE B12	Ant.0	Left Cheek	0.114	0.447	0.446	0.424	0.561	0.538	0.984
		Left Tilt	0.066	0.156	0.496	0.245	0.222	0.311	0.807
		Right Cheek	0.136	0.085	0.268	0.176	0.221	0.312	0.580
		Right Tilt	0.082	0.044	0.281	0.091	0.125	0.173	0.454
	Ant.2	Left Cheek	0.183	0.447	0.446	0.424	0.630	0.607	1.053
		Left Tilt	0.178	0.156	0.496	0.245	0.334	0.424	0.919
		Right Cheek	0.207	0.085	0.268	0.176	0.292	0.382	0.650
		Right Tilt	0.205	0.044	0.281	0.091	0.249	0.296	0.577
LTE B66	Ant.0	Left Cheek	0.070	0.447	0.446	0.424	0.517	0.494	0.940
		Left Tilt	0.063	0.156	0.496	0.245	0.218	0.308	0.804
		Right Cheek	0.060	0.085	0.268	0.176	0.145	0.236	0.504
		Right Tilt	0.051	0.044	0.281	0.091	0.095	0.142	0.423
	Ant.2	Left Cheek	0.537	0.447	0.446	0.424	0.984	0.961	1.407
		Left Tilt	0.665	0.156	0.496	0.245	0.820	0.910	1.406
		Right Cheek	0.654	0.085	0.268	0.176	0.739	0.829	1.097

		Right Tilt	1.081	0.044	0.281	0.091	1.125	1.172	1.453
LTE B41	Ant.0	Left Cheek	0.078	0.447	0.446	0.424	0.525	0.502	0.948
		Left Tilt	0.050	0.156	0.496	0.245	0.206	0.295	0.791
		Right Cheek	0.062	0.085	0.268	0.176	0.147	0.237	0.505
		Right Tilt	0.043	0.044	0.281	0.091	0.087	0.134	0.415
	Ant.2	Left Cheek	0.295	0.447	0.446	0.424	0.742	0.719	1.165
		Left Tilt	0.368	0.156	0.496	0.245	0.524	0.613	1.109
		Right Cheek	0.560	0.085	0.268	0.176	0.645	0.735	1.003
		Right Tilt	0.787	0.044	0.281	0.091	0.831	0.879	1.159

Note:

1: The simultaneous transmission combinations of the antennas antennas contain combinations of two antennas, so only the worst simultaneous transmission combinations was shown in this table.

2: The highest Summed 10g SAR is 1.55 W/Kg < 2.0 W/kg, so Simultaneous Transmission SAR test is not required.

12.2.2 Sum Body-worn SAR of Simultaneous Transmission

Band	Antenna	Position	Stand alone SAR				SUM SAR		
			1	2	3	4			
			WWAN	2.4GWIFI	5G WIFI	Bluetooth	1+2	1+4	1+3+4
GSM 850	Ant.0	Front Side	0.315	0.083	0.129	0.135	0.397	0.450	0.579
		Back Side	0.410	0.144	0.281	0.252	0.554	0.662	0.943
	Ant.2	Front Side	0.082	0.083	0.129	0.135	0.165	0.218	0.347
		Back Side	0.148	0.144	0.281	0.252	0.292	0.400	0.681
GSM 1900	Ant.0	Front Side	0.320	0.083	0.129	0.135	0.403	0.456	0.585
		Back Side	0.335	0.144	0.281	0.252	0.478	0.587	0.867
	Ant.2	Front Side	0.244	0.083	0.129	0.135	0.327	0.379	0.508
		Back Side	0.640	0.144	0.281	0.252	0.784	0.892	1.173
WCDMA B2	Ant.0	Front Side	0.219	0.083	0.129	0.135	0.302	0.355	0.484
		Back Side	0.219	0.144	0.281	0.252	0.363	0.471	0.752
	Ant.2	Front Side	0.234	0.083	0.129	0.135	0.317	0.369	0.499
		Back Side	0.549	0.144	0.281	0.252	0.693	0.801	1.082
WCDMA B4	Ant.0	Front Side	0.118	0.083	0.129	0.135	0.200	0.253	0.382
		Back Side	0.119	0.144	0.281	0.252	0.263	0.371	0.652
	Ant.2	Front Side	0.157	0.083	0.129	0.135	0.240	0.293	0.422
		Back Side	0.300	0.144	0.281	0.252	0.444	0.552	0.833
WCDMA B5	Ant.0	Front Side	0.203	0.083	0.129	0.135	0.286	0.338	0.468
		Back Side	0.220	0.144	0.281	0.252	0.364	0.472	0.753
	Ant.2	Front Side	0.120	0.083	0.129	0.135	0.202	0.255	0.384
		Back Side	0.218	0.144	0.281	0.252	0.362	0.471	0.751
LTE B2	Ant.0	Front Side	0.138	0.083	0.129	0.135	0.220	0.273	0.402
		Back Side	0.142	0.144	0.281	0.252	0.286	0.394	0.675
	Ant.2	Front Side	0.152	0.083	0.129	0.135	0.235	0.287	0.416
		Back Side	0.384	0.144	0.281	0.252	0.528	0.636	0.917
LTE B5	Ant.0	Front Side	0.327	0.083	0.129	0.135	0.409	0.462	0.591
		Back Side	0.587	0.144	0.281	0.252	0.730	0.839	1.119
	Ant.2	Front Side	0.120	0.083	0.129	0.135	0.203	0.255	0.384
		Back Side	0.211	0.144	0.281	0.252	0.355	0.463	0.744
LTE B7	Ant.0	Front Side	0.233	0.083	0.129	0.135	0.316	0.369	0.498
		Back Side	0.199	0.144	0.281	0.252	0.343	0.451	0.732
	Ant.2	Front Side	0.206	0.083	0.129	0.135	0.289	0.341	0.471
		Back Side	0.993	0.144	0.281	0.252	1.136	1.245	1.525
LTE B12	Ant.0	Front Side	0.194	0.083	0.129	0.135	0.277	0.330	0.459
		Back Side	0.220	0.144	0.281	0.252	0.364	0.472	0.753
	Ant.2	Front Side	0.066	0.083	0.129	0.135	0.149	0.201	0.330
		Back Side	0.098	0.144	0.281	0.252	0.242	0.350	0.631
LTE B66	Ant.0	Front Side	0.119	0.083	0.129	0.135	0.202	0.254	0.383

	Ant.2	Back Side	0.120	0.144	0.281	0.252	0.264	0.373	0.653
		Front Side	0.188	0.083	0.129	0.135	0.271	0.324	0.453
		Back Side	0.404	0.144	0.281	0.252	0.548	0.656	0.937
LTE B41	Ant.0	Front Side	0.218	0.083	0.129	0.135	0.301	0.353	0.482
		Back Side	0.185	0.144	0.281	0.252	0.329	0.438	0.718
	Ant.2	Front Side	0.160	0.083	0.129	0.135	0.243	0.295	0.425
		Back Side	0.757	0.144	0.281	0.252	0.900	1.009	1.289

Note:

1: The simultaneous transmission combinations of the antennas antennas contain combinations of two antennas, so only the worst simultaneous transmission combinations was shown in this table.

2: The highest Combined 10g SAR is 1.525 W/Kg < 4.0 W/kg, so Simultaneous Transmission SAR test is not required.

12.2.3 Sum Hotspot SAR of Simultaneous Transmission

Band	Antenna	Position	Stand alone SAR				SUM SAR		
			1	2	3	4			
			WWAN	2.4GWIFI	5G WIFI	Bluetooth	1+2	1+4	1+3+4
GSM 850	Ant.0	Front Side	0.315	0.083	0.147	0.135	0.397	0.450	0.597
		Back Side	0.410	0.144	0.327	0.252	0.554	0.662	0.989
		Left Side	0.137	0.000	0.082	0.000	0.137	0.137	0.219
		Right Side	0.280	0.166	0.146	0.280	0.446	0.560	0.706
		Top Side	0.000	0.026	0.256	0.036	0.026	0.036	0.292
		Bottom Side	0.481	0.000	0.000	0.000	0.481	0.481	0.481
	Ant.2	Front Side	0.082	0.083	0.147	0.135	0.165	0.218	0.365
		Back Side	0.148	0.144	0.327	0.252	0.292	0.400	0.727
		Left Side	0.013	0.000	0.082	0.000	0.013	0.013	0.095
		Right Side	0.028	0.166	0.146	0.280	0.194	0.309	0.454
		Top Side	0.143	0.026	0.256	0.036	0.169	0.179	0.435
		Bottom Side	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GSM 1900	Ant.0	Front Side	0.320	0.083	0.147	0.135	0.403	0.456	0.603
		Back Side	0.335	0.144	0.327	0.252	0.478	0.587	0.913
		Left Side	0.107	0.000	0.082	0.000	0.107	0.107	0.189
		Right Side	0.069	0.166	0.146	0.280	0.235	0.349	0.495
		Top Side	0.000	0.026	0.256	0.036	0.026	0.036	0.292
		Bottom Side	0.708	0.000	0.000	0.000	0.708	0.708	0.708
	Ant.2	Front Side	0.244	0.083	0.147	0.135	0.327	0.379	0.527
		Back Side	0.640	0.144	0.327	0.252	0.784	0.892	1.219
		Left Side	0.077	0.000	0.082	0.000	0.077	0.077	0.159
		Right Side	0.059	0.166	0.146	0.280	0.224	0.339	0.485
		Top Side	0.581	0.026	0.256	0.036	0.606	0.617	0.873
		Bottom Side	0.000	0.000	0.000	0.000	0.000	0.000	0.000
WCDMA B2	Ant.0	Front Side	0.219	0.083	0.147	0.135	0.302	0.355	0.502
		Back Side	0.219	0.144	0.327	0.252	0.363	0.471	0.798
		Left Side	0.071	0.000	0.082	0.000	0.071	0.071	0.153
		Right Side	0.054	0.166	0.146	0.280	0.220	0.335	0.480
		Top Side	0.000	0.026	0.256	0.036	0.026	0.036	0.292
		Bottom Side	0.501	0.000	0.000	0.000	0.501	0.501	0.501
	Ant.2	Front Side	0.000	0.083	0.147	0.135	0.083	0.135	0.283
		Back Side	0.549	0.144	0.327	0.252	0.693	0.801	1.128
		Left Side	0.072	0.000	0.082	0.000	0.072	0.072	0.154
		Right Side	0.063	0.166	0.146	0.280	0.229	0.343	0.489
		Top Side	0.491	0.026	0.256	0.036	0.516	0.527	0.783

		Bottom Side	0.000	0.000	0.000	0.000	0.000	0.000	0.000
WCDMA B4	Ant.0	Front Side	0.118	0.083	0.147	0.135	0.200	0.253	0.400
		Back Side	0.119	0.144	0.327	0.252	0.263	0.371	0.698
		Left Side	0.039	0.000	0.082	0.000	0.039	0.039	0.121
		Right Side	0.054	0.166	0.146	0.280	0.219	0.334	0.479
		Top Side	0.000	0.026	0.256	0.036	0.026	0.036	0.292
		Bottom Side	0.270	0.000	0.000	0.000	0.270	0.270	0.270
	Ant.2	Front Side	0.157	0.083	0.147	0.135	0.240	0.293	0.440
		Back Side	0.300	0.144	0.327	0.252	0.444	0.552	0.879
		Left Side	0.056	0.000	0.082	0.000	0.056	0.056	0.138
		Right Side	0.027	0.166	0.146	0.280	0.192	0.307	0.453
		Top Side	0.312	0.026	0.256	0.036	0.338	0.348	0.604
		Bottom Side	0.000	0.000	0.000	0.000	0.000	0.000	0.000
WCDMA B5	Ant.0	Front Side	0.203	0.083	0.147	0.135	0.286	0.338	0.486
		Back Side	0.220	0.144	0.327	0.252	0.364	0.472	0.799
		Left Side	0.135	0.000	0.082	0.000	0.135	0.135	0.217
		Right Side	0.204	0.166	0.146	0.280	0.370	0.484	0.630
		Top Side	0.000	0.026	0.256	0.036	0.026	0.036	0.292
		Bottom Side	0.203	0.000	0.000	0.000	0.203	0.203	0.203
	Ant.2	Front Side	0.120	0.083	0.147	0.135	0.202	0.255	0.402
		Back Side	0.218	0.144	0.327	0.252	0.362	0.471	0.797
		Left Side	0.104	0.000	0.082	0.000	0.104	0.104	0.186
		Right Side	0.059	0.166	0.146	0.280	0.224	0.339	0.484
		Top Side	0.165	0.026	0.256	0.036	0.191	0.201	0.457
		Bottom Side	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LTE B2	Ant.0	Front Side	0.138	0.083	0.147	0.135	0.220	0.273	0.420
		Back Side	0.142	0.144	0.327	0.252	0.286	0.394	0.721
		Left Side	0.049	0.000	0.082	0.000	0.049	0.049	0.131
		Right Side	0.053	0.166	0.146	0.280	0.219	0.334	0.479
		Top Side	0.000	0.026	0.256	0.036	0.026	0.036	0.292
		Bottom Side	0.298	0.000	0.000	0.000	0.298	0.298	0.298
	Ant.2	Front Side	0.152	0.083	0.147	0.135	0.235	0.287	0.435
		Back Side	0.384	0.144	0.327	0.252	0.528	0.636	0.963
		Left Side	0.043	0.000	0.082	0.000	0.043	0.043	0.125
		Right Side	0.033	0.166	0.146	0.280	0.198	0.313	0.458
		Top Side	0.313	0.026	0.256	0.036	0.339	0.349	0.605
		Bottom Side	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LTE B5	Ant.0	Front Side	0.327	0.083	0.147	0.135	0.409	0.462	0.609
		Back Side	0.587	0.144	0.327	0.252	0.730	0.839	1.165
		Left Side	0.138	0.000	0.082	0.000	0.138	0.138	0.220
		Right Side	0.291	0.166	0.146	0.280	0.457	0.572	0.717

		Top Side	0.000	0.026	0.256	0.036	0.026	0.036	0.292
		Bottom Side	0.351	0.000	0.000	0.000	0.351	0.351	0.351
	Ant.2	Front Side	0.120	0.083	0.147	0.135	0.203	0.255	0.402
		Back Side	0.211	0.144	0.327	0.252	0.355	0.463	0.790
		Left Side	0.103	0.000	0.082	0.000	0.103	0.103	0.185
		Right Side	0.061	0.166	0.146	0.280	0.227	0.341	0.487
		Top Side	0.142	0.026	0.256	0.036	0.168	0.179	0.434
		Bottom Side	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LTE B7	Ant.0	Front Side	0.233	0.083	0.147	0.135	0.316	0.369	0.516
		Back Side	0.199	0.144	0.327	0.252	0.343	0.451	0.778
		Left Side	0.083	0.000	0.082	0.000	0.083	0.083	0.165
		Right Side	0.155	0.166	0.146	0.280	0.320	0.435	0.581
		Top Side	0.000	0.026	0.256	0.036	0.026	0.036	0.292
		Bottom Side	0.399	0.000	0.000	0.000	0.399	0.399	0.399
	Ant.2	Front Side	0.206	0.083	0.147	0.135	0.289	0.341	0.489
		Back Side	0.993	0.144	0.327	0.252	1.136	1.245	1.571
		Left Side	0.078	0.000	0.082	0.000	0.078	0.078	0.160
		Right Side	0.064	0.166	0.146	0.280	0.230	0.344	0.490
		Top Side	0.774	0.026	0.256	0.036	0.800	0.810	1.066
		Bottom Side	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LTE B12	Ant.0	Front Side	0.194	0.083	0.147	0.135	0.277	0.330	0.477
		Back Side	0.220	0.144	0.327	0.252	0.364	0.472	0.799
		Left Side	0.184	0.000	0.082	0.000	0.184	0.184	0.266
		Right Side	0.331	0.166	0.146	0.280	0.497	0.612	0.757
		Top Side	0.000	0.026	0.256	0.036	0.026	0.036	0.292
		Bottom Side	0.164	0.000	0.000	0.000	0.164	0.164	0.164
	Ant.2	Front Side	0.066	0.083	0.147	0.135	0.149	0.201	0.349
		Back Side	0.098	0.144	0.327	0.252	0.242	0.350	0.677
		Left Side	0.132	0.000	0.082	0.000	0.132	0.132	0.214
		Right Side	0.063	0.166	0.146	0.280	0.229	0.344	0.489
		Top Side	0.071	0.026	0.256	0.036	0.097	0.107	0.363
		Bottom Side	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LTE B66	Ant.0	Front Side	0.119	0.083	0.147	0.135	0.202	0.254	0.402
		Back Side	0.120	0.144	0.327	0.252	0.264	0.373	0.699
		Left Side	0.032	0.000	0.082	0.000	0.032	0.032	0.114
		Right Side	0.029	0.166	0.146	0.280	0.194	0.309	0.455
		Top Side	0.000	0.026	0.256	0.036	0.026	0.036	0.292
		Bottom Side	0.260	0.000	0.000	0.000	0.260	0.260	0.260
	Ant.2	Front Side	0.188	0.083	0.147	0.135	0.271	0.324	0.471
		Back Side	0.404	0.144	0.327	0.252	0.548	0.656	0.983
		Left Side	0.066	0.000	0.082	0.000	0.066	0.066	0.148

		Right Side	0.031	0.166	0.146	0.280	0.197	0.311	0.457
		Top Side	0.414	0.026	0.256	0.036	0.439	0.450	0.706
		Bottom Side	0.000	0.000	0.000	0.000	0.000	0.000	0.000
LTE B41	Ant.0	Front Side	0.218	0.083	0.147	0.135	0.301	0.353	0.501
		Back Side	0.185	0.144	0.327	0.252	0.329	0.438	0.764
		Left Side	0.070	0.000	0.082	0.000	0.070	0.070	0.152
		Right Side	0.114	0.166	0.146	0.280	0.280	0.395	0.540
		Top Side	0.000	0.026	0.256	0.036	0.026	0.036	0.292
		Bottom Side	0.423	0.000	0.000	0.000	0.423	0.423	0.423
	Ant.2	Front Side	0.160	0.083	0.147	0.135	0.243	0.295	0.443
		Back Side	0.757	0.144	0.327	0.252	0.900	1.009	1.335
		Left Side	0.073	0.000	0.082	0.000	0.073	0.073	0.155
		Right Side	0.057	0.166	0.146	0.280	0.222	0.337	0.483
		Top Side	0.604	0.026	0.256	0.036	0.630	0.640	0.896
		Bottom Side	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Note:

1: The simultaneous transmission combinations of the antennas antennas contain combinations of two antennas, so only the worst simultaneous transmission combinations was shown in this table.

2: The highest Combined 10g SAR is 1.571 W/Kg < 2.0 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:

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

maximum SAR value for Simultaneous Transmission is 1.54 [W/kg]. Therefore, the worst TER
 $= (1.57 + 0.001) / 1.6 = 0.981 < 1$, 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: 1201	2024/09/03	2027/09/02
835MHz Validation Dipole	Speag	D835V2	SN: 4d277	2024/08/30	2024/08/29
1750MHz Validation Dipole	Speag	D1750V2	SN: 1183	2024/09/03	2027/09/02
1900MHz Validation Dipole	Speag	D1900V2	SN: 5d155	2024/09/02	2027/09/01
2450MHz Validation Dipole	Speag	D2450V2	SN: 1065	2024/09/05	2027/09/04
2600MHz Validation Dipole	Speag	D2600V2	SN: 1184	2024/08/30	2024/08/29
5GHz Validation Dipole	Speag	D5GHzV2	SN: 1333	2024/09/04	2027/09/03
Data Acquisition Electronicsr	Speag	DAE4	SN: 540	2025/4/21	2026/4/20
E-Field Probe	Speag	EX3DV4	SN: 3748	2025/4/24	2026/4/23
Signal Generator	R&S	N5173B	MY62150163	2024/8/12	2025/8/11
Power Meter	R&S	NRVD-B2	835843/014	2024/8/8	2025/8/7
Power Sensor	R&S	NRV-Z4	2174/10/30	2024/8/8	2025/8/7
Power Sensor	R&S	NRV-Z2	100211	2024/08/08	2025/08/07
Wireless Communication Test Set	Anritsu	MT8820C	6201502974	2024/08/01	2024/07/31
Network Analyzer	Agilent	E5071C	MY46103472	2024/09/11	2025/09/10
Thermometer	Elitech	RC-4HC	EF7216002985	2024/10/31	2025/10/30
Thermometer	Elitech	RC-4HC	EF720B004811	2024/10/31	2025/10/30
Power Amplifier	Mini-Circuits	ZVA-183W-S+	932502132	N/A	N/A
Dielectric Probe Kit	Speag	DAK3.5	SN: 1312	N/A	N/A
Phantom	Speag	SAM	SN: 1857	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 an DAK3.5 Dielectric Probe Kit.

Head Liquid

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 (%)
2025.5.10	Head	750	21.4	0.87	41.26	0.89	41.94	-2.25	-1.62
2025.5.11	Head	835	21.4	0.90	40.97	0.90	41.50	0.00	-1.28
2025.5.10	Head	835	21.5	0.90	40.97	0.90	41.50	0.00	-1.28
2025.5.12	Head	1750	21.3	1.41	39.28	1.37	40.08	2.92	-2.00
2025.5.13	Head	1900	21.2	1.44	39.12	1.40	40.00	2.86	-2.20
2025.5.14	Head	1900	21.4	1.44	39.12	1.40	40.00	2.86	-2.20
2025.5.15	Head	2450	21.6	1.85	38.32	1.80	39.20	2.78	-2.24
2025.5.16	Head	2600	21.7	2.01	38.00	1.96	39.01	2.55	-2.59
2025.5.16	Head	2600	21.5	2.01	38.00	1.96	39.01	2.55	-2.59
2025.5.17	Head	5300	21.3	4.74	34.86	4.76	35.87	-0.42	-2.82
2025.5.18	Head	5600	21.4	5.18	34.32	5.07	35.53	2.17	-3.41
2025.5.18	Head	5800	21.3	5.38	34.18	5.27	35.30	2.09	-3.17
Note: The tolerance limit of Conductivity and Permittivity is $\pm 5\%$.									

ANNEX B SYSTEM CHECK RESULT

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

Head liquid 1g

Date	Liquid Type	Freq. (MHz)	Power (mW)	Measured SAR (W/kg)	Normalized SAR (W/kg)	Dipole SAR (W/kg)	Tolerance (%)
2025.5.10	Head	750	100	0.827	8.27	8.46	-2.25
2025.5.11	Head	835	100	0.887	8.87	9.59	-7.51
2025.5.10	Head	835	100	0.923	9.23	9.59	-3.75
2025.5.12	Head	1750	100	3.730	37.30	36.50	2.19
2025.5.13	Head	1900	100	4.140	41.40	39.90	3.76
2025.5.14	Head	1900	100	4.320	43.20	39.90	8.27
2025.5.15	Head	2450	100	5.080	50.80	52.60	-3.42
2025.5.16	Head	2600	100	5.340	53.40	55.30	-3.44
2025.5.16	Head	2600	100	5.620	56.20	55.30	1.63
2025.5.17	Head	5300	100	7.900	79.00	79.00	0.00
2025.5.18	Head	5600	100	8.340	83.40	82.80	0.72
2025.5.18	Head	5800	100	8.540	85.40	78.50	8.79

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

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

Date	Liquid Type	Freq. (MHz)	Power (mW)	Measured SAR (W/kg)	Normalized SAR (W/kg)	Dipole SAR (W/kg)	Tolerance (%)
2025.5.17	Head	5300	100	2.250	22.50	23.00	-2.17
2025.5.18	Head	5800	100	2.400	24.00	22.60	6.19

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

System Performance Check Data (750MHz)

Date: 2025/5/10

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

Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.874 \text{ S/m}$; $\epsilon_r = 41.259$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN3748; ConvF(9.14, 9.14, 9.14); Calibrated: 2025/4/24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn540; Calibrated: 2025/4/21
- Phantom: Twin-SAM Right V5.0 (20deg probe tilt); Type: QD 000 P40 CD; Serial: 1857
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

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

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

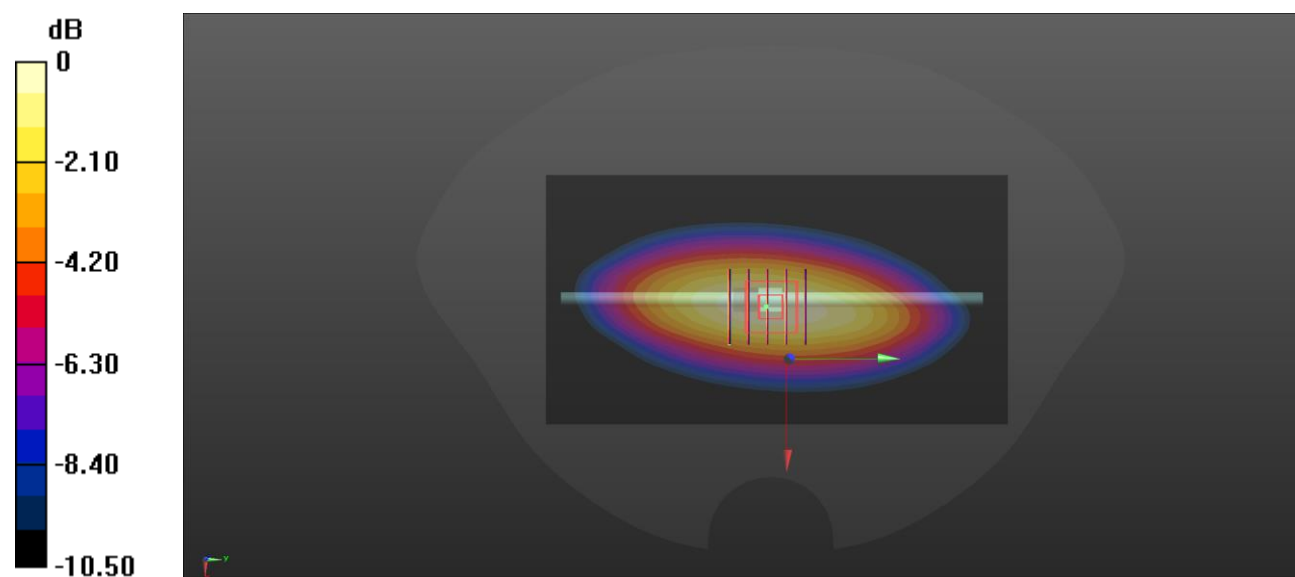
750/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 31.16 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 1.35 W/kg

SAR(1 g) = 0.827 W/kg; SAR(10 g) = 0.544 W/kg

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



0 dB = 1.14 W/kg

System Performance Check Data (835MHz)

Date: 2025/5/11

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

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.903 \text{ S/m}$; $\epsilon_r = 40.971$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN3748; ConvF(8.74, 8.74, 8.74); Calibrated: 2025/4/24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn540; Calibrated: 2025/4/21
- Phantom: Twin-SAM Right V5.0 (20deg probe tilt); Type: QD 000 P40 CD; Serial: 1857
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

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

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

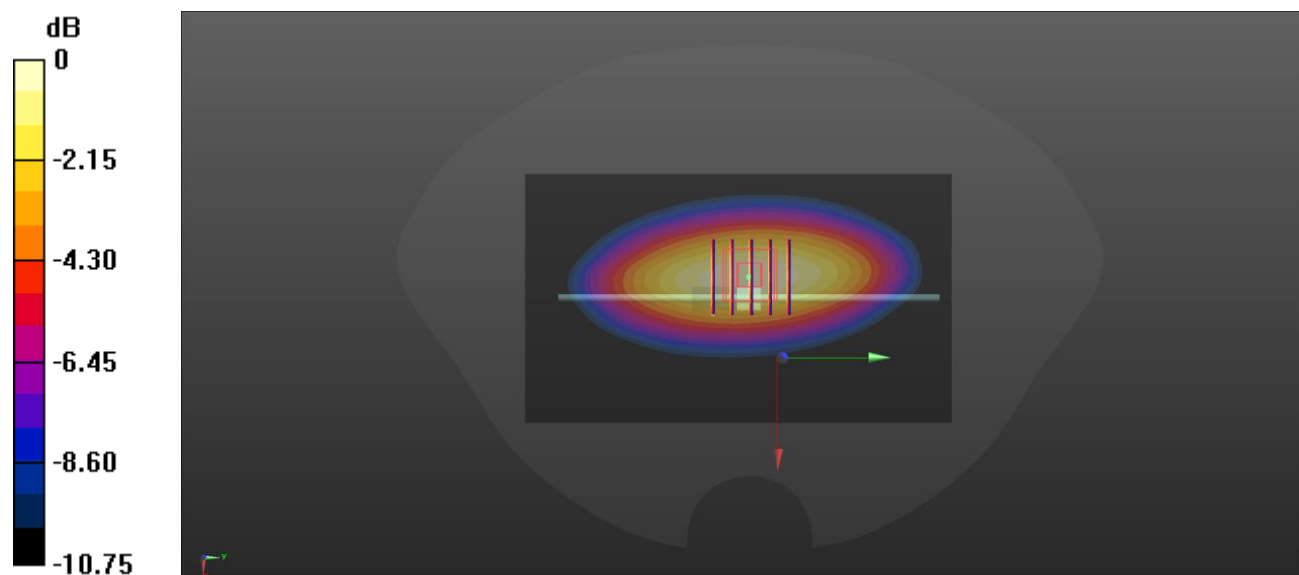
835/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 29.17 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 1.43 W/kg

SAR(1 g) = 0.887 W/kg; SAR(10 g) = 0.579 W/kg

Maximum value of SAR (measured) = 1.22 W/kg



0 dB = 1.22 W/kg

System Performance Check Data (835MHz)

Date: 2025/5/11

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

Medium parameters used: $f = 835$ MHz; $\sigma = 0.903$ S/m; $\epsilon_r = 40.971$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature: 22.5°C Liquid Temperature: 21.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3748; ConvF(8.74, 8.74, 8.74); Calibrated: 2025/4/24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn540; Calibrated: 2025/4/21
- Phantom: Twin-SAM Right V5.0 (20deg probe tilt); Type: QD 000 P40 CD; Serial: 1857
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

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

Maximum value of SAR (interpolated) = 1.27 W/kg

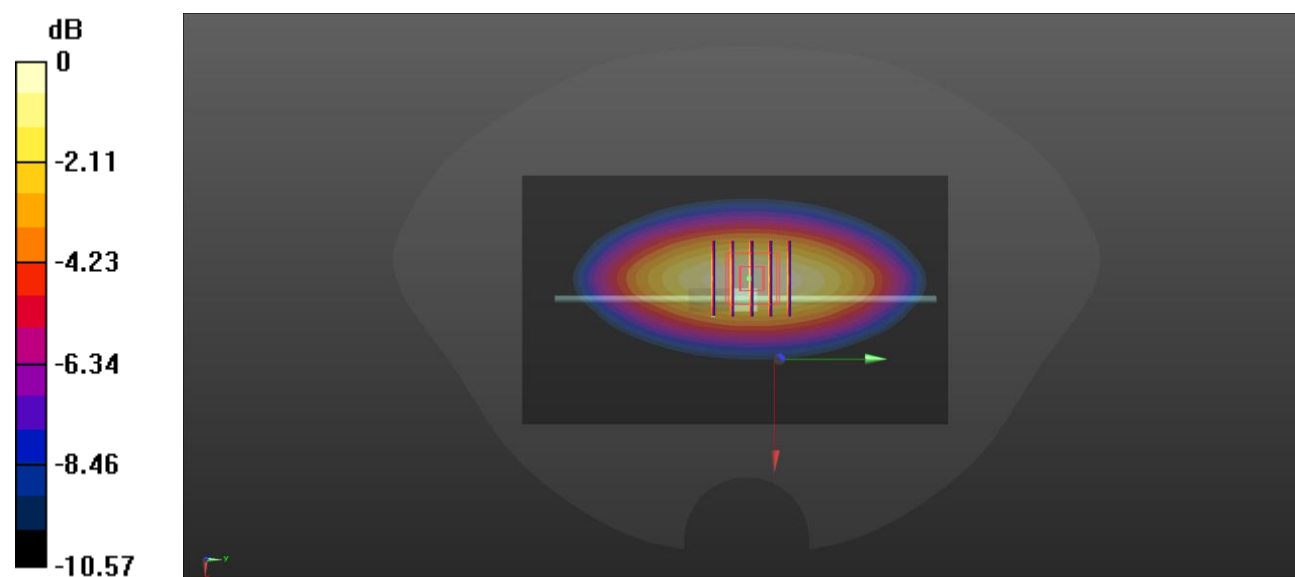
835/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 29.58 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.48 W/kg

SAR(1 g) = 0.923 W/kg; SAR(10 g) = 0.603 W/kg

Maximum value of SAR (measured) = 1.27 W/kg



0 dB = 1.27 W/kg

System Performance Check Data (1750MHz)

Date: 2025/5/12

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

Medium parameters used: $f = 1750$ MHz; $\sigma = 1.413$ S/m; $\epsilon_r = 39.282$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature: 22.6°C Liquid Temperature: 21.3°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3748; ConvF(7.63, 7.63, 7.63); Calibrated: 2025/4/24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn540; Calibrated: 2025/4/21
- Phantom: Twin-SAM Right V5.0 (20deg probe tilt); Type: QD 000 P40 CD; Serial: 1857
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

1750/Area Scan (61x101x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 5.85 W/kg

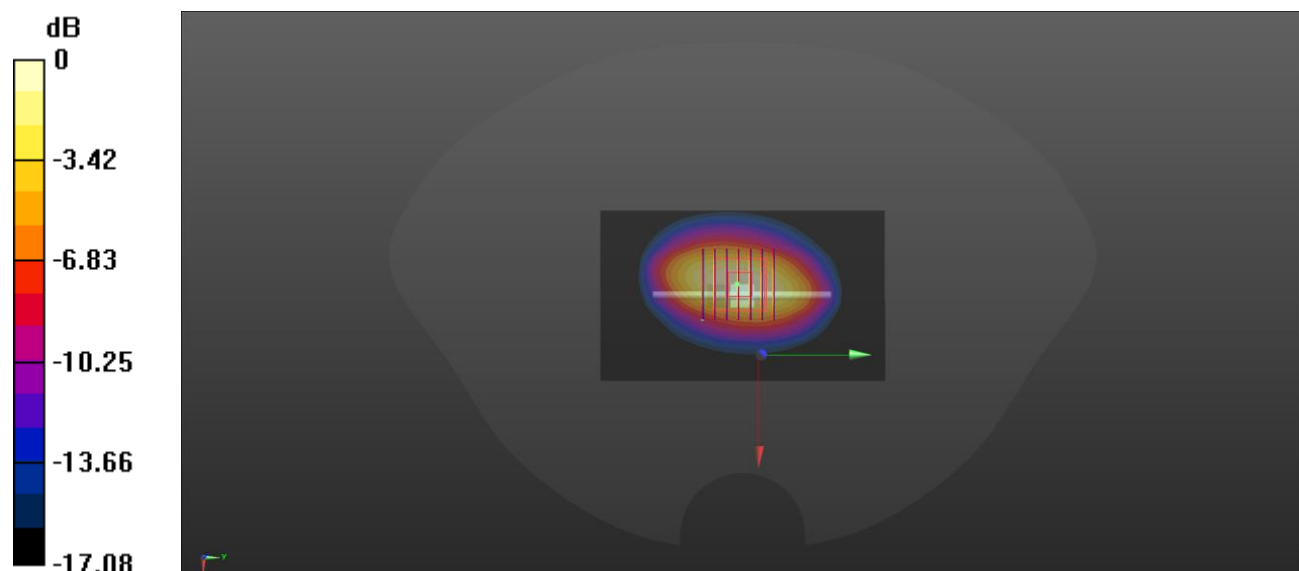
1750/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 49.72 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 7.16 W/kg

SAR(1 g) = 3.73 W/kg; SAR(10 g) = 1.96 W/kg

Maximum value of SAR (measured) = 5.89 W/kg



0 dB = 5.89 W/kg

System Performance Check Data (1900MHz)

Date: 2025/5/13

Communication System Band: D1950 (1900.0 MHz); Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.444$ S/m; $\epsilon_r = 39.116$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature: 22.4°C Liquid Temperature: 21.2°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3748; ConvF(7.30, 7.30, 7.30); Calibrated: 2025/4/24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn540; Calibrated: 2025/4/21
- Phantom: Twin-SAM Right V5.0 (20deg probe tilt); Type: QD 000 P40 CD; Serial: 1857
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

1900/Area Scan (61x101x1): Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm

Maximum value of SAR (interpolated) = 6.70 W/kg

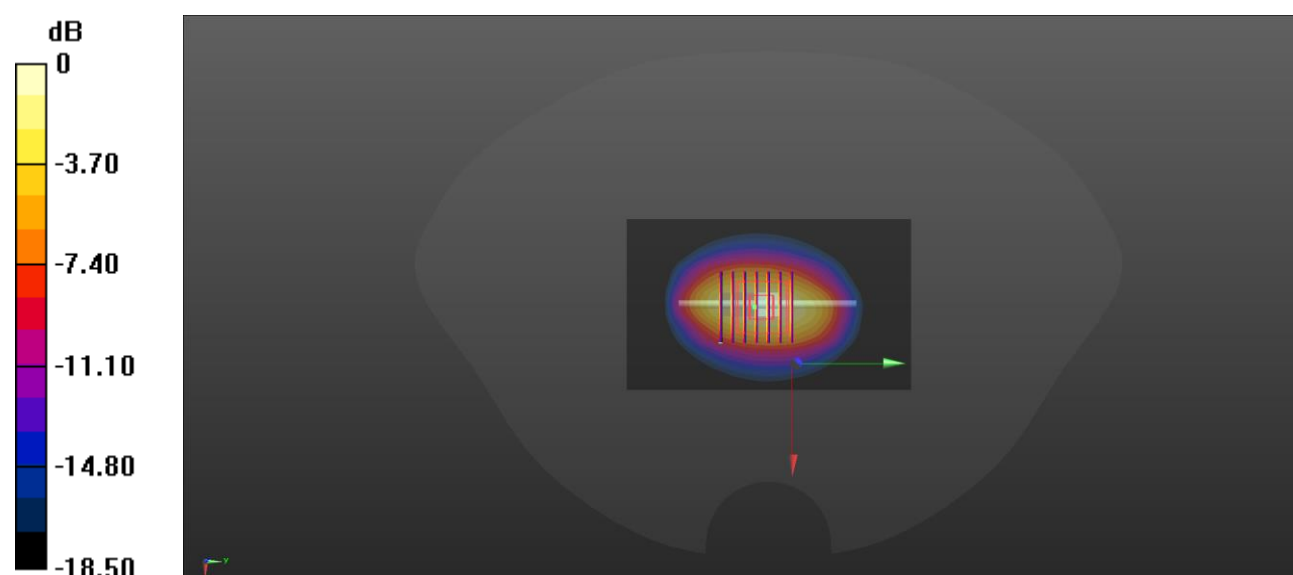
1900/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 56.16 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 7.98 W/kg

SAR(1 g) = 4.14 W/kg; SAR(10 g) = 2.13 W/kg

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



0 dB = 6.56 W/kg

System Performance Check Data (1900MHz)

Date: 2025/5/14

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

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.444$ S/m; $\epsilon_r = 39.116$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature: 22.2°C Liquid Temperature: 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3748; ConvF(7.30, 7.30, 7.30); Calibrated: 2025/4/24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn540; Calibrated: 2025/4/21
- Phantom: Twin-SAM Right V5.0 (20deg probe tilt); Type: QD 000 P40 CD; Serial: 1857
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

1900/Area Scan (61x101x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 6.98 W/kg

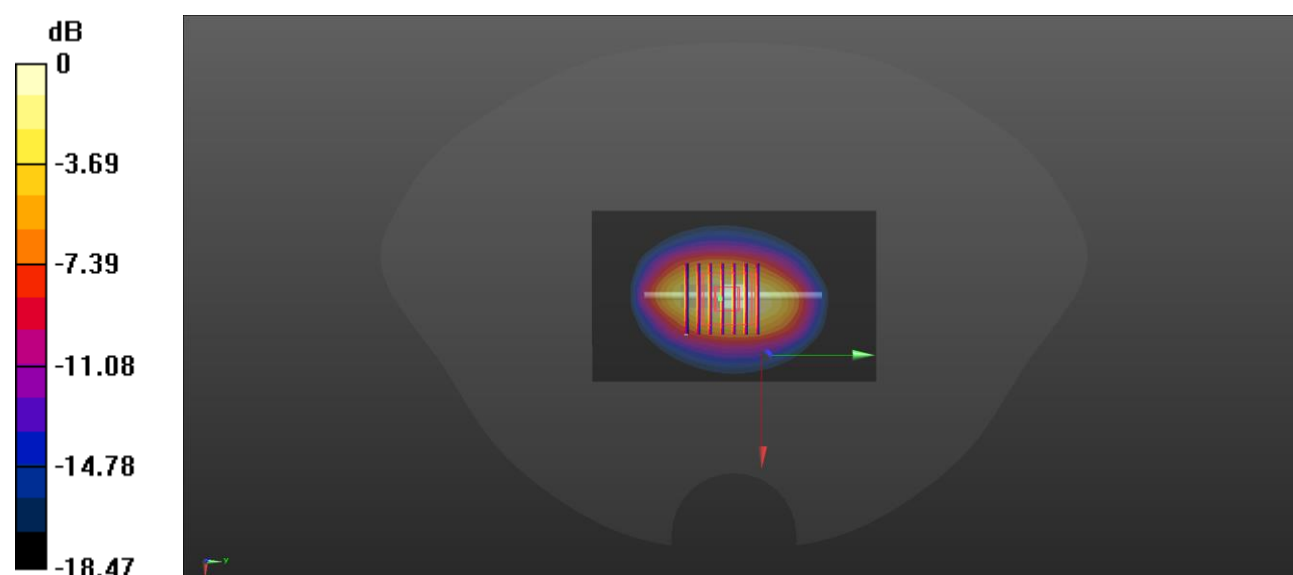
1900/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 57.22 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 8.26 W/kg

SAR(1 g) = 4.32 W/kg; SAR(10 g) = 2.22 W/kg

Maximum value of SAR (measured) = 6.79 W/kg



0 dB = 6.79 W/kg

System Performance Check Data (2450MHz)

Date: 2025/5/15

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

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.847$ S/m; $\epsilon_r = 38.323$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature: 22.7°C Liquid Temperature: 21.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3748; ConvF(6.90, 6.90, 6.90); Calibrated: 2025/4/24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn540; Calibrated: 2025/4/21
- Phantom: Twin-SAM Right V5.0 (20deg probe tilt); Type: QD 000 P40 CD; Serial: 1857
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

2450/Area Scan (71x81x1): Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm

Maximum value of SAR (interpolated) = 8.90 W/kg

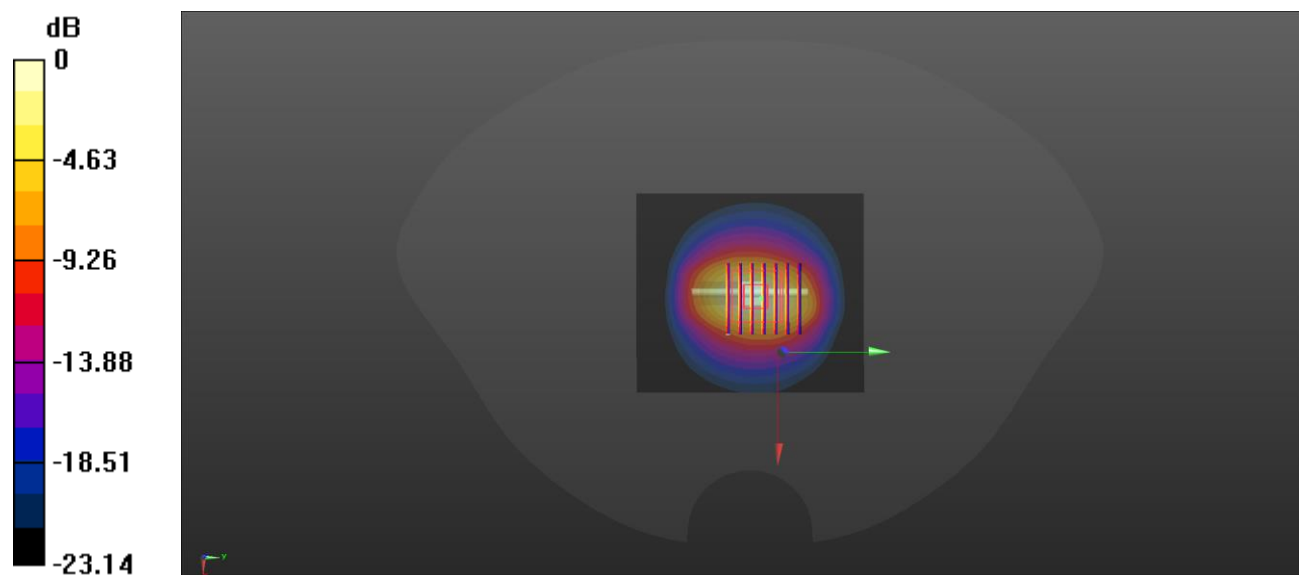
2450/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 56.04 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 10.7 W/kg

SAR(1 g) = 5.08 W/kg; SAR(10 g) = 2.34 W/kg

Maximum value of SAR (measured) = 8.47 W/kg



0 dB = 8.47 W/kg

System Performance Check Data (2600MHz)

Date: 2025/5/16

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

Medium parameters used: $f = 2600$ MHz; $\sigma = 2.008$ S/m; $\epsilon_r = 38.004$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature: 22.5°C Liquid Temperature: 21.7°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3748; ConvF(6.72, 6.72, 6.72); Calibrated: 2025/4/24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn540; Calibrated: 2025/4/21
- Phantom: Twin-SAM Right V5.0 (20deg probe tilt); Type: QD 000 P40 CD; Serial: 1857
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

2600/Area Scan (71x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 9.50 W/kg

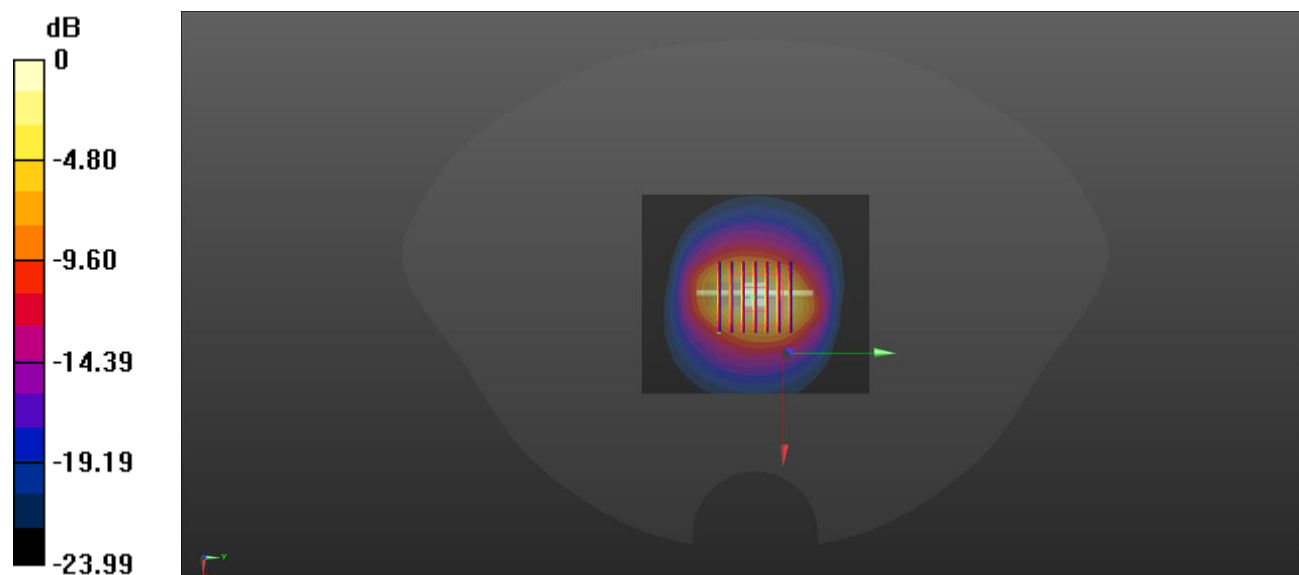
2600/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 55.38 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 11.6 W/kg

SAR(1 g) = 5.34 W/kg; SAR(10 g) = 2.37 W/kg

Maximum value of SAR (measured) = 9.18 W/kg



0 dB = 9.18 W/kg

System Performance Check Data (2600MHz)

Date: 2025/5/16

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

Medium parameters used: $f = 2600$ MHz; $\sigma = 2.008$ S/m; $\epsilon_r = 38.004$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature: 22.6°C Liquid Temperature: 21.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3748; ConvF(6.72, 6.72, 6.72); Calibrated: 2025/4/24
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn540; Calibrated: 2025/4/21
- Phantom: Twin-SAM Right V5.0 (20deg probe tilt); Type: QD 000 P40 CD; Serial: 1857
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

2600/Area Scan (71x81x1): Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm

Maximum value of SAR (interpolated) = 9.91 W/kg

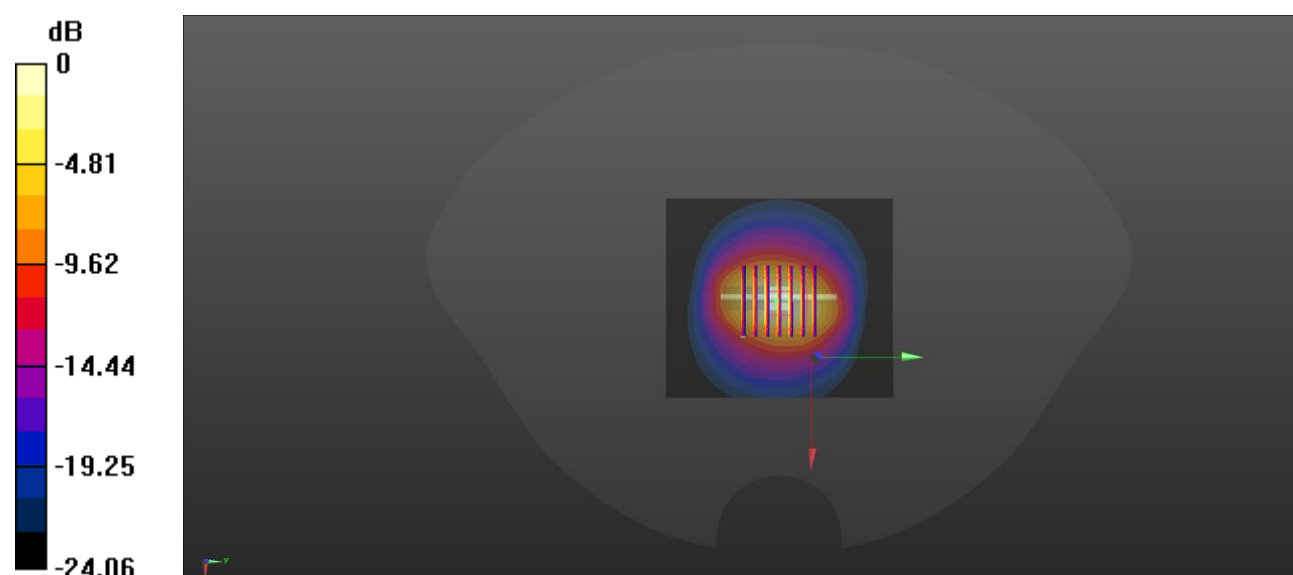
2600/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 57.40 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 12.3 W/kg

SAR(1 g) = 5.62 W/kg; SAR(10 g) = 2.49 W/kg

Maximum value of SAR (measured) = 9.73 W/kg



0 dB = 9.73 W/kg

System Performance Check Data (5300MHz)

Date: 2025/5/17

Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5300 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5300$ MHz; $\sigma = 4.743$ S/m; $\epsilon_r = 34.858$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature: 22.2°C Liquid Temperature: 21.3°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3748; ConvF(4.85, 4.85, 4.85); Calibrated: 2025/4/24
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn540; Calibrated: 2025/4/21
- Phantom: Twin-SAM Right V5.0 (20deg probe tilt); Type: QD 000 P40 CD; Serial: 1857
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

CW 5300/Area Scan (61x81x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm
Maximum value of SAR (interpolated) = 16.6 W/kg

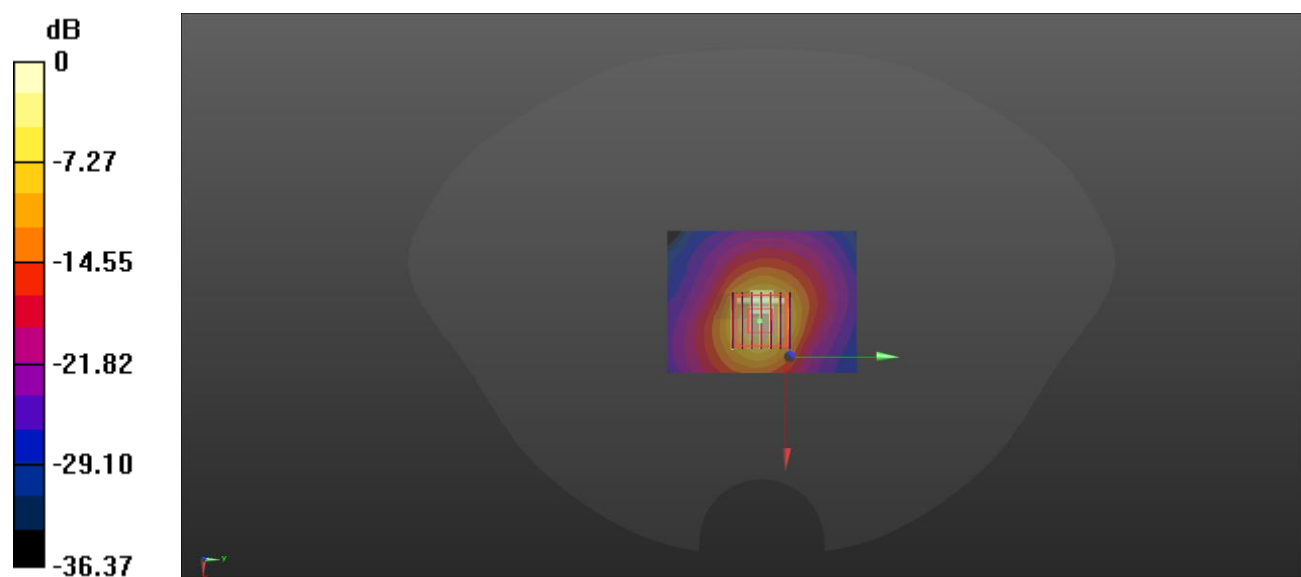
CW 5300/Zoom Scan (7x7x12)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2$ mm

Reference Value = 29.68 V/m; Power Drift = -0.20 dB

Peak SAR (extrapolated) = 33.2 W/kg

SAR(1 g) = 7.9 W/kg; SAR(10 g) = 2.25 W/kg

Maximum value of SAR (measured) = 16.5 W/kg



0 dB = 16.5 W/kg

System Performance Check Data (5600MHz)

Date: 2025/5/18

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

Medium parameters used: $f = 5600$ MHz; $\sigma = 5.181$ S/m; $\epsilon_r = 34.322$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN3748; ConvF(4.39, 4.39, 4.39); Calibrated: 2025/4/24
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn540; Calibrated: 2025/4/21
- Phantom: Twin-SAM Right V5.0 (20deg probe tilt); Type: QD 000 P40 CD; Serial: 1857
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

CW 5600/Area Scan (81x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 17.6 W/kg

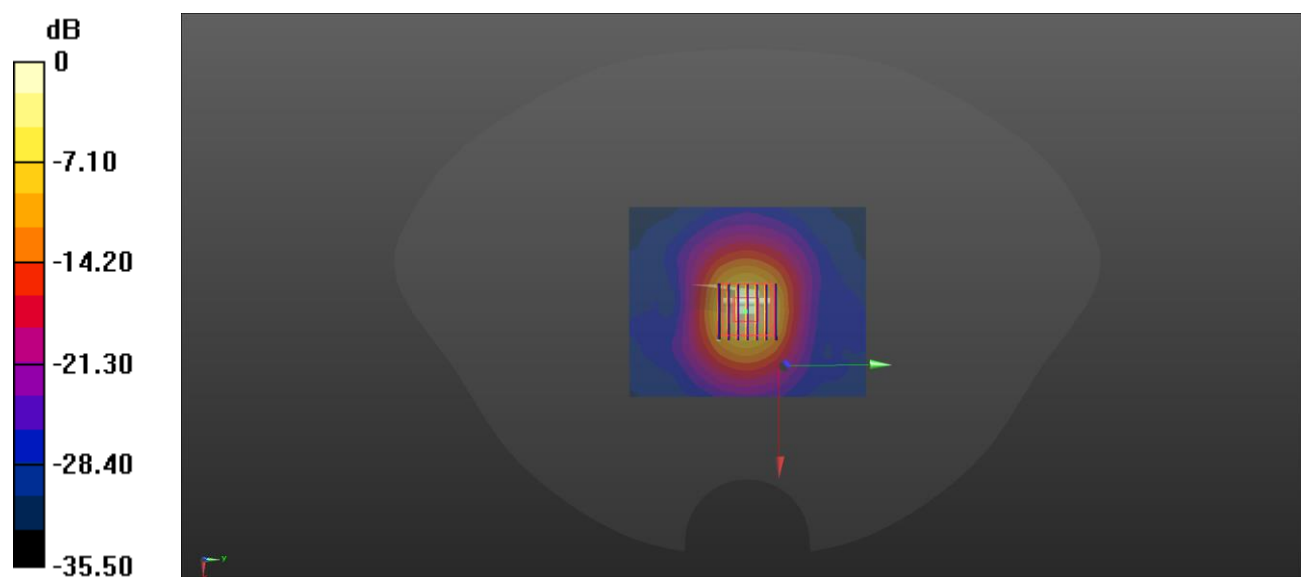
CW 5600/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 39.43 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 37.9 W/kg

SAR(1 g) = 8.34 W/kg; SAR(10 g) = 2.35 W/kg

Maximum value of SAR (measured) = 17.8 W/kg



0 dB = 17.8 W/kg

System Performance Check Data (5800MHz)

Date: 2025/5/18

Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5800 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5800$ MHz; $\sigma = 5.38$ S/m; $\epsilon_r = 34.178$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature: 22.1°C Liquid Temperature: 21.3°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3748; ConvF(4.41, 4.41, 4.41); Calibrated: 2025/4/24
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn540; Calibrated: 2025/4/21
- Phantom: Twin-SAM Right V5.0 (20deg probe tilt); Type: QD 000 P40 CD; Serial: 1857
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7501)

CW 5800/Area Scan (81x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 18.1 W/kg

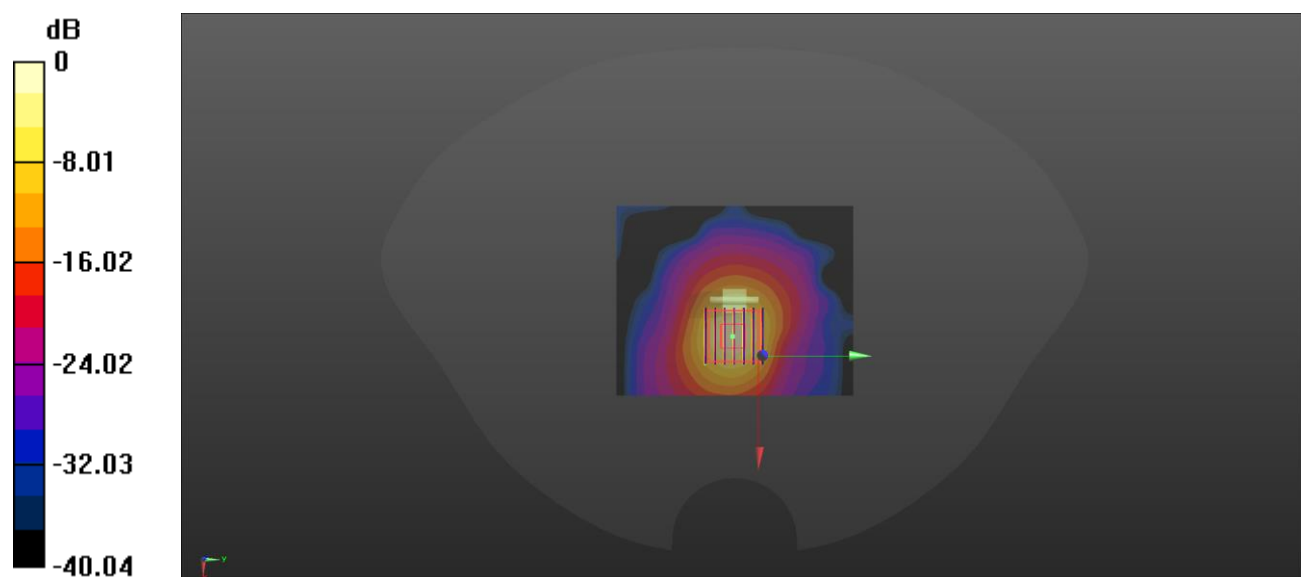
CW 5800/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 16.00 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 41.0 W/kg

SAR(1 g) = 8.54 W/kg; SAR(10 g) = 2.4 W/kg

Maximum value of SAR (measured) = 18.4 W/kg



0 dB = 18.4 W/kg

ANNEX C TEST DATA

Please refer the document “BL-SH2530273-AT.pdf”.

ANNEX D EUT EXTERNAL PHOTOS

Please refer the document “BL-SH2530273-AW.pdf”.

ANNEX E SAR TEST SETUP PHOTOS

Please refer the document “BL-SH2530273-AS.pdf”.

ANNEX F CALIBRATION REPORT

Please refer the document “BL-SH2530273-AC.pdf”.

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