

TEST REPORT

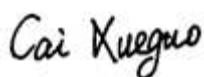
Applicant: Shanghai Xiangcheng Communication Technology Co., Ltd
Address: 5F-6F, Building 10, No.3000 Longdong Avenue, Pudong New District, Shanghai City, China
Equipment Type: Intelligent Mobile Data Capture Terminal
Model Name: Ranger 2K(N)
Brand Name: N/A
FCC ID: 2A2UU-MF-T2251
Test Standard: FCC 47 CFR Part 2.1093 (refer section 3.1)
Maximum SAR: Head (1 g@0mm): 1.09 W/kg
Body-worn (1 g@10mm): 0.54 W/kg
Hotspot (1 g@10mm): 1.18 W/kg
Specific (10 g@10mm): 0.47 W/kg
Sample Arrival Date: Aug. 13, 2025
Test Date: Aug. 14, 2021 - Aug. 21, 2021
Date of Issue: Sep. 18, 2025

ISSUED BY:

Shanghai Tejet Communications Technology Co., Ltd. Testing Center

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(Laboratory Manager)



Revision History

Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Sep. 18, 2025</u>	<u>Initial Issue</u>

TABLE OF CONTENTS

1	GENERAL INFORMATION	5
1.1	Test Laboratory	5
1.2	Test Location	5
1.3	Test Environment Condition	5
2	PRODUCT INFORMATION	6
2.1	Applicant Information	6
2.2	Manufacturer Information	6
2.3	Factory Information	6
2.4	General Description for Equipment under Test (EUT)	6
2.5	Technical Information	7
3	SUMMARY OF TEST RESULT	8
3.1	Test Standards	8
3.2	Device Category and SAR Limit	9
3.3	Test Result Summary	10
3.4	Test Uncertainty	12
4	MEASUREMENT SYSTEM	13
4.1	Specific Absorption Rate (SAR) Definition	13
4.2	DASY SAR System	14
5	SYSTEM VERIFICATION	21
5.1	Purpose of System Check	21
5.2	System Check Setup	21
6	TEST POSITION CONFIGURATIONS	22
6.1	Head Exposure Conditions	22
6.2	Body-worn Position Conditions	24

6.3	Hotspot Mode Exposure Position Conditions	25
6.4	Product Specific 10g Exposure Consideration	25
7	MEASUREMENT PROCEDURE	26
7.1	Measurement Process Diagram.....	26
7.2	SAR Scan General Requirement.....	27
7.3	Measurement Procedure	28
7.4	Area & Zoom Scan Procedure	28
7.5	LTE (TDD) Considerations	29
8	CONDUCTED RF OUPUT POWER	31
8.1	GSM	31
8.2	WCDMA	31
8.3	LTE	31
8.4	WIFI.....	31
8.5	Bluetooth.....	34
9	TEST EXCLUSION CONSIDERATION	35
10	TEST RESULT	36
10.1	GSM 850	36
10.2	GSM 1900	36
10.3	WCDMA Band 2	37
10.4	WCDMA Band 4	37
10.5	WCDMA Band 5	38
10.6	LTE Band 2 (20MHz Bandwidth)	39
10.7	LTE Band 4 (20MHz Bandwidth)	40
10.8	LTE Band 5 (10MHz Bandwidth)	41
10.9	LTE Band 7 (20MHz Bandwidth)	42
10.10	LTE Band 12 (10MHz Bandwidth)	43
10.11	LTE Band 17 (10MHz Bandwidth)	44
10.12	LTE Band 25 (20MHz Bandwidth)	45
10.13	LTE Band 26 (15MHz Bandwidth)	46
10.14	LTE Band 66 (20MHz Bandwidth)	47

10.15	LTE Band 38 (20MHz Bandwidth)	48
10.16	LTE Band 41 (20MHz Bandwidth)	49
10.17	Bluetooth.....	50
10.18	WIFI 2.4GHz.....	50
10.19	WIFI 5GHz.....	51
10.20	NFC.....	53
11	SAR Measurement Variability	55
12	SIMULTANEOUS TRANSMISSION	56
12.1	Simultaneous Transmission Mode Consider.....	56
12.2	Sum SAR of Simultaneous Transmission.....	57
13	TEST EQUIPMENTS LIST	63
ANNEX A	SIMULATING LIQUID VERIFICATION RESULT	64
ANNEX B	SYSTEM CHECK RESULT	65
ANNEX C	TEST DATA	77
ANNEX D	EUT EXTERNAL PHOTOS	77
ANNEX E	SAR TEST SETUP PHOTOS	77
ANNEX F	CALIBRATION REPORT	77

1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shanghai Tejet Communications Technology Co., Ltd. Testing Center
Address	1-2/F., Building 1, No.222, Xuanlan Road, Xuanqiao, Pudong New District, Shanghai, China

1.2 Test Location

Name	Shanghai Tejet Communications Technology Co., Ltd. Testing Center
Location	1-2/F., Building 1, No.222, Xuanlan Road, Xuanqiao, Pudong New District, Shanghai, China
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1352. The laboratory has been listed by Industry Canada to perform electromagnetic emission measurements. The recognition numbers of test site are 29671.

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	Shanghai Xiangcheng Communication Technology Co., Ltd
Address	5F-6F,Building 10, No.3000 Longdong Avenue, Pudong New District, Shanghai City, China

2.2 Manufacturer Information

Manufacturer	Shanghai Xiangcheng Communication Technology Co., Ltd
Address	5F-6F,Building 10, No.3000 Longdong Avenue, Pudong New District, Shanghai City, China

2.3 Factory Information

Factory	Sichuan Xiangcheng Intelligent Technology Co.,Ltd.
Address	Factory No.2 and 7,Zone A,Intelligent terminal Demonstration Park,West Section of Gangyuan Road, Lingang Economic Development Zone,Yibin City,Sichuan Province,China

2.4 General Description for Equipment under Test (EUT)

EUT Name	Intelligent Mobile Data Capture Terminal
Model Name Under Test	Ranger 2K(N)
Series Model Name	RANGER 2K(N), Ranger2K(N), RANGER2K(N), Ranger 2K/N, RANGER 2K/N, Ranger2K/N, Ranger2K Nova, RANGER2K NOVA, Ranger2K nova, MF60N, MF60U, MF60P, MF60 Nova, MF60 Ultra, MF60 Pro, T2251, T22, P5 Pro, P5 PRO, S40C, S40U
Description of Model name differentiation	All the same except for the model name(The information provided by applicant)
Hardware Version	V1.0
Software Version	1.0.0
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.5 Technical Information

Network and Wireless connectivity	2G Network GSM/GPRS/EDGE 850/1900 3G Network WCDMA/HSDPA/HSUPA/HSPA+ Band 2/4/5 4G Network FDD LTE Band 2/4/5/7/12/17/25/26/66 TDD LTE Band 38/41 Bluetooth, 2.4G WFI, 5G WIFI GPS, GLONASS, BDS, Galileo, 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 WLAN, 5G WLAN, 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 25	TX: 1850 ~ 1915 MHz	RX: 1930 ~ 1995 MHz
	LTE Band 26	TX: 814 ~ 849 MHz	RX: 859 ~ 894 MHz
	LTE Band 66	TX: 1710 ~ 1780 MHz	RX: 2110 ~ 2180 MHz
	LTE Band 38	TX: 2570 ~ 2620 MHz	RX: 2570 ~ 2620 MHz
	LTE Band 41	TX: 2535 ~ 2655 MHz	RX: 2535 ~ 2655 MHz
	802.11b/g /n(HT20/HT40)	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 WLAN: PIFA Antenna Bluetooth: PIFA Antenna NFC: Loop Antenna		
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	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
3	KDB 447498 D04 v01	447498 D04 Interim General RF Exposure Guidance v01
4	KDB 941225 D01 v03r01	3G SAR MEAUREMENT PROCEDURES
5	KDB 941225 D05 v02r05	SAR Evaluation Considerations for LTE Devices
6	KDB 941225 D05A v01r02	REL. 10 LTE SAR TEST GUIDANCE AND KDB INQUIRIES
7	KDB 941225 D06 v02r01	SAR EVALUATION PROCEDURES FOR PORTABLE DEVICES WITH WIRELESS ROUTER CAPABILITIES
8	KDB 865664 D01 v01r04	SAR Measurement 100 MHz to 6 GHz
9	KDB 865664 D02 v01r02	RF Exposure Reporting
10	KDB 648474 D04 v01r03	SAR EVALUATION CONSIDERATIONS FOR WIRELESS HANDSETS
11	KDB 248227 D01 v02r02	SAR GUIDANCE FOR IEEE 802.11 (Wi-Fi) TRANSMITTERS

3.2 Device Category and SAR Limit

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

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

Table of Exposure Limits:

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

NOTE:

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

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

3.3 Test Result Summary

3.3.1 Highest SAR Values

Equipment Class	Band	Maximum Scaled SAR (W/kg)				Maximum Report SAR (W/kg)			
		Head (0mm)	Body-worn (10mm)	Hotspot (10mm)	Specific (0mm)	Head (0mm)	Body-worn (10mm)	Hotspot (10mm)	Specific (0mm)
		1g SAR			10g SAR	1g SAR			10g SAR
PCE	GSM 850	0.67	0.42	0.42	/	1.09	0.54	1.18	0.47
	GSM 1900	0.03	0.10	0.26	/				
	WCDMA Band 2	0.09	0.27	0.58	/				
	WCDMA Band 4	0.09	0.32	0.70	/				
	WCDMA Band 5	0.35	0.29	0.29	/				
	LTE Band 2	0.09	0.43	0.66	/				
	LTE Band 4	0.12	0.51	0.78	/				
	LTE Band 5	0.48	0.33	0.33	/				
	LTE Band 7	0.14	0.51	1.18	/				
	LTE Band 12	0.15	0.18	0.18	/				
	LTE Band 17	0.15	0.18	0.18	/				
	LTE Band 25	0.10	0.47	0.67	/				
	LTE Band 26	0.44	0.33	0.33	/				
	LTE Band 66	0.11	0.54	0.78	/				
	LTE Band 38	0.06	0.24	0.51	/				
	LTE Band 41	0.04	0.15	0.29	/				
DTS	2.4G WLAN	0.83	0.38	0.38	/	1.09	0.54	1.18	0.47
NII	5G WLAN	1.09	0.25	0.31	0.47				
DSS	Bluetooth	0.03	0.02	0.02	/				
Limit (W/kg)		1.6			4.0	1.6			4.0
Verdict		PASS							

3.3.2 Highest Simultaneous Transmission SAR Values

Equipment Class	Maximum Scaled SAR (W/kg)			
	Head 1g (0mm)	Body-worn 1g (0mm)	Hotspot 1g (10mm)	Specific 10g (0mm)
PCE	1.52	0.91	1.18	/
DTS	1.39	0.91	1.18	/
NII	1.52	0.78	1.18	/
DSS	1.52	0.91	1.18	/
Limit (W/Kg)	1.60	1.60	1.60	4.00
Verdict	Pass			
Note: The highest simultaneous SAR please refer section 13.2				

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 0.47 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

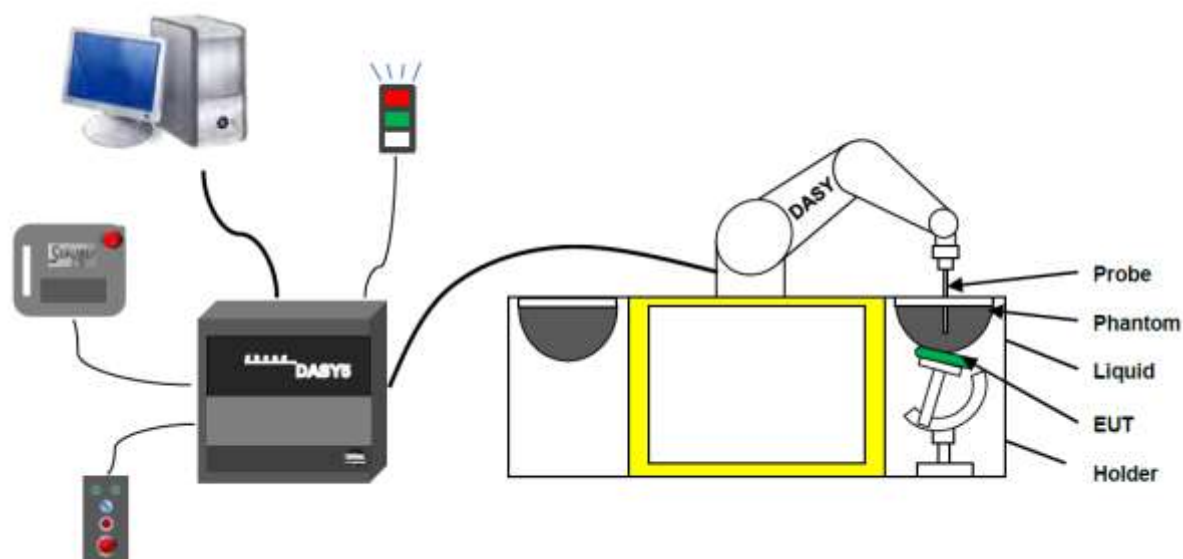
$$\text{SAR} = \frac{\sigma E^2}{\rho}$$

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

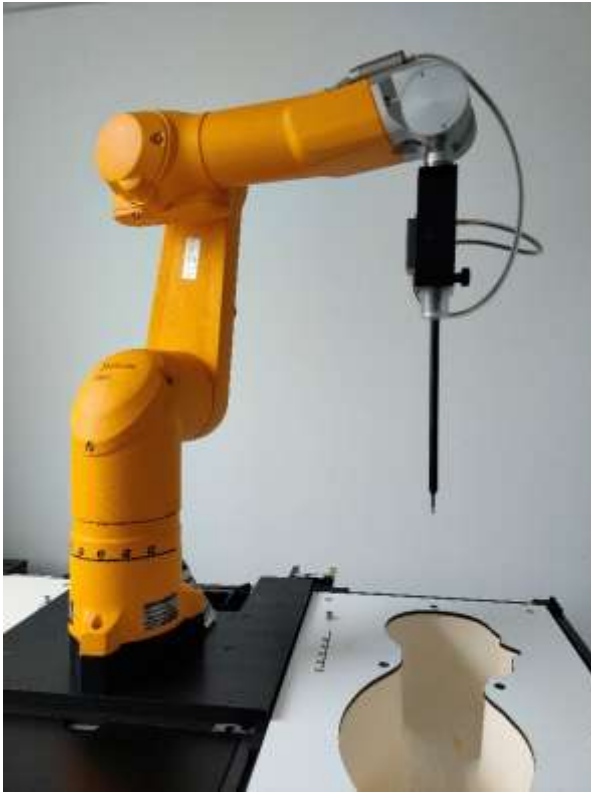


The DASY5 system for performing compliance tests consists of the following items:

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 with following specifications is used.

Construction	Symmetrical design with triangular core Built-in optical fiber for surface detection system Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., glycolether)
Calibration	ISO/IEC 17025 calibration service available
Frequency	4 MHz to 10 GHz; Linearity: ± 0.2 dB
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 IEC/IEEE 62209-1528 and IEEE 1528 std, with CALISAR, Antennessa proprietary calibration system. The calibration is performed with the IEC/IEEE 62209-1528 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
- 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%.

Head Liquid Depth



Body Liquid Depth



The following table gives the recipes for tissue simulating liquid.

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

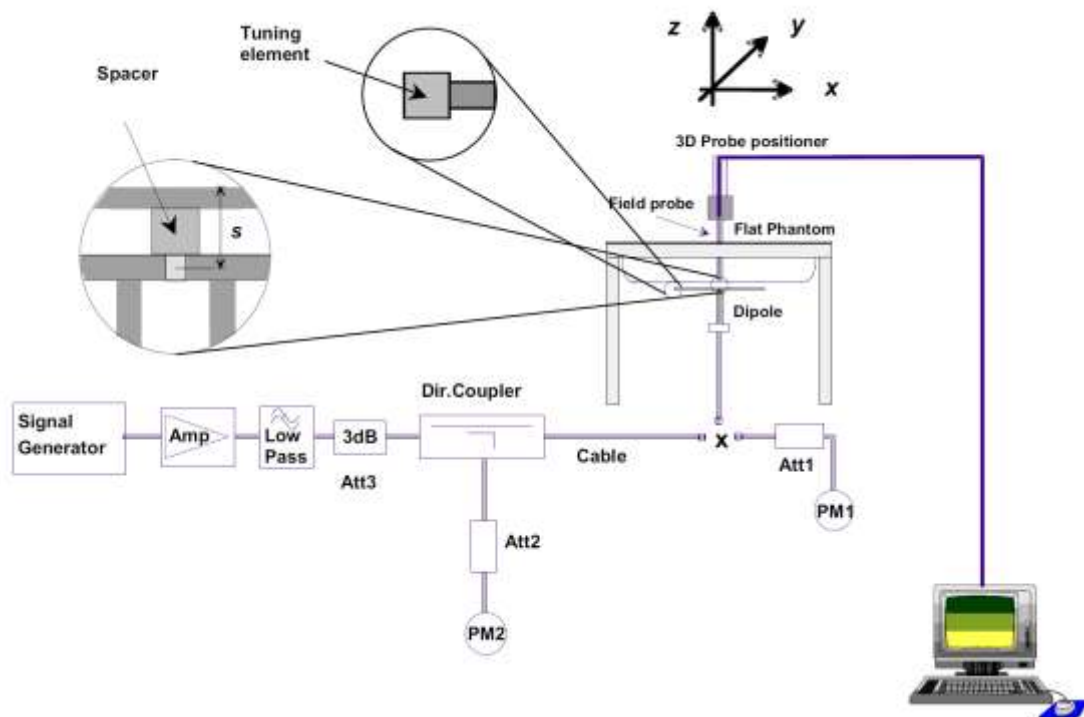
5 SYSTEM VERIFICATION

5.1 Purpose of System Check

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

5.2 System Check Setup

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



6 TEST POSITION CONFIGURATIONS

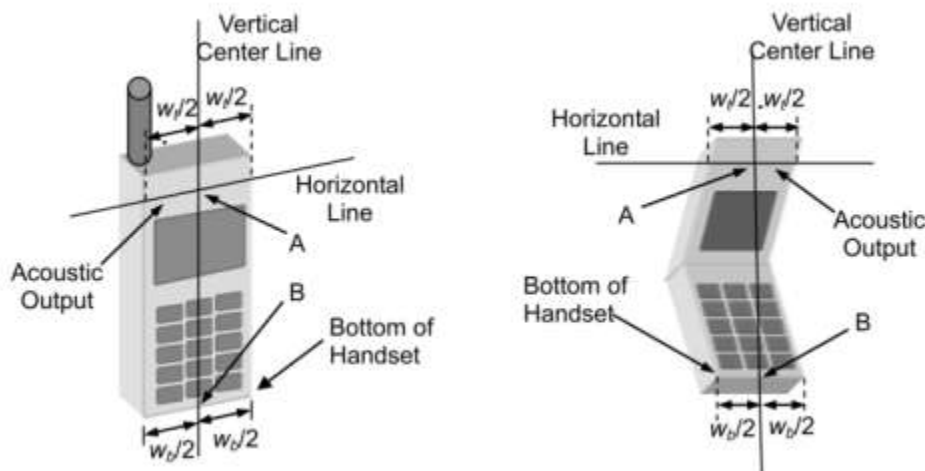
According to KDB 648474 D04 Handset, handsets are tested for SAR compliance in head, body-worn accessory and other use configurations described in the following subsections.

6.1 Head Exposure Conditions

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

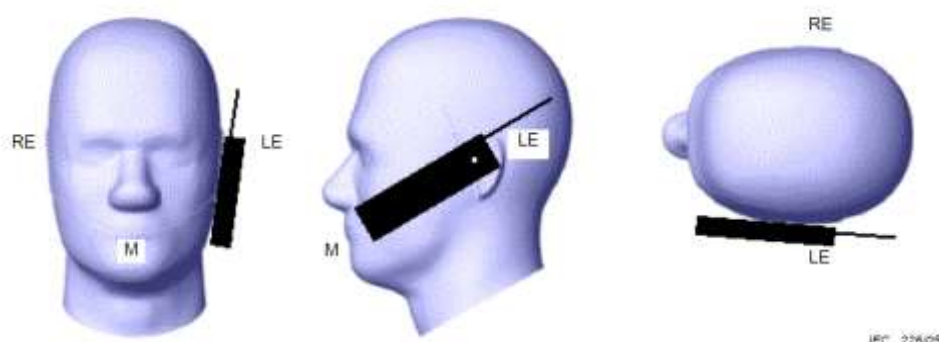
6.1.1 Two Imaginary Lines on the Handset

- 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

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



6.1.3 Tilted Position

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

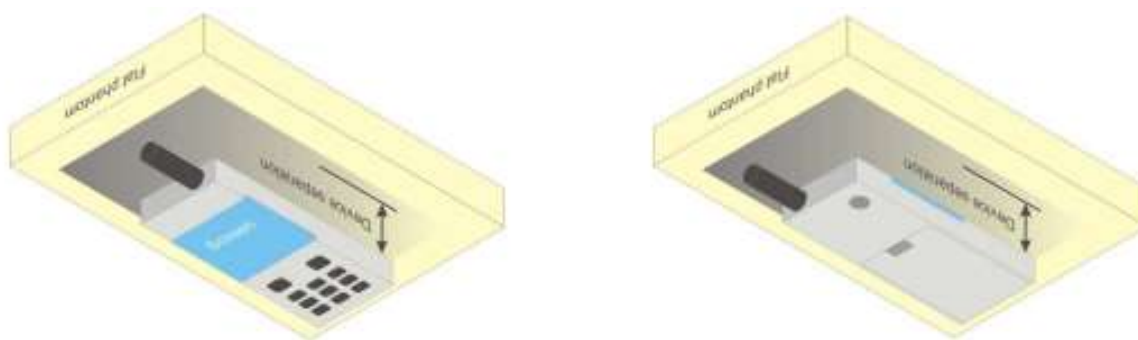


6.2 Body-worn Position Conditions

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

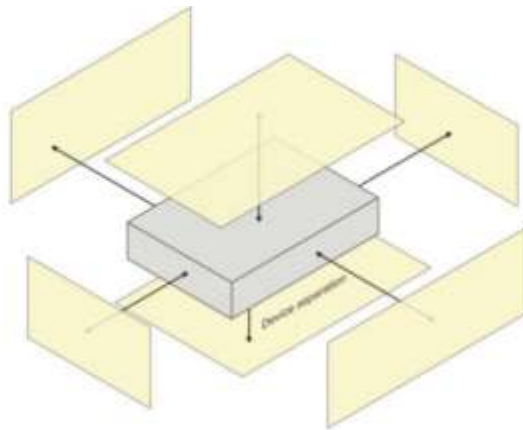
Body-worn accessories that do not contain metallic or conductive components may be tested according to worst-case exposure configurations, typically according to the smallest test separation distance required for the group of body-worn accessories with similar operating and exposure characteristics.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

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



6.3 Hotspot Mode Exposure Position Conditions

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



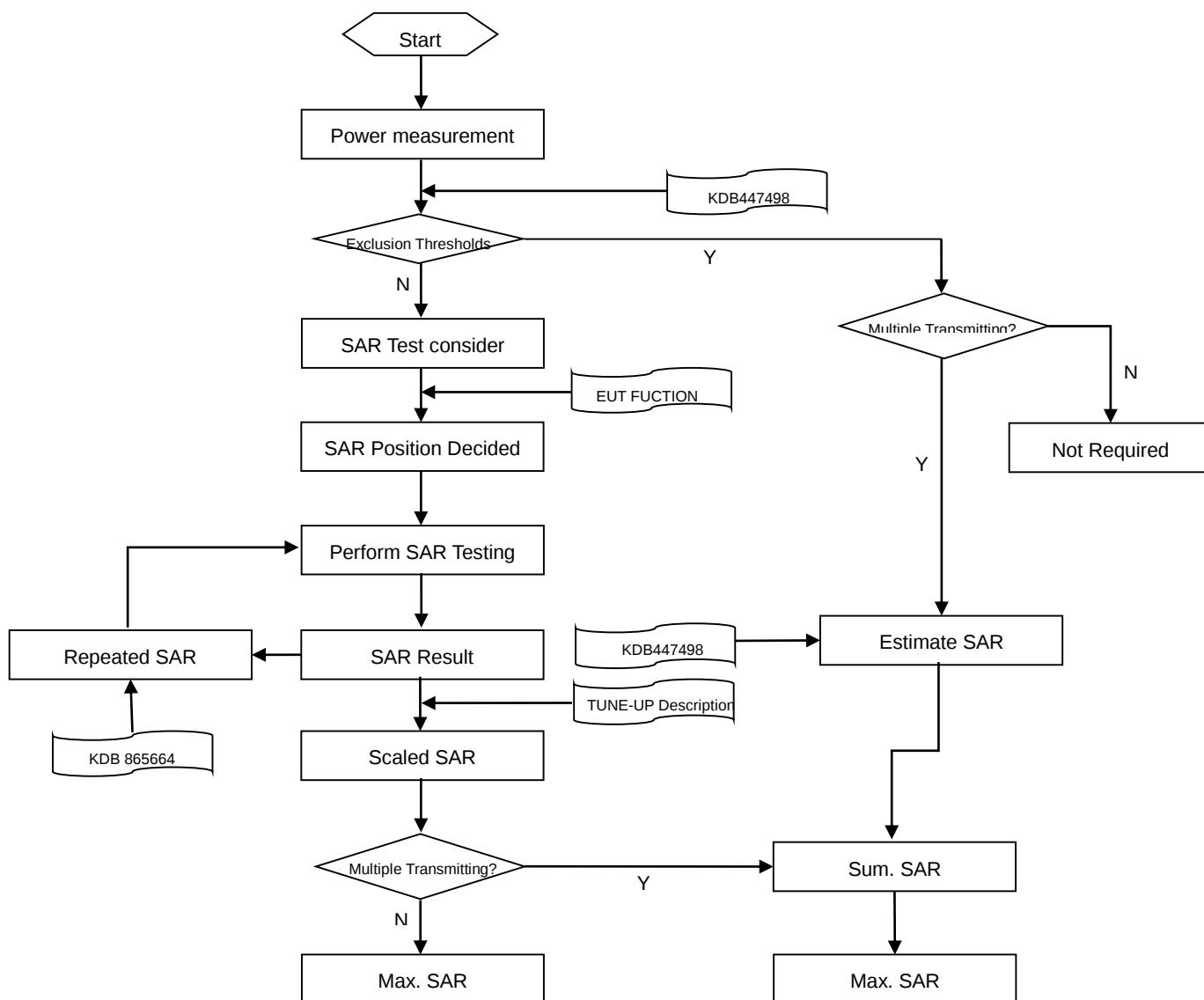
6.4 Product Specific 10g Exposure Consideration

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

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

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
		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.

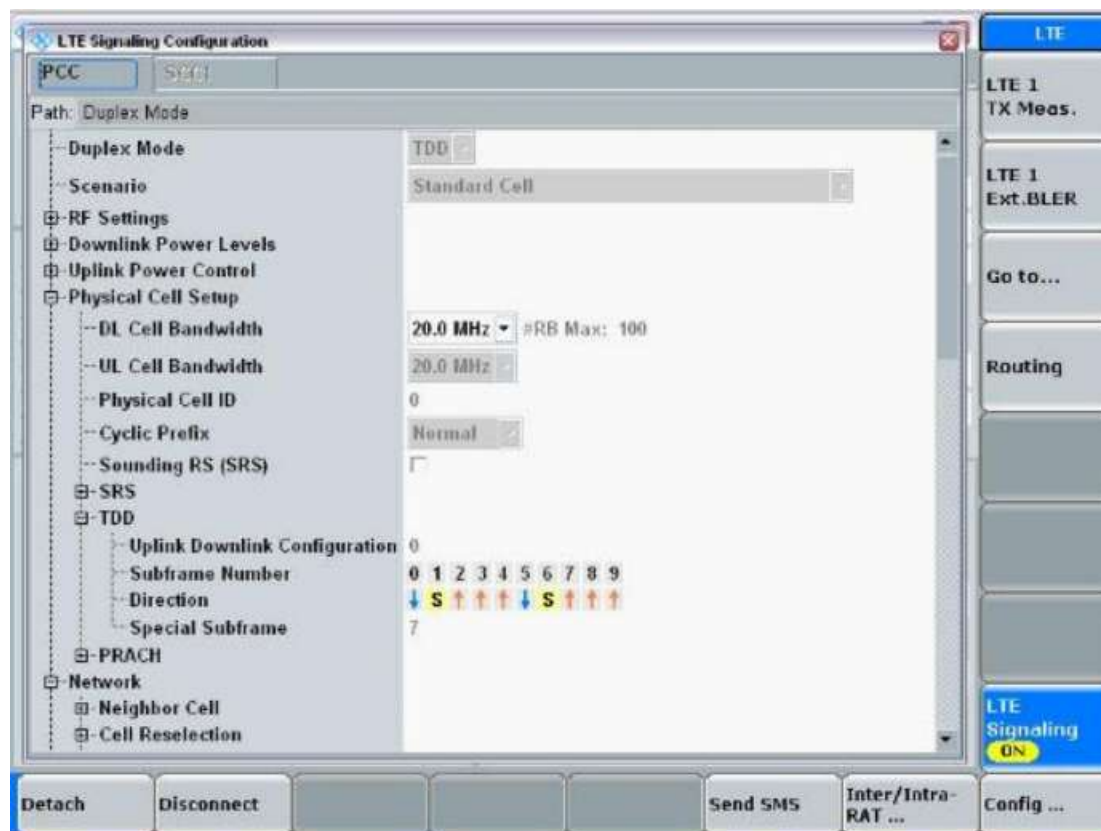
7.4 Area & Zoom Scan Procedure

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.

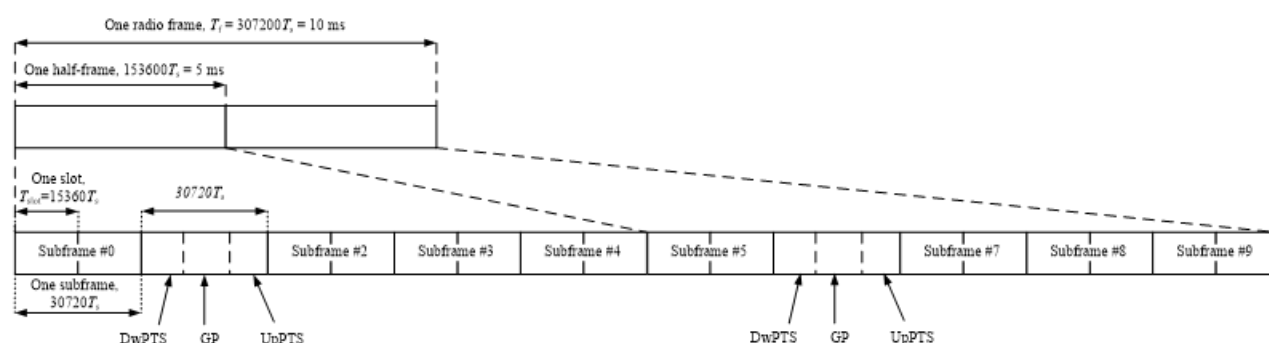
When the 1 g SAR of the highest peak is within 2 dB of the SAR limit, additional zoom scans are required for other peaks within 2 dB of the highest peak that have not been included in any zoom scan to ensure there is no increase in SAR.

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 ($T_f=307200 \cdot TS = 10\text{ms}$) of two half-frames of length ($153600 \cdot TS = 5\text{ms}$). Each half-frame consists of five sub-frames of length ($30720 \cdot TS = 1\text{ms}$)



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-SH2580894-AP.pdf”.

8.2 WCDMA

Please refer the document “BL-SH2580894-AP.pdf”.

8.3 LTE

Please refer the document “BL-SH2580894-AP.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	18.65	19.50	Yes
		6	2437	18.68	19.50	Yes
		11	2462	18.64	19.50	Yes
	802.11g	1	2412	16.36	17.50	No
		6	2437	16.39	17.50	No
		11	2462	16.35	17.50	No
	802.11n(HT20)	1	2412	16.28	17.50	No
		6	2437	16.33	17.50	No
		11	2462	16.25	17.00	No
	802.11n(HT40)	3	2422	15.63	16.50	No
		6	2437	15.76	16.50	No
		9	2452	15.69	16.50	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 = $0.829 * (89.13\text{mW}/56.23\text{mW}) = 0.523$ 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	15.00	16.00	No
		44	5220	14.84	16.00	No
		48	5240	15.07	16.00	No
	802.11n(HT20)	36	5180	14.74	15.50	No
		44	5220	14.72	15.50	No
		48	5240	14.94	16.00	No
	802.11n(HT40)	38	5190	14.84	16.00	No
		46	5230	14.86	16.00	No
	802.11ac(VHT20)	36	5180	14.94	16.00	No
		44	5220	14.76	16.00	No
		48	5240	14.92	16.00	No
	802.11ac(VHT40)	38	5190	14.80	16.00	No
		46	5230	14.92	16.00	No
	802.11ac(VHT80)	42	5210	14.97	16.00	Yes
5.3 (5.25~5.35)	802.11a	52	5260	15.12	16.00	No
		60	5300	15.34	16.50	No
		64	5320	14.73	15.50	No
	802.11n(HT20)	52	5260	14.40	15.50	No
		60	5300	14.54	15.50	No
		64	5320	14.59	15.50	No
	802.11n(HT40)	54	5270	14.49	15.50	No
		62	5310	14.63	15.50	No
	802.11ac(VHT20)	52	5260	14.96	16.00	No
		60	5300	15.08	16.00	No
		64	5320	15.01	16.00	No
	802.11ac(VHT40)	54	5270	15.03	16.00	No
		62	5310	15.16	16.00	No
	802.11ac(VHT80)	58	5290	15.22	16.00	Yes
5.6 (5.47~5.725)	802.11a	100	5500	14.96	16.00	Yes
		116	5580	14.89	16.00	Yes
		140	5700	14.24	15.00	Yes
	802.11n(HT20)	100	5500	14.63	15.50	No
		116	5580	14.74	15.50	No
		140	5700	14.36	15.50	No
	802.11n(HT40)	102	5510	14.56	15.50	No
		118	5590	14.71	15.50	No

		134	5670	14.45	15.50	No
	802.11ac(VHT20)	100	5500	14.86	16.00	No
		116	5580	14.73	15.50	No
		140	5700	14.38	15.50	No
	802.11ac(VHT40)	102	5510	14.48	15.50	No
		118	5590	14.68	15.50	No
		134	5670	13.87	15.00	No
	802.11ac(VHT80)	106	5530	14.06	15.00	No
		122	5690	14.20	15.00	No
	5.8 (5.725~5.850)	802.11a	149	5745	13.89	15.00
157			5785	13.80	15.00	No
165			5825	13.59	15.00	No
802.11n(HT20)		149	5745	13.84	15.00	No
		157	5785	13.63	15.00	No
		165	5825	13.51	15.00	No
802.11n(HT40)		151	5755	13.79	15.00	No
		159	5795	13.51	15.00	No
802.11ac(VHT20)		149	5745	13.79	15.00	No
		157	5785	13.64	15.00	No
		165	5825	13.56	15.00	No
802.11ac(VHT40)		151	5755	13.79	15.00	No
		159	5795	13.57	15.00	No
802.11ac(VHT80)		155	5775	13.60	15.00	Yes
Note: When the same maximum output power is specified for both bands, begin SAR measurement in U-NII-2A band by applying the OFDM SAR requirements. If the highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.						

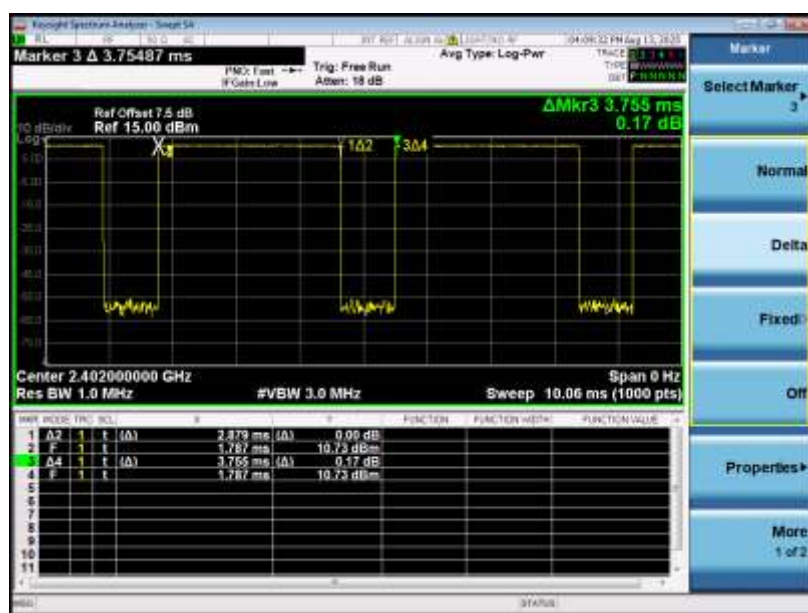
8.5 Bluetooth

Mode	GFSK			$\pi/4$ -DQPSK		
Channel	0	39	78	0	39	78
Frequency (MHz)	2402	2441	2480	2402	2441	2480
Conducted Power (dBm)	11.03	9.95	10.93	10.54	9.74	10.62
Tune-Up Limit (dBm)	12.00	11.00	12.00	11.50	10.50	11.50
SAR Test Require	YES	NO	NO	NO	NO	NO
Mode	8-DPSK			/		
Channel	0	39	78	/	/	/
Frequency (MHz)	2402	2441	2480	/	/	/
Conducted Power (dBm)	10.52	9.81	10.70	/	/	/
Tune-Up Limit (dBm)	11.50	11.00	11.50	/		
SAR Test Require	NO	NO	NO	NO	NO	NO
Mode	BLE-1Mbps			BLE-2Mbps		
Channel	0	19	39	0	19	39
Frequency (MHz)	2402	2440	2480	2402	2440	2480
Conducted Power (dBm)	-1.38	-1.21	-1.37	-1.37	-1.21	-1.39
Tune-Up Limit (dBm)	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50
SAR Test Require	NO	NO	NO	NO	NO	NO

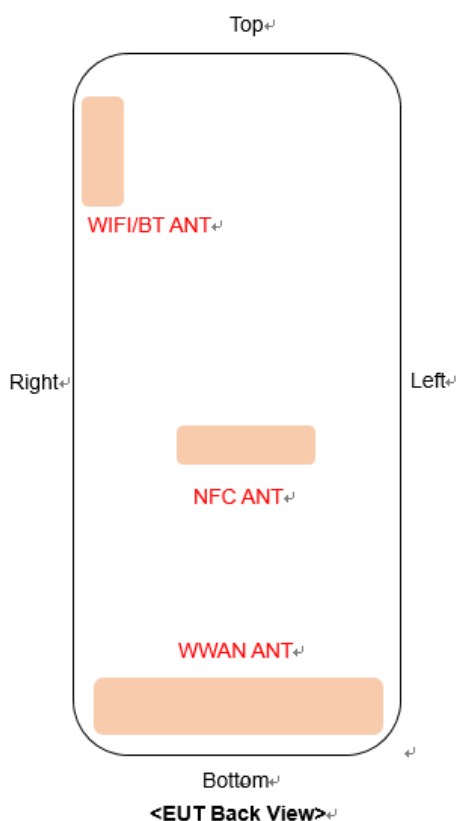
Note 1: Since bluetooth BR mode is the maximum output power mode, SAR measurements were performed with test software using DH5 modulation, and SAR measurement is not required for the EDR and LE. When the secondary mode is $\leq \frac{1}{4}$ dB higher than the primary mode.

Note: The Bluetooth duty cycle is 76.67 % 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
WWAN	GSM 850/1900; WCDMA B2/4/5; LTE B2/4/5/7/12/17/25/26/66/38/41
WIFI/BT	2.4G/5G WLAN, BT

Antenna	Front Side(mm)	Back Side(mm)	Left Edge(mm)	Right Edge(mm)	Top Edge(mm)	Bottom Edge(mm)
WWAN	<25	<25	<25	<25	>25	<25
WLAN/BT	<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

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											
Left cheek	0mm	GPRS 3TX	190	836.6	0.03	0.482	30.58	31.00	1.102	0.531	/
Left tilt			190	836.6	-0.19	0.287	30.58	31.00	1.102	0.316	/
Right cheek			190	836.6	0.15	0.611	30.58	31.00	1.102	0.673	1
Right tilt			190	836.6	0.11	0.309	30.58	31.00	1.102	0.340	/
Body-worn& Hotspot											
Front side	10mm	GPRS 3TX	190	836.6	-0.02	0.384	30.58	31.00	1.102	0.423	2
Back side			190	836.6	-0.11	0.265	30.58	31.00	1.102	0.292	/
Left side			190	836.6	-0.07	0.109	30.58	31.00	1.102	0.120	/
Right side			190	836.6	0.04	0.265	30.58	31.00	1.102	0.292	/
Bottom side			190	836.6	-0.05	0.206	30.58	31.00	1.102	0.227	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.											

10.2 GSM 1900

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											
Left cheek	0mm	GPRS 2TX	661	1880	-0.06	0.023	29.57	30.50	1.239	0.028	3
Left tilt			661	1880	0.19	0.020	29.57	30.50	1.239	0.025	/
Right cheek			661	1880	0.07	0.019	29.57	30.50	1.239	0.024	/
Right tilt			661	1880	-0.08	0.016	29.57	30.50	1.239	0.020	/
Body-worn& Hotspot											
Front side	10mm	GPRS 2TX	661	1880	0.04	0.067	29.57	30.50	1.239	0.083	/
Back side			661	1880	0.16	0.079	29.57	30.50	1.239	0.098	/
Left side			661	1880	0.04	0.031	29.57	30.50	1.239	0.038	/
Right side			661	1880	-0.19	0.025	29.57	30.50	1.239	0.031	/
Bottom side			661	1880	0.05	0.208	29.57	30.50	1.239	0.258	4
Note: Refer to ANNEX C for the detailed test data for each test configuration.											

10.3WCDMA Band 2

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											
Left cheek	0mm	RMC	9400	1880	-0.13	0.041	23.76	25.00	1.330	0.055	/
Left tilt			9400	1880	0.05	0.033	23.76	25.00	1.330	0.044	/
Right cheek			9400	1880	0.07	0.067	23.76	25.00	1.330	0.089	5
Right tilt			9400	1880	0.10	0.048	23.76	25.00	1.330	0.064	/
Body-worn& Hotspot											
Front side	10mm	RMC	9400	1880	0.07	0.147	23.76	25.00	1.330	0.196	/
Back side			9400	1880	0.15	0.203	23.76	25.00	1.330	0.270	/
Left side			9400	1880	-0.01	0.066	23.76	25.00	1.330	0.088	/
Right side			9400	1880	0.17	0.042	23.76	25.00	1.330	0.056	/
Bottom side			9400	1880	-0.03	0.439	23.76	25.00	1.330	0.584	6
Note: Refer to ANNEX C for the detailed test data for each test configuration.											

10.4WCDMA Band 4

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											
Left cheek	0mm	RMC	1412	1732.4	0.03	0.043	22.67	23.50	1.211	0.052	/
Left tilt			1412	1732.4	-0.11	0.039	22.67	23.50	1.211	0.047	/
Right cheek			1412	1732.4	0.02	0.076	22.67	23.50	1.211	0.092	7
Right tilt			1412	1732.4	-0.05	0.068	22.67	23.50	1.211	0.082	/
Body-worn& Hotspot											
Front side	10mm	RMC	1412	1732.4	-0.01	0.192	22.67	23.50	1.211	0.232	/
Back side			1412	1732.4	0.16	0.266	22.67	23.50	1.211	0.322	/
Left side			1412	1732.4	-0.15	0.074	22.67	23.50	1.211	0.090	/
Right side			1412	1732.4	-0.09	0.073	22.67	23.50	1.211	0.088	/
Bottom side			1412	1732.4	0.06	0.577	22.67	23.50	1.211	0.699	8
Note: Refer to ANNEX C for the detailed test data for each test configuration.											

10.5WCDMA Band 5

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											
Left cheek	0mm	RMC	4182	836.4	-0.14	0.172	22.28	23.00	1.180	0.203	/
Left tilt			4182	836.4	0.11	0.093	22.28	23.00	1.180	0.110	/
Right cheek			4182	836.4	-0.19	0.299	22.28	23.00	1.180	0.353	9
Right tilt			4182	836.4	-0.07	0.101	22.28	23.00	1.180	0.119	/
Body-worn& Hotspot											
Front side	10mm	RMC	4182	836.4	0.04	0.243	22.28	23.00	1.180	0.287	10
Back side			4182	836.4	0.01	0.133	22.28	23.00	1.180	0.157	/
Left side			4182	836.4	0.08	0.051	22.28	23.00	1.180	0.060	/
Right side			4182	836.4	-0.17	0.125	22.28	23.00	1.180	0.148	/
Bottom side			4182	836.4	0.05	0.087	22.28	23.00	1.180	0.103	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.											

10.6LTE Band 2 (20MHz Bandwidth)

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													
Left cheek	0mm	QPSK	18900	1880	1	0	0.01	0.065	23.87	25.00	1.297	0.084	/
Left tilt			18900	1880	1	0	-0.15	0.046	23.87	25.00	1.297	0.060	/
Right cheek			18900	1880	1	0	0.09	0.070	23.87	25.00	1.297	0.090	11
Right tilt			18900	1880	1	0	0.06	0.053	23.87	25.00	1.297	0.069	/
Left cheek	0mm	QPSK	18900	1880	50	0	0.02	0.055	23.29	24.00	1.178	0.065	/
Left tilt			18900	1880	50	0	0.02	0.041	23.29	24.00	1.178	0.048	/
Right cheek			18900	1880	50	0	0.03	0.069	23.29	24.00	1.178	0.081	/
Right tilt			18900	1880	50	0	-0.08	0.050	23.29	24.00	1.178	0.059	/
Body-worn& Hotspot													
Front side	10mm	QPSK	18900	1880	1	0	-0.11	0.225	23.87	25.00	1.297	0.292	/
Back side			18900	1880	1	0	0.11	0.333	23.87	25.00	1.297	0.432	/
Left side			18900	1880	1	0	0.06	0.105	23.87	25.00	1.297	0.136	/
Right side			18900	1880	1	0	0.16	0.069	23.87	25.00	1.297	0.090	/
Bottom side			18900	1880	1	0	-0.17	0.508	23.87	25.00	1.297	0.659	12
Front side	10mm	QPSK	18900	1880	50	0	-0.19	0.208	23.29	24.00	1.178	0.245	/
Back side			18900	1880	50	0	-0.10	0.308	23.29	24.00	1.178	0.363	/
Left side			18900	1880	50	0	0.12	0.084	23.29	24.00	1.178	0.099	/
Right side			18900	1880	50	0	0.04	0.046	23.29	24.00	1.178	0.054	/
Bottom side			18900	1880	50	0	-0.10	0.446	23.29	24.00	1.178	0.525	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

10.7LTE Band 4 (20MHz Bandwidth)

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													
Left cheek	0mm	QPSK	20175	1732.5	1	0	0.13	0.059	22.95	24.00	1.274	0.075	/
Left tilt			20175	1732.5	1	0	-0.01	0.028	22.95	24.00	1.274	0.036	/
Right cheek			20175	1732.5	1	0	0.01	0.095	22.95	24.00	1.274	0.120	13
Right tilt			20175	1732.5	1	0	0.01	0.039	22.95	24.00	1.274	0.050	/
Left cheek	0mm	QPSK	20175	1732.5	50	0	0.07	0.051	22.28	23.00	1.180	0.060	/
Left tilt			20175	1732.5	50	0	0.02	0.022	22.28	23.00	1.180	0.026	/
Right cheek			20175	1732.5	50	0	0.11	0.073	22.28	23.00	1.180	0.086	/
Right tilt			20175	1732.5	50	0	-0.04	0.035	22.28	23.00	1.180	0.041	/
Body-worn& Hotspot													
Front side	10mm	QPSK	20175	1732.5	1	0	-0.12	0.317	22.95	24.00	1.274	0.404	/
Back side			20175	1732.5	1	0	-0.06	0.400	22.95	24.00	1.274	0.509	/
Left side			20175	1732.5	1	0	-0.19	0.099	22.95	24.00	1.274	0.126	/
Right side			20175	1732.5	1	0	0.09	0.074	22.95	24.00	1.274	0.094	/
Bottom side			20175	1732.5	1	0	-0.05	0.616	22.95	24.00	1.274	0.784	14
Front side	10mm	QPSK	20175	1732.5	50	0	0.05	0.282	22.28	23.00	1.180	0.333	/
Back side			20175	1732.5	50	0	-0.02	0.364	22.28	23.00	1.180	0.430	/
Left side			20175	1732.5	50	0	0.05	0.088	22.28	23.00	1.180	0.104	/
Right side			20175	1732.5	50	0	-0.05	0.063	22.28	23.00	1.180	0.074	/
Bottom side			20175	1732.5	50	0	0.14	0.509	22.28	23.00	1.180	0.601	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

10.8LTE Band 5 (10MHz Bandwidth)

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													
Left cheek	0mm	QPSK	20525	836.5	1	0	0.11	0.263	22.93	24.00	1.279	0.336	/
Left tilt			20525	836.5	1	0	0.07	0.140	22.93	24.00	1.279	0.179	/
Right cheek			20525	836.5	1	0	0.05	0.377	22.93	24.00	1.279	0.482	15
Right tilt			20525	836.5	1	0	-0.04	0.166	22.93	24.00	1.279	0.212	/
Left cheek	0mm	QPSK	20525	836.5	25	0	0.17	0.220	21.98	23.00	1.265	0.278	/
Left tilt			20525	836.5	25	0	0.09	0.112	21.98	23.00	1.265	0.142	/
Right cheek			20525	836.5	25	0	0.18	0.256	21.98	23.00	1.265	0.324	/
Right tilt			20525	836.5	25	0	-0.13	0.129	21.98	23.00	1.265	0.163	/
Body-worn& Hotspot													
Front side	10mm	QPSK	20525	836.5	1	0	-0.02	0.258	22.93	24.00	1.279	0.330	16
Back side			20525	836.5	1	0	0.07	0.221	22.93	24.00	1.279	0.283	/
Left side			20525	836.5	1	0	0.12	0.086	22.93	24.00	1.279	0.110	/
Right side			20525	836.5	1	0	0.18	0.174	22.93	24.00	1.279	0.223	/
Bottom side			20525	836.5	1	0	-0.15	0.138	22.93	24.00	1.279	0.177	/
Front side	10mm	QPSK	20525	836.5	25	0	0.09	0.203	21.98	23.00	1.265	0.257	/
Back side			20525	836.5	25	0	-0.08	0.178	21.98	23.00	1.265	0.225	/
Left side			20525	836.5	25	0	-0.11	0.067	21.98	23.00	1.265	0.085	/
Right side			20525	836.5	25	0	-0.12	0.177	21.98	23.00	1.265	0.224	/
Bottom side			20525	836.5	25	0	0.11	0.108	21.98	23.00	1.265	0.137	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

10.9LTE Band 7 (20MHz Bandwidth)

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													
Left cheek	0mm	QPSK	21100	2535	1	0	0.02	0.130	24.56	25.00	1.107	0.144	17
Left tilt			21100	2535	1	0	0.04	0.040	24.56	25.00	1.107	0.044	/
Right cheek			21100	2535	1	0	-0.07	0.094	24.56	25.00	1.107	0.104	/
Right tilt			21100	2535	1	0	-0.03	0.031	24.56	25.00	1.107	0.034	/
Left cheek	0mm	QPSK	21100	2535	50	0	0.18	0.096	23.50	24.00	1.122	0.108	/
Left tilt			21100	2535	50	0	-0.07	0.028	23.50	24.00	1.122	0.031	/
Right cheek			21100	2535	50	0	0.12	0.073	23.50	24.00	1.122	0.082	/
Right tilt			21100	2535	50	0	-0.01	0.028	23.50	24.00	1.122	0.031	/
Body-worn& Hotspot													
Front side	10mm	QPSK	21100	2535	1	0	-0.15	0.462	24.56	25.00	1.107	0.511	/
Back side			21100	2535	1	0	-0.17	0.412	24.56	25.00	1.107	0.456	/
Left side			21100	2535	1	0	0.08	0.117	24.56	25.00	1.107	0.129	/
Right side			21100	2535	1	0	0.17	0.136	24.56	25.00	1.107	0.151	/
Bottom side			21100	2535	1	0	0.02	1.040	24.56	25.00	1.107	1.151	/
Bottom side			20850	2510	1	0	-0.04	1.050	24.50	25.00	1.122	1.178	18
Bottom side			21350	2560	1	0	0.04	0.925	24.48	25.00	1.127	1.043	/
Front side	10mm	QPSK	21100	2535	50	0	0.17	0.343	23.50	24.00	1.122	0.385	/
Back side			21100	2535	50	0	-0.02	0.320	23.50	24.00	1.122	0.359	/
Left side			21100	2535	50	0	0.17	0.090	23.50	24.00	1.122	0.101	/
Right side			21100	2535	50	0	0.15	0.118	23.50	24.00	1.122	0.132	/
Bottom side			21100	2535	50	0	0.10	0.795	23.50	24.00	1.122	0.892	/
Bottom side			20850	2510	50	0	0.10	0.954	23.44	24.00	1.138	1.085	/
Bottom side			21350	2560	50	0	0.15	0.763	23.25	24.00	1.189	0.907	/
Bottom side			20850	2510	100	0	0.02	0.775	23.44	24.00	1.138	0.882	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

10.10 LTE Band 12 (10MHz Bandwidth)

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													
Left cheek	0mm	QPSK	23095	707.5	1	0	-0.16	0.084	23.14	24.00	1.219	0.102	/
Left tilt			23095	707.5	1	0	-0.04	0.046	23.14	24.00	1.219	0.056	/
Right cheek			23095	707.5	1	0	0.09	0.125	23.14	24.00	1.219	0.152	19
Right tilt			23095	707.5	1	0	0.11	0.062	23.14	24.00	1.219	0.076	/
Left cheek	0mm	QPSK	23095	707.5	25	0	0.09	0.076	22.24	23.00	1.191	0.091	/
Left tilt			23095	707.5	25	0	0.19	0.037	22.24	23.00	1.191	0.044	/
Right cheek			23095	707.5	25	0	0.17	0.109	22.24	23.00	1.191	0.130	/
Right tilt			23095	707.5	25	0	-0.05	0.058	22.24	23.00	1.191	0.069	/
Body-worn& Hotspot													
Front side	10mm	QPSK	23095	707.5	1	0	0.06	0.144	23.14	24.00	1.219	0.176	20
Back side			23095	707.5	1	0	-0.06	0.134	23.14	24.00	1.219	0.163	/
Left side			23095	707.5	1	0	-0.19	0.093	23.14	24.00	1.219	0.113	/
Right side			23095	707.5	1	0	-0.13	0.091	23.14	24.00	1.219	0.111	/
Bottom side			23095	707.5	1	0	0.04	0.029	23.14	24.00	1.219	0.035	/
Front side	10mm	QPSK	23095	707.5	25	0	-0.15	0.139	22.24	23.00	1.191	0.166	/
Back side			23095	707.5	25	0	-0.13	0.127	22.24	23.00	1.191	0.151	/
Left side			23095	707.5	25	0	-0.06	0.086	22.24	23.00	1.191	0.102	/
Right side			23095	707.5	25	0	-0.18	0.080	22.24	23.00	1.191	0.095	/
Bottom side			23095	707.5	25	0	0.19	0.018	22.24	23.00	1.191	0.021	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

10.11 LTE Band 17 (10MHz Bandwidth)

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													
Left cheek	0mm	QPSK	23790	710	1	0	0.02	0.092	23.26	24.00	1.186	0.109	/
Left tilt			23790	710	1	0	-0.10	0.052	23.26	24.00	1.186	0.062	/
Right cheek			23790	710	1	0	0.12	0.130	23.26	24.00	1.186	0.154	21
Right tilt			23790	710	1	0	-0.06	0.076	23.26	24.00	1.186	0.090	/
Left cheek	0mm	QPSK	23790	710	25	0	-0.07	0.086	22.29	23.00	1.178	0.101	/
Left tilt			23790	710	25	0	-0.19	0.048	22.29	23.00	1.178	0.057	/
Right cheek			23790	710	25	0	0.13	0.118	22.29	23.00	1.178	0.139	/
Right tilt			23790	710	25	0	0.06	0.074	22.29	23.00	1.178	0.087	/
Body-worn& Hotspot													
Front side	10mm	QPSK	23790	710	1	0	0.17	0.155	23.26	24.00	1.186	0.184	22
Back side			23790	710	1	0	-0.14	0.141	23.26	24.00	1.186	0.167	/
Left side			23790	710	1	0	-0.04	0.093	23.26	24.00	1.186	0.110	/
Right side			23790	710	1	0	-0.11	0.100	23.26	24.00	1.186	0.119	/
Bottom side			23790	710	1	0	0.03	0.036	23.26	24.00	1.186	0.043	/
Front side	10mm	QPSK	23790	710	25	0	-0.15	0.145	22.29	23.00	1.178	0.171	/
Back side			23790	710	25	0	0.15	0.130	22.29	23.00	1.178	0.153	/
Left side			23790	710	25	0	-0.16	0.087	22.29	23.00	1.178	0.102	/
Right side			23790	710	25	0	-0.03	0.084	22.29	23.00	1.178	0.099	/
Bottom side			23790	710	25	0	0.03	0.037	22.29	23.00	1.178	0.044	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

10.12 LTE Band 25 (20MHz Bandwidth)

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													
Left cheek	0mm	QPSK	26365	1882.5	1	0	0.18	0.054	23.78	25.00	1.324	0.072	/
Left tilt			26365	1882.5	1	0	-0.15	0.042	23.78	25.00	1.324	0.056	/
Right cheek			26365	1882.5	1	0	0.02	0.072	23.78	25.00	1.324	0.095	23
Right tilt			26365	1882.5	1	0	-0.07	0.049	23.78	25.00	1.324	0.065	/
Left cheek	0mm	QPSK	26365	1882.5	50	0	-0.17	0.045	23.15	24.00	1.216	0.055	/
Left tilt			26365	1882.5	50	0	0.14	0.032	23.15	24.00	1.216	0.039	/
Right cheek			26365	1882.5	50	0	-0.19	0.062	23.15	24.00	1.216	0.075	/
Right tilt			26365	1882.5	50	0	0.16	0.044	23.15	24.00	1.216	0.054	/
Body-worn& Hotspot													
Front side	10mm	QPSK	26365	1882.5	1	0	-0.19	0.230	23.78	25.00	1.324	0.305	/
Back side			26365	1882.5	1	0	0.10	0.354	23.78	25.00	1.324	0.469	/
Left side			26365	1882.5	1	0	-0.10	0.096	23.78	25.00	1.324	0.127	/
Right side			26365	1882.5	1	0	0.10	0.047	23.78	25.00	1.324	0.062	/
Bottom side			26365	1882.5	1	0	0.10	0.503	23.78	25.00	1.324	0.666	24
Front side	10mm	QPSK	26365	1882.5	50	0	0.12	0.204	23.15	24.00	1.216	0.248	/
Back side			26365	1882.5	50	0	-0.11	0.298	23.15	24.00	1.216	0.362	/
Left side			26365	1882.5	50	0	-0.06	0.081	23.15	24.00	1.216	0.099	/
Right side			26365	1882.5	50	0	-0.01	0.047	23.15	24.00	1.216	0.057	/
Bottom side			26365	1882.5	50	0	0.17	0.453	23.15	24.00	1.216	0.551	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

10.13 LTE Band 26 (15MHz Bandwidth)

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													
Left cheek	0mm	QPSK	26865	831.5	1	0	-0.17	0.228	22.89	24.00	1.291	0.294	/
Left tilt			26865	831.5	1	0	-0.10	0.115	22.89	24.00	1.291	0.148	/
Right cheek			26865	831.5	1	0	0.07	0.338	22.89	24.00	1.291	0.436	25
Right tilt			26865	831.5	1	0	-0.17	0.164	22.89	24.00	1.291	0.212	/
Left cheek	0mm	QPSK	26865	831.5	36	0	0.08	0.187	21.93	23.00	1.279	0.239	/
Left tilt			26865	831.5	36	0	-0.06	0.104	21.93	23.00	1.279	0.133	/
Right cheek			26865	831.5	36	0	-0.01	0.291	21.93	23.00	1.279	0.372	/
Right tilt			26865	831.5	36	0	0.14	0.155	21.93	23.00	1.279	0.198	/
Body-worn& Hotspot													
Front side	10mm	QPSK	26865	831.5	1	0	-0.04	0.257	22.89	24.00	1.291	0.332	26
Back side			26865	831.5	1	0	0.07	0.210	22.89	24.00	1.291	0.271	/
Left side			26865	831.5	1	0	-0.12	0.085	22.89	24.00	1.291	0.110	/
Right side			26865	831.5	1	0	0.12	0.153	22.89	24.00	1.291	0.198	/
Bottom side			26865	831.5	1	0	-0.19	0.133	22.89	24.00	1.291	0.172	/
Front side	10mm	QPSK	26865	831.5	36	0	-0.07	0.199	21.93	23.00	1.279	0.255	/
Back side			26865	831.5	36	0	0.06	0.173	21.93	23.00	1.279	0.221	/
Left side			26865	831.5	36	0	0.19	0.070	21.93	23.00	1.279	0.090	/
Right side			26865	831.5	36	0	0.18	0.130	21.93	23.00	1.279	0.166	/
Bottom side			26865	831.5	36	0	0.03	0.109	21.93	23.00	1.279	0.139	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

10.14 LTE Band 66 (20MHz Bandwidth)

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													
Left cheek	0mm	QPSK	132322	1745	1	0	0.15	0.063	23.16	24.00	1.213	0.076	/
Left tilt			132322	1745	1	0	0.19	0.037	23.16	24.00	1.213	0.045	/
Right cheek			132322	1745	1	0	0.03	0.094	23.16	24.00	1.213	0.114	27
Right tilt			132322	1745	1	0	0.16	0.049	23.16	24.00	1.213	0.059	/
Left cheek	0mm	QPSK	132322	1745	50	0	0.12	0.058	22.51	23.00	1.119	0.065	/
Left tilt			132322	1745	50	0	-0.16	0.026	22.51	23.00	1.119	0.029	/
Right cheek			132322	1745	50	0	0.13	0.081	22.51	23.00	1.119	0.091	/
Right tilt			132322	1745	50	0	-0.03	0.041	22.51	23.00	1.119	0.046	/
Body-worn& Hotspot													
Front side	10mm	QPSK	132322	1745	1	0	0.05	0.337	23.16	24.00	1.213	0.409	/
Back side			132322	1745	1	0	-0.08	0.442	23.16	24.00	1.213	0.536	/
Left side			132322	1745	1	0	0.01	0.109	23.16	24.00	1.213	0.132	/
Right side			132322	1745	1	0	-0.19	0.084	23.16	24.00	1.213	0.102	/
Bottom side			132322	1745	1	0	0.07	0.646	23.16	24.00	1.213	0.784	28
Front side	10mm	QPSK	132322	1745	50	0	0.19	0.319	22.51	23.00	1.119	0.357	/
Back side			132322	1745	50	0	0.09	0.385	22.51	23.00	1.119	0.431	/
Left side			132322	1745	50	0	0.01	0.102	22.51	23.00	1.119	0.114	/
Right side			132322	1745	50	0	-0.18	0.065	22.51	23.00	1.119	0.073	/
Bottom side			132322	1745	50	0	0.02	0.545	22.51	23.00	1.119	0.610	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

10.15 LTE Band 38 (20MHz Bandwidth)

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													
Left cheek	0mm	QPSK	38000	2595	1	0	0.05	0.050	23.87	25.00	1.297	0.065	29
Left tilt			38000	2595	1	0	-0.02	0.032	23.87	25.00	1.297	0.042	/
Right cheek			38000	2595	1	0	-0.03	0.045	23.87	25.00	1.297	0.058	/
Right tilt			38000	2595	1	0	-0.07	0.028	23.87	25.00	1.297	0.036	/
Left cheek	0mm	QPSK	38000	2595	50	0	0.15	0.042	23.05	24.00	1.245	0.052	/
Left tilt			38000	2595	50	0	-0.18	0.022	23.05	24.00	1.245	0.027	/
Right cheek			38000	2595	50	0	0.11	0.033	23.05	24.00	1.245	0.041	/
Right tilt			38000	2595	50	0	0.13	0.019	23.05	24.00	1.245	0.024	/
Body-worn& Hotspot													
Front side	10mm	QPSK	38000	2595	1	0	-0.12	0.188	23.87	25.00	1.297	0.244	/
Back side			38000	2595	1	0	0.14	0.162	23.87	25.00	1.297	0.210	/
Left side			38000	2595	1	0	-0.19	0.050	23.87	25.00	1.297	0.065	/
Right side			38000	2595	1	0	0.16	0.049	23.87	25.00	1.297	0.064	/
Bottom side			38000	2595	1	0	0.09	0.393	23.87	25.00	1.297	0.510	30
Front side	10mm	QPSK	38000	2595	50	0	0.15	0.158	23.05	24.00	1.245	0.197	/
Back side			38000	2595	50	0	-0.16	0.137	23.05	24.00	1.245	0.170	/
Left side			38000	2595	50	0	0.01	0.047	23.05	24.00	1.245	0.058	/
Right side			38000	2595	50	0	0.17	0.056	23.05	24.00	1.245	0.070	/
Bottom side			38000	2595	50	0	-0.14	0.377	23.05	24.00	1.245	0.469	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

10.16 LTE Band 41 (20MHz Bandwidth)

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													
Left cheek	0mm	QPSK	40640	2595	1	1	0.04	0.030	24.78	25.50	1.180	0.035	31
Left tilt			40640	2595	1	1	0.07	0.022	24.78	25.50	1.180	0.026	/
Right cheek			40640	2595	1	1	0.08	0.027	24.78	25.50	1.180	0.032	/
Right tilt			40640	2595	1	1	0.13	0.018	24.78	25.50	1.180	0.021	/
Left cheek	0mm	QPSK	40640	2595	50	0	0.03	0.021	24.08	24.50	1.102	0.023	/
Left tilt			40640	2595	50	0	0.18	0.015	24.08	24.50	1.102	0.017	/
Right cheek			40640	2595	50	0	0.01	0.023	24.08	24.50	1.102	0.025	/
Right tilt			40640	2595	50	0	-0.13	0.016	24.08	24.50	1.102	0.018	/
Body-worn& Hotspot													
Front side	10mm	QPSK	40640	2595	1	0	0.01	0.130	24.78	25.50	1.180	0.153	/
Back side			40640	2595	1	0	-0.05	0.095	24.78	25.50	1.180	0.112	/
Left side			40640	2595	1	0	0.19	0.038	24.78	25.50	1.180	0.045	/
Right side			40640	2595	1	0	-0.14	0.018	24.78	25.50	1.180	0.021	/
Bottom side			40640	2595	1	0	0.02	0.249	24.78	25.50	1.180	0.294	32
Front side	10mm	QPSK	40640	2595	50	0	-0.06	0.104	24.08	24.50	1.102	0.115	/
Back side			40640	2595	50	0	-0.07	0.079	24.08	24.50	1.102	0.087	/
Left side			40640	2595	50	0	-0.04	0.026	24.08	24.50	1.102	0.029	/
Right side			40640	2595	50	0	-0.19	0.024	24.08	24.50	1.102	0.026	/
Bottom side			40640	2595	50	0	0.15	0.224	24.08	24.50	1.102	0.247	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

10.17 Bluetooth

Test Position	Dist.	Test Mode	Channel	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR(W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	Duty cycle (%)	Duty Factor	1g Scaled SAR (W/kg)	Meas. No.
Head													
Left cheek	0mm	DH5	0	2402	0.13	0.020	11.03	12.00	1.250	76.67	1.304	0.032	33
Left tilt			0	2402	0.11	0.018	11.03	12.00	1.250	76.67	1.304	0.029	/
Right cheek			0	2402	0.11	0.017	11.03	12.00	1.250	76.67	1.304	0.028	/
Right tilt			0	2402	-0.15	0.011	11.03	12.00	1.250	76.67	1.304	0.018	/
Body-worn& Hotspot													
Front side	10mm	DH5	0	2402	-0.18	0.009	11.03	12.00	1.250	76.67	1.304	0.015	34
Back side			0	2402	0.13	0.006	11.03	12.00	1.250	76.67	1.304	0.010	/
Right side			0	2402	-0.09	0.007	11.03	12.00	1.250	76.67	1.304	0.011	/
Top side			0	2402	-0.02	0.004	11.03	12.00	1.250	76.67	1.304	0.007	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

10.18 WIFI 2.4GHZ

Test Position	Dist.	Test Mode	Channel	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR(W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	Duty cycle (%)	Duty Factor	1g Scaled SAR (W/kg)	Meas. No.
Head													
Left cheek	0mm	802.11b	6	2437	0.05	0.665	18.68	19.50	1.208	99.40	1.006	0.808	/
Left tilt			6	2437	0.03	0.470	18.68	19.50	1.208	99.40	1.006	0.571	/
Right cheek			6	2437	0.1	0.525	18.68	19.50	1.208	99.40	1.006	0.638	/
Right tilt			6	2437	-0.08	0.393	18.68	19.50	1.208	99.40	1.006	0.478	/
Left cheek			1	2412	0.17	0.676	18.64	19.50	1.219	99.40	1.006	0.829	35
Left cheek			11	2462	0.13	0.662	18.68	19.50	1.208	99.40	1.006	0.804	/
Body-worn& Hotspot													
Front side	10mm	802.11b	6	2437	0.02	0.315	18.68	19.50	1.208	99.40	1.006	0.383	36
Back side			6	2437	-0.03	0.169	18.68	19.50	1.208	99.40	1.006	0.205	/
Right side			6	2437	0.02	0.183	18.68	19.50	1.208	99.40	1.006	0.222	/
Top side			6	2437	-0.1	0.157	18.68	19.50	1.208	99.40	1.006	0.191	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

10.19 WIFI 5GHz

Test Band	Test Position	Dist.	Test Mode	Channel	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	Duty cycle (%)	Duty Factor	1g Scaled SAR (W/kg)	Meas. No.
Head														
5.3G	Left cheek	0mm	802.11ac80	58	5290	0.18	0.577	15.22	16.00	1.197	87.79	1.139	0.787	37
	Left tilt			58	5290	0.06	0.353	15.22	16.00	1.197	87.79	1.139	0.481	/
	Right cheek			58	5290	-0.19	0.320	15.22	16.00	1.197	87.79	1.139	0.436	/
	Right tilt			58	5290	0.04	0.343	15.22	16.00	1.197	87.79	1.139	0.468	/
5.6G	Left cheek	0mm	802.11a	100	5500	-0.13	0.495	14.96	16.00	1.271	96.87	1.032	0.649	/
	Left tilt			100	5500	-0.15	0.454	14.96	16.00	1.271	96.87	1.032	0.595	/
	Right cheek			100	5500	0.04	0.500	14.96	16.00	1.271	96.87	1.032	0.656	/
	Right tilt			100	5500	0.05	0.827	14.96	16.00	1.271	96.87	1.032	1.085	38
	Right tilt			116	5580	0.12	0.802	14.89	16.00	1.291	96.87	1.032	1.069	/
	Right tilt			140	5700	-0.18	0.609	14.24	15.00	1.191	96.87	1.032	0.749	/
5.8G	Left cheek	0mm	802.11ac80	155	5775	0.07	0.682	13.60	14.50	1.230	87.79	1.139	0.956	39
	Left tilt			155	5775	-0.19	0.387	13.60	14.50	1.230	87.79	1.139	0.542	/
	Right cheek			155	5775	-0.02	0.304	13.60	14.50	1.230	87.79	1.139	0.426	/
	Right tilt			155	5775	0.01	0.294	13.60	14.50	1.230	87.79	1.139	0.412	/
Body-worn														
5.3G	Front side	10mm	802.11ac80	58	5290	0.03	0.141	15.22	16.00	1.197	87.79	1.139	0.192	40
	Back side			58	5290	0.08	0.139	15.22	16.00	1.197	87.79	1.139	0.189	/
5.6G	Front side	10mm	802.11a	100	5500	0.05	0.193	14.96	16.00	1.271	96.87	1.032	0.253	41
	Back side			100	5500	0.15	0.145	14.96	16.00	1.271	96.87	1.032	0.190	/
5.8G	Front side	10mm	802.11ac80	155	5775	-0.18	0.178	13.60	14.50	1.230	87.79	1.139	0.249	/
	Back side			155	5775	0.11	0.160	13.60	14.50	1.230	87.79	1.139	0.224	/
Hotspot														
5.2G	Front side	10mm	802.11ac80	42	5210	-0.11	0.138	14.97	16.00	1.268	87.79	1.139	0.199	/
	Back side			42	5210	-0.02	0.185	14.97	16.00	1.268	87.79	1.139	0.267	/
	Right side			42	5210	-0.02	0.191	14.97	16.00	1.268	87.79	1.139	0.276	/
	Top side			42	5210	0.09	0.197	14.97	16.00	1.268	87.79	1.139	0.284	42
5.8G	Front side	10mm	802.11ac80	155	5775	-0.18	0.178	13.60	14.50	1.230	87.79	1.139	0.249	/
	Back side			155	5775	0.11	0.160	13.60	14.50	1.230	87.79	1.139	0.224	/
	Right side			155	5775	0.17	0.144	13.60	14.50	1.230	87.79	1.139	0.202	/
	Top side			155	5775	0.05	0.218	13.60	14.50	1.230	87.79	1.139	0.306	43
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

Test Band	Test Position	Dist.	Test Mode	Channel	Freq. (MHz)	Power Drift (dB)	10 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	Duty cycle (%)	Duty Factor	10g Scaled SAR (W/kg)	Meas. No.
Specific														
5.3G	Front side	0mm	802.11ac80	58	5290	-0.04	0.203	15.22	16.00	1.197	87.79	1.139	0.277	/
	Back side			58	5290	0.07	0.165	15.22	16.00	1.197	87.79	1.139	0.225	/
	Right side			58	5290	0.07	0.317	15.22	16.00	1.197	87.79	1.139	0.432	/
	Top side			58	5290	0.06	0.328	15.22	16.00	1.197	87.79	1.139	0.447	44
5.6G	Front side	0mm	802.11a	100	5500	-0.02	0.227	14.96	16.00	1.271	96.87	1.032	0.298	/
	Back side			100	5500	0.07	0.146	14.96	16.00	1.271	96.87	1.032	0.191	/
	Right side			100	5500	0.13	0.067	14.96	16.00	1.271	96.87	1.032	0.088	/
	Top side			100	5500	0.05	0.356	14.96	16.00	1.271	96.87	1.032	0.467	45
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.20 NFC

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

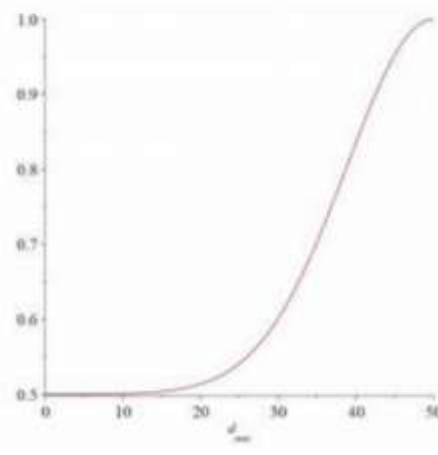
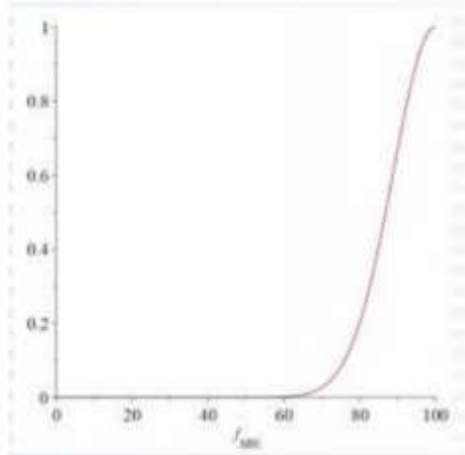
$$P_{7X}(d_{mm}, f_{MHz}) := \begin{cases} P_{6S}(d_{mm}, f_{MHz}) & f_{MHz} \leq 100 \\ P_{6to7}(d_{mm}, f_{MHz}) & 100 < f_{MHz} \leq 300 \\ P_7(d_{mm}, f_{MHz}) & 300 < f_{MHz} \end{cases}$$

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

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

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

- a) Measure the conducted output power (in dBm) using the detector specified (see guidance regarding measurement procedures for determining quasi-peak, peak, and average conducted output power, respectively).
- b) Add the maximum transmit antenna gain (in dBi) to the measured output power level to determine the ERP level (see guidance on determining the applicable antenna gain)
- c) Add the appropriate maximum ground reflection factor to the ERP level (6 dB for frequencies ≤ 30 MHz, 4.7 dB for frequencies between 30 MHz and 1000 MHz, inclusive and 0 dB for frequencies > 1000 MHz).
- d) For devices with multiple antenna-ports, measure the power of each individual chain and sum the ERP of all chains in linear terms (e.g., Watts, mW).
- e) Convert the resultant ERP level to an equivalent electric field strength using the following relationship: $E = ERP - 20\log D + 104.8$

where:

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

ERP = 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	61.01	3	6	-17.79
Note: 1. Add the appropriate maximum ground reflection factor to the ERP level (6 dB for frequencies ≤ 30 MHz). 2. ERP = $60.32 + 20 \cdot \log(10) - 104.8 + 6 = -17.79$ (dBm)					

According to the FCC KDB 447498 D04

Estimated SAR: SAR test = $1.6 \cdot P_{ant} / P_{th}$ [W/kg]

Estimated SAR	$1.6 \cdot P_{ant} / P_{th}$ [W/kg]		
P _{meas.} (dBm)	-17.79	P _{meas.} (mW)	0.017
P _{th.} (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 Radio
2600	LTE band 7	Hotspot	Bottom side	1.05	Yes	1.03	1.02
5500	WLAN 5.6G	Head	Right tilt	0.827	Yes	0.798	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+WLAN2.4G+BT	Yes	Yes	Yes
2	WWAN+WLAN5G+BT	Yes	Yes	Yes

Note:

1. 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.
2. The maximum SAR summation is calculated based on the same configuration and test position.
3. The simultaneous transmission combinations of the more antennas contain combinations of less antennas, so only the worst simultaneous transmission combinations is shown in this report.

12.2 Sum SAR of Simultaneous Transmission

12.2.1 Sum Head SAR of Simultaneous Transmission

Band	Position	Stand alone SAR				SUM SAR	
		1	2	3	4		
		WWAN	2.4GWIFI	5G WIFI	Bluetooth	1+2+4	1+3+4
GSM 850	Left Cheek	0.531	0.829	0.956	0.032	1.392	1.519
	Left Tilt	0.316	0.571	0.595	0.029	0.916	0.940
	Right Cheek	0.732	0.638	0.656	0.028	1.339	1.357
	Right Tilt	0.340	0.478	1.085	0.018	0.836	1.443
GSM 1900	Left Cheek	0.028	0.829	0.956	0.032	0.890	1.017
	Left Tilt	0.025	0.571	0.595	0.029	0.625	0.649
	Right Cheek	0.024	0.638	0.656	0.028	0.689	0.707
	Right Tilt	0.020	0.478	1.085	0.018	0.516	1.123
WCDMA 2	Left Cheek	0.055	0.829	0.956	0.032	0.916	1.043
	Left Tilt	0.044	0.571	0.595	0.029	0.644	0.668
	Right Cheek	0.089	0.638	0.656	0.028	0.755	0.773
	Right Tilt	0.064	0.478	1.085	0.018	0.560	1.167
WCDMA 4	Left Cheek	0.052	0.829	0.956	0.032	0.914	1.041
	Left Tilt	0.047	0.571	0.595	0.029	0.648	0.672
	Right Cheek	0.092	0.638	0.656	0.028	0.757	0.775
	Right Tilt	0.082	0.478	1.085	0.018	0.578	1.185
WCDMA 5	Left Cheek	0.084	0.829	0.956	0.032	0.946	1.073
	Left Tilt	0.110	0.571	0.595	0.029	0.710	0.734
	Right Cheek	0.353	0.638	0.656	0.028	1.019	1.037
	Right Tilt	0.119	0.478	1.085	0.018	0.615	1.222
LTE B2	Left Cheek	0.084	0.829	0.956	0.032	0.946	1.073
	Left Tilt	0.060	0.571	0.595	0.029	0.660	0.684
	Right Cheek	0.090	0.638	0.656	0.028	0.756	0.774
	Right Tilt	0.069	0.478	1.085	0.018	0.565	1.172
LTE B4	Left Cheek	0.075	0.829	0.956	0.032	0.937	1.064
	Left Tilt	0.036	0.571	0.595	0.029	0.636	0.660
	Right Cheek	0.120	0.638	0.656	0.028	0.786	0.804
	Right Tilt	0.050	0.478	1.085	0.018	0.546	1.153
LTE B5	Left Cheek	0.336	0.829	0.956	0.032	1.198	1.325
	Left Tilt	0.179	0.571	0.595	0.029	0.779	0.803
	Right Cheek	0.482	0.638	0.656	0.028	1.148	1.166
	Right Tilt	0.212	0.478	1.085	0.018	0.708	1.315
LTE B7	Left Cheek	0.144	0.829	0.956	0.032	1.005	1.132
	Left Tilt	0.044	0.571	0.595	0.029	0.645	0.669
	Right Cheek	0.104	0.638	0.656	0.028	0.770	0.788
	Right Tilt	0.034	0.478	1.085	0.018	0.530	1.137

LTE B12	Left Cheek	0.102	0.829	0.956	0.032	0.964	1.091
	Left Tilt	0.056	0.571	0.595	0.029	0.656	0.680
	Right Cheek	0.152	0.638	0.656	0.028	0.818	0.836
	Right Tilt	0.076	0.478	1.085	0.018	0.572	1.179
LTE B17	Left Cheek	0.109	0.829	0.956	0.032	0.971	1.098
	Left Tilt	0.062	0.571	0.595	0.029	0.662	0.686
	Right Cheek	0.154	0.638	0.656	0.028	0.820	0.838
	Right Tilt	0.090	0.478	1.085	0.018	0.586	1.193
LTE B25	Left Cheek	0.072	0.829	0.956	0.032	0.933	1.060
	Left Tilt	0.056	0.571	0.595	0.029	0.656	0.680
	Right Cheek	0.095	0.638	0.656	0.028	0.761	0.779
	Right Tilt	0.065	0.478	1.085	0.018	0.561	1.168
LTE B26	Left Cheek	0.294	0.829	0.956	0.032	1.156	1.283
	Left Tilt	0.148	0.571	0.595	0.029	0.749	0.773
	Right Cheek	0.436	0.638	0.656	0.028	1.102	1.120
	Right Tilt	0.212	0.478	1.085	0.018	0.708	1.315
LTE B66	Left Cheek	0.076	0.829	0.956	0.032	0.938	1.065
	Left Tilt	0.045	0.571	0.595	0.029	0.645	0.669
	Right Cheek	0.114	0.638	0.656	0.028	0.780	0.798
	Right Tilt	0.059	0.478	1.085	0.018	0.555	1.162
LTE B38	Left Cheek	0.065	0.829	0.956	0.032	0.926	1.053
	Left Tilt	0.042	0.571	0.595	0.029	0.642	0.666
	Right Cheek	0.058	0.638	0.656	0.028	0.724	0.742
	Right Tilt	0.036	0.478	1.085	0.018	0.532	1.139
LTE B41	Left Cheek	0.035	0.829	0.956	0.032	0.897	1.024
	Left Tilt	0.026	0.571	0.595	0.029	0.626	0.650
	Right Cheek	0.032	0.638	0.656	0.028	0.698	0.716
	Right Tilt	0.021	0.478	1.085	0.018	0.517	1.124

Note:

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

2: The highest Summed 1g SAR is 1.519 W/Kg < 1.6 W/kg, so Simultaneous Transmission SAR test is not required.

12.2.2 Sum Body-worn SAR of Simultaneous Transmission

Band	Position	Stand alone SAR				SUM SAR	
		1	2	3	4		
		WWAN	2.4GWIFI	5G WIFI	Bluetooth	1+2+3	1+3+4
GSM 850	Front Side	0.423	0.383	0.253	0.015	0.821	0.691
	Back Side	0.292	0.205	0.224	0.010	0.507	0.526
GSM 1900	Front Side	0.098	0.383	0.253	0.015	0.496	0.366
	Back Side	0.098	0.205	0.224	0.010	0.313	0.332
WCDMA 2	Front Side	0.196	0.383	0.253	0.015	0.594	0.464
	Back Side	0.270	0.205	0.224	0.010	0.485	0.504
WCDMA 4	Front Side	0.232	0.383	0.253	0.015	0.631	0.501
	Back Side	0.322	0.205	0.224	0.010	0.537	0.556
WCDMA 5	Front Side	0.287	0.383	0.253	0.015	0.685	0.555
	Back Side	0.157	0.205	0.224	0.010	0.372	0.391
LTE B2	Front Side	0.292	0.383	0.253	0.015	0.690	0.560
	Back Side	0.432	0.205	0.224	0.010	0.647	0.666
LTE B4	Front Side	0.404	0.383	0.253	0.015	0.802	0.672
	Back Side	0.509	0.205	0.224	0.010	0.724	0.743
LTE B5	Front Side	0.330	0.383	0.253	0.015	0.728	0.598
	Back Side	0.283	0.205	0.224	0.010	0.498	0.517
LTE B7	Front Side	0.511	0.383	0.253	0.015	0.909	0.779
	Back Side	0.456	0.205	0.224	0.010	0.671	0.690
LTE B12	Front Side	0.176	0.383	0.253	0.015	0.574	0.444
	Back Side	0.163	0.205	0.224	0.010	0.378	0.397
LTE B17	Front Side	0.184	0.383	0.253	0.015	0.582	0.452
	Back Side	0.167	0.205	0.224	0.010	0.382	0.401
LTE B25	Front Side	0.305	0.383	0.253	0.015	0.703	0.573
	Back Side	0.469	0.205	0.224	0.010	0.684	0.703
LTE B26	Front Side	0.332	0.383	0.253	0.015	0.730	0.600
	Back Side	0.271	0.205	0.224	0.010	0.486	0.505
LTE B66	Front Side	0.409	0.383	0.253	0.015	0.807	0.677
	Back Side	0.536	0.205	0.224	0.010	0.751	0.770
LTE B38	Front Side	0.244	0.383	0.253	0.015	0.642	0.512
	Back Side	0.210	0.205	0.224	0.010	0.425	0.444
LTE B41	Front Side	0.153	0.383	0.253	0.015	0.552	0.422
	Back Side	0.112	0.205	0.224	0.010	0.327	0.346

Note:

- 1: The simultaneous transmission combinations of the antennas contain combinations of two antennas, so only the worst simultaneous transmission combinations was shown in this table.
- 2: The highest Combined 1g SAR is 0.909 W/Kg < 1.6 W/kg, so Simultaneous Transmission SAR test is not required.

12.2.3 Sum Hotspot mode SAR of Simultaneous Transmission

Band	Position	Stand alone SAR				SUM SAR	
		1	2	3	4		
		WWAN	2.4GWIFI	5G WIFI	Bluetooth	1+2+3	1+3+4
GSM 850	Front Side	0.423	0.383	0.249	0.015	0.821	0.687
	Back Side	0.292	0.205	0.267	0.010	0.507	0.569
	Left Side	0.120	0.000	0.000	0.000	0.120	0.120
	Right Side	0.292	0.222	0.276	0.011	0.525	0.579
	Top Side	0.000	0.191	0.306	0.007	0.198	0.313
	Bottom Side	0.227	0.000	0.000	0.000	0.227	0.227
GSM 1900	Front Side	0.083	0.383	0.249	0.015	0.481	0.347
	Back Side	0.098	0.205	0.267	0.010	0.313	0.375
	Left Side	0.038	0.000	0.000	0.000	0.038	0.038
	Right Side	0.031	0.222	0.276	0.011	0.264	0.318
	Top Side	0.000	0.191	0.306	0.007	0.198	0.313
	Bottom Side	0.258	0.000	0.000	0.000	0.258	0.258
WCDMA 2	Front Side	0.196	0.383	0.249	0.015	0.594	0.460
	Back Side	0.270	0.205	0.267	0.010	0.485	0.547
	Left Side	0.088	0.000	0.000	0.000	0.088	0.088
	Right Side	0.056	0.222	0.276	0.011	0.289	0.343
	Top Side	0.000	0.191	0.306	0.007	0.198	0.313
	Bottom Side	0.584	0.000	0.000	0.000	0.584	0.584
WCDMA 4	Front Side	0.232	0.383	0.249	0.015	0.631	0.497
	Back Side	0.322	0.205	0.267	0.010	0.537	0.599
	Left Side	0.090	0.000	0.000	0.000	0.090	0.090
	Right Side	0.088	0.222	0.276	0.011	0.322	0.376
	Top Side	0.000	0.191	0.306	0.007	0.198	0.313
	Bottom Side	0.699	0.000	0.000	0.000	0.699	0.699
WCDMA 5	Front Side	0.287	0.383	0.249	0.015	0.685	0.551
	Back Side	0.157	0.205	0.267	0.010	0.372	0.434
	Left Side	0.060	0.000	0.000	0.000	0.060	0.060
	Right Side	0.148	0.222	0.276	0.011	0.381	0.435
	Top Side	0.000	0.191	0.306	0.007	0.198	0.313
	Bottom Side	0.103	0.000	0.000	0.000	0.103	0.103
LTE B2	Front Side	0.292	0.383	0.249	0.015	0.690	0.556
	Back Side	0.432	0.205	0.267	0.010	0.647	0.709
	Left Side	0.136	0.000	0.000	0.000	0.136	0.136
	Right Side	0.090	0.222	0.276	0.011	0.323	0.377
	Top Side	0.000	0.191	0.306	0.007	0.198	0.313
	Bottom Side	0.659	0.000	0.000	0.000	0.659	0.659
LTE B4	Front Side	0.404	0.383	0.249	0.015	0.802	0.668

	Back Side	0.509	0.205	0.267	0.010	0.724	0.786
	Left Side	0.126	0.000	0.000	0.000	0.126	0.126
	Right Side	0.094	0.222	0.276	0.011	0.328	0.382
	Top Side	0.000	0.191	0.306	0.007	0.198	0.313
	Bottom Side	0.784	0.000	0.000	0.000	0.784	0.784
LTE B5	Front Side	0.330	0.383	0.249	0.015	0.728	0.594
	Back Side	0.283	0.205	0.267	0.010	0.498	0.560
	Left Side	0.110	0.000	0.000	0.000	0.110	0.110
	Right Side	0.224	0.222	0.276	0.011	0.457	0.511
	Top Side	0.000	0.191	0.306	0.007	0.198	0.313
	Bottom Side	0.177	0.000	0.000	0.000	0.177	0.177
LTE B7	Front Side	0.511	0.383	0.249	0.015	0.909	0.775
	Back Side	0.456	0.205	0.267	0.010	0.671	0.733
	Left Side	0.129	0.000	0.000	0.000	0.129	0.129
	Right Side	0.151	0.222	0.276	0.011	0.384	0.438
	Top Side	0.000	0.191	0.306	0.007	0.198	0.313
	Bottom Side	1.178	0.000	0.000	0.000	1.178	1.178
LTE B12	Front Side	0.176	0.383	0.249	0.015	0.574	0.440
	Back Side	0.163	0.205	0.267	0.010	0.378	0.440
	Left Side	0.113	0.000	0.000	0.000	0.113	0.113
	Right Side	0.111	0.222	0.276	0.011	0.344	0.398
	Top Side	0.000	0.191	0.306	0.007	0.198	0.313
	Bottom Side	0.035	0.000	0.000	0.000	0.035	0.035
LTE B17	Front Side	0.184	0.383	0.249	0.015	0.582	0.448
	Back Side	0.167	0.205	0.267	0.010	0.382	0.444
	Left Side	0.110	0.000	0.000	0.000	0.110	0.110
	Right Side	0.119	0.222	0.276	0.011	0.352	0.406
	Top Side	0.000	0.191	0.306	0.007	0.198	0.313
	Bottom Side	0.044	0.000	0.000	0.000	0.044	0.044
LTE B25	Front Side	0.305	0.383	0.249	0.015	0.703	0.569
	Back Side	0.469	0.205	0.267	0.010	0.684	0.746
	Left Side	0.127	0.000	0.000	0.000	0.127	0.127
	Right Side	0.062	0.222	0.276	0.011	0.296	0.350
	Top Side	0.000	0.191	0.306	0.007	0.198	0.313
	Bottom Side	0.666	0.000	0.000	0.000	0.666	0.666
LTE B26	Front Side	0.332	0.383	0.249	0.015	0.730	0.596
	Back Side	0.271	0.205	0.267	0.010	0.486	0.548
	Left Side	0.110	0.000	0.000	0.000	0.110	0.110
	Right Side	0.198	0.222	0.276	0.011	0.431	0.485
	Top Side	0.000	0.191	0.306	0.007	0.198	0.313
	Bottom Side	0.172	0.000	0.000	0.000	0.172	0.172
LTE B66	Front Side	0.409	0.383	0.249	0.015	0.807	0.673
	Back Side	0.536	0.205	0.267	0.010	0.751	0.813

	Left Side	0.132	0.000	0.000	0.000	0.132	0.132
	Right Side	0.102	0.222	0.276	0.011	0.335	0.389
	Top Side	0.000	0.191	0.306	0.007	0.198	0.313
	Bottom Side	0.784	0.000	0.000	0.000	0.784	0.784
LTE B38	Front Side	0.244	0.383	0.249	0.015	0.642	0.508
	Back Side	0.210	0.205	0.267	0.010	0.425	0.487
	Left Side	0.065	0.000	0.000	0.000	0.065	0.065
	Right Side	0.070	0.222	0.276	0.011	0.303	0.357
	Top Side	0.000	0.191	0.306	0.007	0.198	0.313
	Bottom Side	0.510	0.000	0.000	0.000	0.510	0.510
LTE B41	Front Side	0.153	0.383	0.249	0.015	0.552	0.418
	Back Side	0.112	0.205	0.267	0.010	0.327	0.389
	Left Side	0.045	0.000	0.000	0.000	0.045	0.045
	Right Side	0.026	0.222	0.276	0.011	0.260	0.314
	Top Side	0.000	0.191	0.306	0.007	0.198	0.313
	Bottom Side	0.294	0.000	0.000	0.000	0.294	0.294
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 1g SAR is 1.178 W/Kg < 1.6 W/kg, so Simultaneous Transmission SAR test is not required.							

12.2.4 Highest Total Exposure Ratio of Simultaneous Transmission

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

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

The maximum SAR value for Simultaneous Transmission is 1.52 [W/kg]. Therefore, the worst TER = (1.52+0.001)/1.6 = 0.951 < 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	52.10.4.1535	N/A	N/A
750MHz Validation Dipole	Speag	D750V3	1201	2024/09/03	2027/09/03
835MHz Validation Dipole	Speag	D835V2	4d277	2024/08/30	2027/08/30
1750MHz Validation Dipole	Speag	D1750V2	1183	2024/09/03	2027/09/03
1900MHz Validation Dipole	Speag	D1900V2	5d155	2024/09/02	2027/09/02
2450MHz Validation Dipole	Speag	D2450V2	1065	2024/09/05	2027/09/05
2600MHz Validation Dipole	Speag	D2600V2	1184	2024/08/30	2027/08/30
5GHz Validation Dipole	Speag	D5GHzV2	1333	2024/09/04	2027/09/04
Data Acquisition Electronicsr	Speag	DAE4	540	2025/04/21	2026/04/21
E-Field Probe	Speag	EX3DV4	3748	2025/04/24	2026/04/24
Signal Generator	R&S	SMB100A	182635	2025/02/12	2026/02/12
Power Meter	Agilent	E4419B	MY45104512	2025/02/11	2026/02/11
Power Sensor	Agilent	E9304A	MY41499059	2025/02/11	2026/02/11
Power Sensor	Agilent	E9304A	MY41499060	2025/02/11	2026/02/11
Wireless Communication Test Set	R&S	CMW500	168792	2025/02/11	2026/02/11
Wireless Communication Test Set	Anritsu	MT8820C	6201061029	2025/02/12	2026/02/12
Network Analyzer	Agilent	E5071C	MY56301409	2025/02/12	2026/02/12
Thermometer	CEM	DT-322	210402350	2025/01/22	2026/01/22
Thermometer	Elitech	RC-4HC	EF7247001275	2025/01/22	2026/01/22
Power Amplifier	COM-MW	PAO.4	201704001	N/A	N/A
Dielectric Probe Kit	Keysight	85070E	MY44300524	N/A	N/A
Phantom	Speag	SAM	1857	N/A	N/A
Attenuator	COM-MW	ZA-S1-31	1305003187	N/A	N/A

Note: For dipole antennas, Tejet 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 85070E Dielectric Probe Kit.

Date	Liquid Type	Fre. (MHz)	Temp. (°C)	Meas. Conductivity (σ) (S/m)	Meas. Permittivity (ϵ)	Target Conductivity (σ) (S/m)	Target Permittivity (ϵ)	Conductivity Tolerance (%)	Permittivity Tolerance (%)
2025.8.14	Head	750	21.2	0.89	42.80	0.89	41.94	0.00	2.05
2025.8.14	Head	835	21.2	0.92	42.31	0.90	41.50	2.22	1.95
2025.8.15	Head	835	21.5	0.93	42.22	0.90	41.50	3.33	1.73
2025.8.16	Head	1750	21.3	1.34	39.95	1.37	40.08	-2.19	-0.32
2025.8.17	Head	1900	20.9	1.44	39.67	1.40	40.00	2.86	-0.83
2025.8.18	Head	2450	21.7	1.83	38.83	1.80	39.20	1.67	-0.94
2025.8.18	Head	2600	21.7	2.00	38.37	1.96	39.01	2.04	-1.64
2025.8.19	Head	2600	21.2	2.01	38.65	1.96	39.01	2.55	-0.92
2025.8.20	Head	5300	21.5	4.89	34.91	4.76	35.87	2.73	-2.68
2025.8.21	Head	5600	21.6	5.20	34.50	5.07	35.53	2.56	-2.90
2025.8.21	Head	5800	21.6	5.43	34.00	5.27	35.30	3.04	-3.68

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 %.

Head liquid 1g

Date	Liquid Type	Freq. (MHz)	Power (mW)	Measured SAR (W/kg)	Normalized SAR (W/kg)	Dipole SAR (W/kg)	Tolerance (%)
2025.8.14	Head	750	100	0.859	8.59	8.46	1.54
2025.8.14	Head	835	100	0.916	9.16	9.59	-4.48
2025.8.15	Head	835	100	0.953	9.53	9.59	-0.63
2025.8.16	Head	1750	100	3.780	37.80	36.50	3.56
2025.8.17	Head	1900	100	4.060	40.60	39.90	1.75
2025.8.18	Head	2450	100	5.420	54.20	52.60	3.04
2025.8.18	Head	2600	100	5.200	52.00	55.30	-5.97
2025.8.19	Head	2600	100	5.470	54.70	55.30	-1.08
2025.8.20	Head	5300	100	8.130	81.30	79.00	2.91
2025.8.21	Head	5600	100	8.290	82.90	82.80	0.12
2025.8.21	Head	5800	100	7.560	75.60	78.50	-3.69
Note: The tolerance limit of System validation $\pm 10\%$.							

Head liquid 10g

Date	Liquid Type	Freq. (MHz)	Power (mW)	Measured SAR (W/kg)	Normalized SAR (W/kg)	Dipole SAR (W/kg)	Tolerance (%)
2025.8.20	Head	5300	100	2.300	23.00	23.00	0.00
2025.8.21	Head	5600	100	2.330	23.30	24.00	-2.92
Note: The tolerance limit of System validation $\pm 10\%$.							

System Performance Check Data (750MHz)

Date: 2025/8/14

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

Medium parameters used: $f = 750$ MHz; $\sigma = 0.89$ S/m; $\epsilon_r = 42.799$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature: 22.1°C Liquid Temperature: 21.2°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)

CW750/Area Scan (71x131x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

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

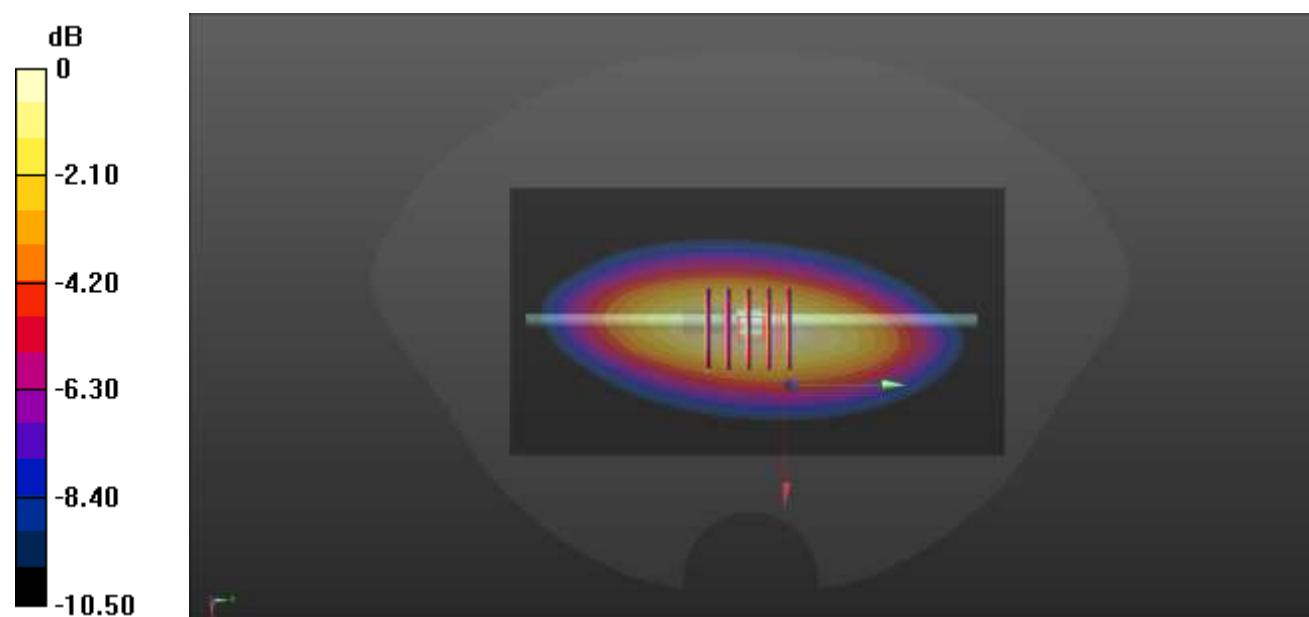
CW750/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

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

Peak SAR (extrapolated) = 1.41 W/kg

SAR(1 g) = 0.859 W/kg; SAR(10 g) = 0.565 W/kg

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



0 dB = 1.19 W/kg

System Performance Check Data (835MHz)

Date: 2025/8/14

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

Medium parameters used: $f = 835$ MHz; $\sigma = 0.924$ S/m; $\epsilon_r = 42.305$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature: 22.1°C Liquid Temperature: 21.2°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)

CW835/Area Scan (71x121x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

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

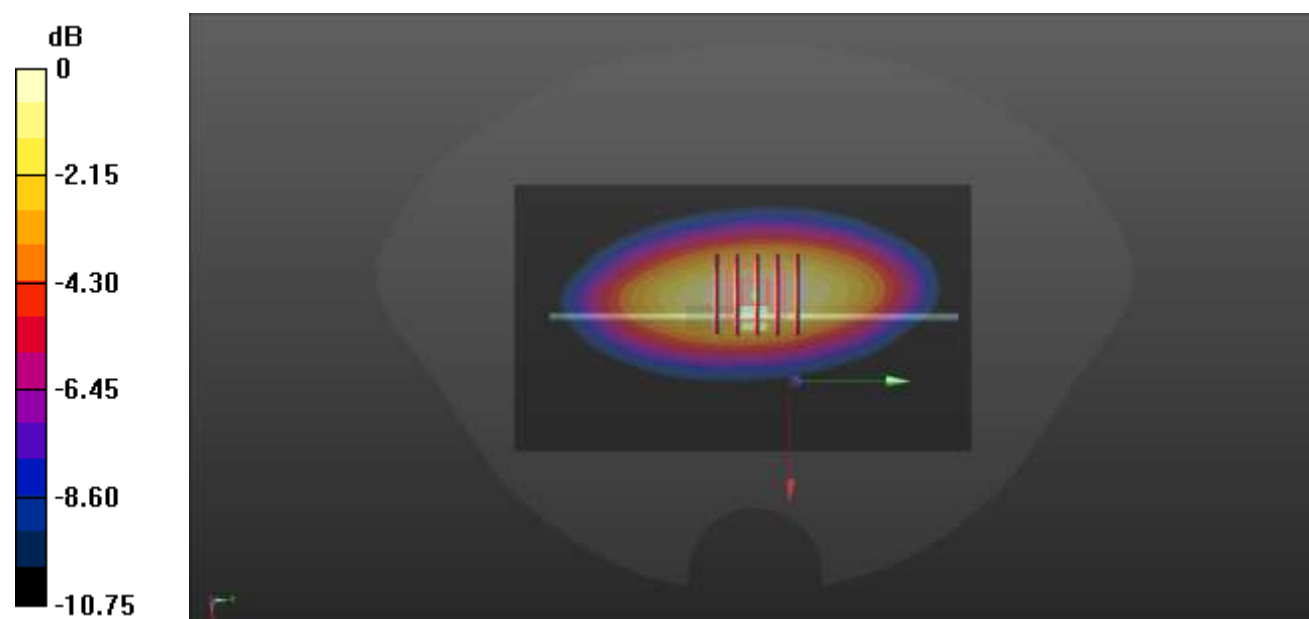
CW835/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

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

Peak SAR (extrapolated) = 1.47 W/kg

SAR(1 g) = 0.916 W/kg; SAR(10 g) = 0.598 W/kg

Maximum value of SAR (measured) = 1.26 W/kg



0 dB = 1.26 W/kg

System Performance Check Data (835MHz)

Date: 2025/8/15

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

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.932 \text{ S/m}$; $\epsilon_r = 42.218$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient Temperature: 22.8°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)

CW835/Area Scan (71x121x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 1.31 W/kg

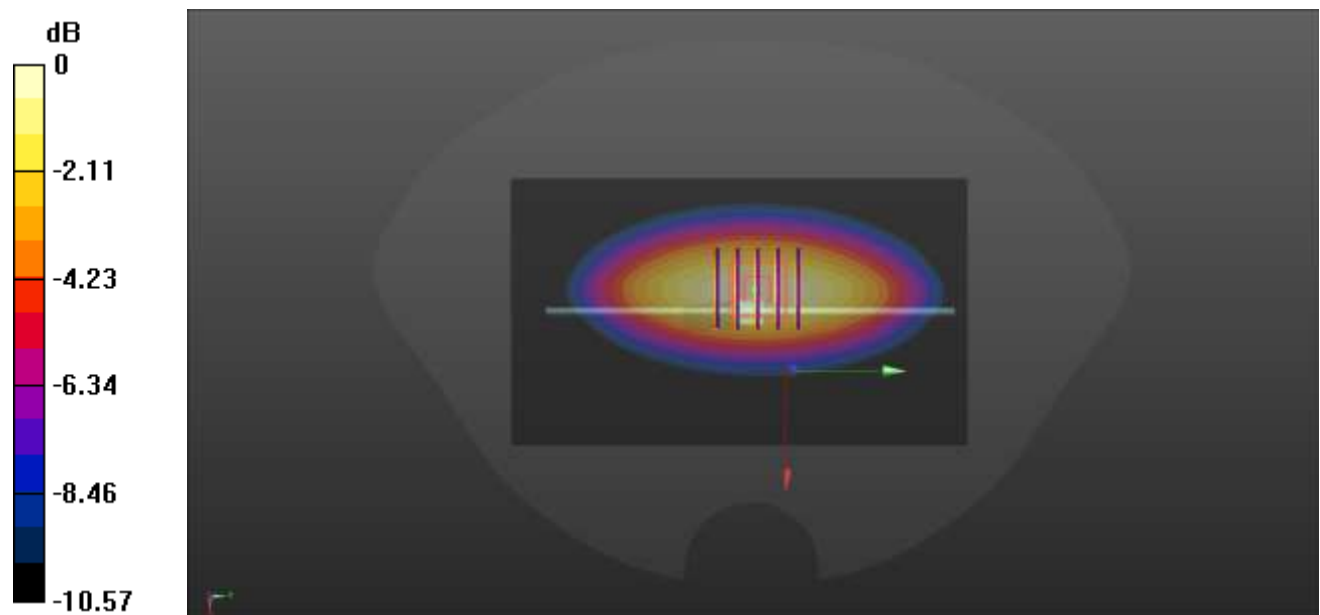
CW835/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

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

Peak SAR (extrapolated) = 1.53 W/kg

SAR(1 g) = 0.953 W/kg; SAR(10 g) = 0.623 W/kg

Maximum value of SAR (measured) = 1.31 W/kg



0 dB = 1.31 W/kg

System Performance Check Data (1750MHz)

Date: 2025/8/16

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

Medium parameters used: $f = 1750$ MHz; $\sigma = 1.338$ S/m; $\epsilon_r = 39.952$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature: 22.4°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)

CW1750/Area Scan (51x91x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 6.11 W/kg

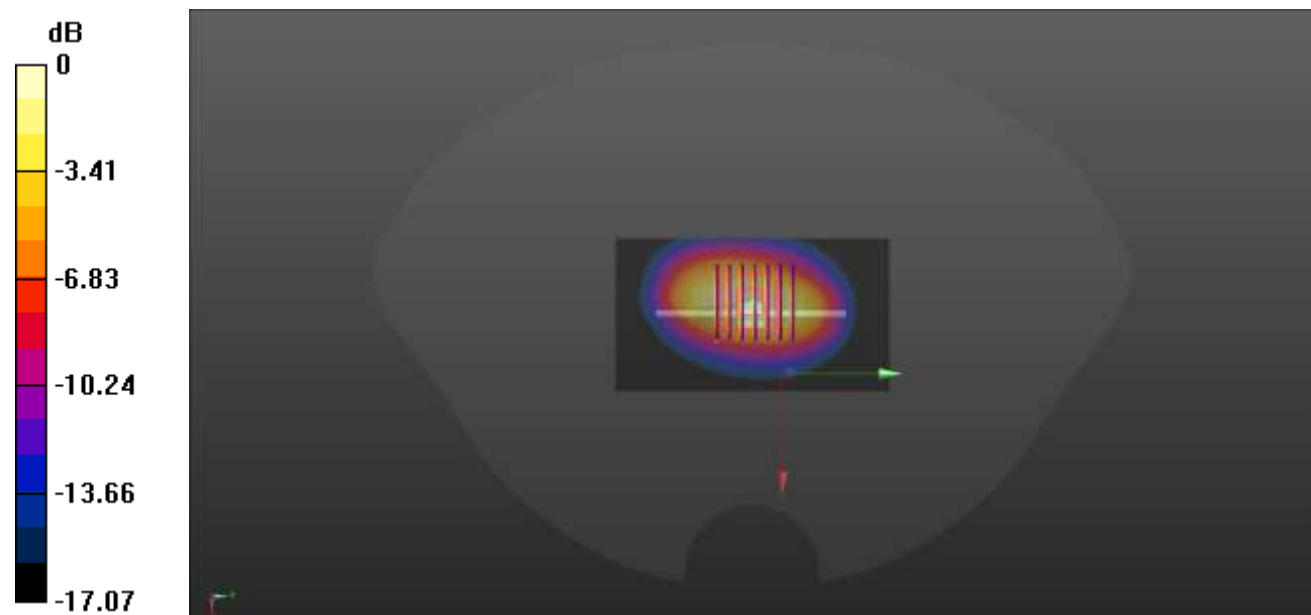
CW1750/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 51.77 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 7.20 W/kg

SAR(1 g) = 3.78 W/kg; SAR(10 g) = 1.99 W/kg

Maximum value of SAR (measured) = 5.94 W/kg



0 dB = 5.94 W/kg

System Performance Check Data (1900MHz)

Date: 2025/8/17

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

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.435$ S/m; $\epsilon_r = 39.671$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature: 22.2°C Liquid Temperature: 20.9°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3748; ConvF(7.3, 7.3, 7.3); 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)

CW1900/Area Scan (61x101x1): Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm

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

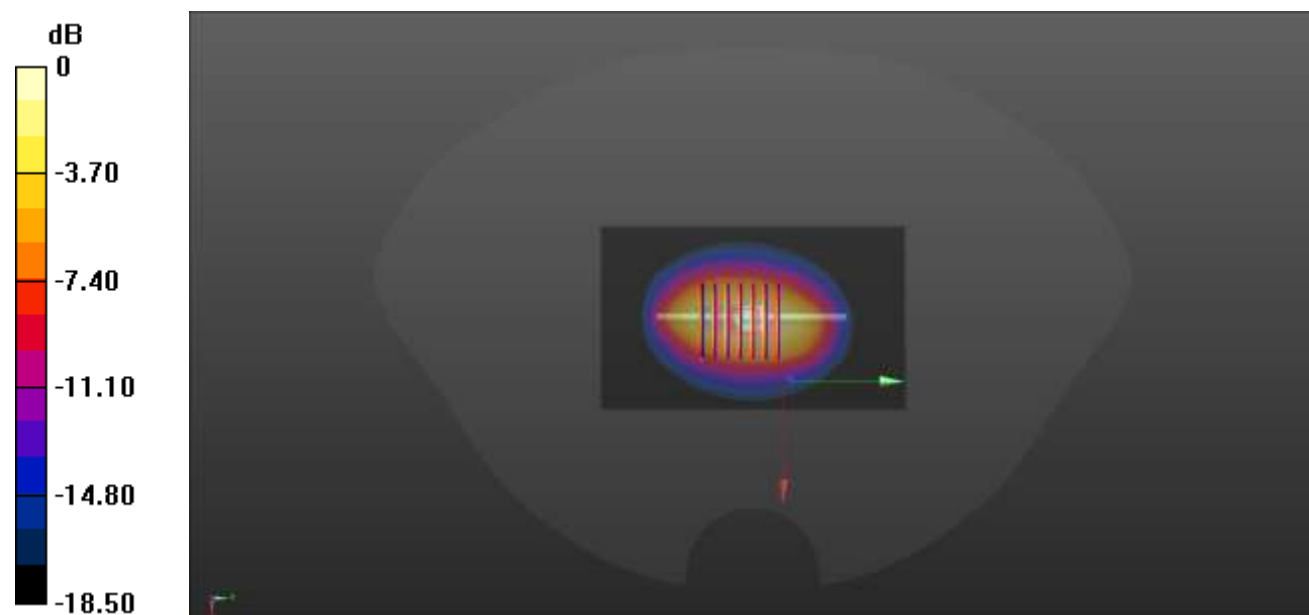
CW1900/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

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

Peak SAR (extrapolated) = 7.82 W/kg

SAR(1 g) = 4.06 W/kg; SAR(10 g) = 2.09 W/kg

Maximum value of SAR (measured) = 6.43 W/kg



0 dB = 6.43 W/kg

System Performance Check Data (2450MHz)

Date: 2025/8/18

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

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.827$ S/m; $\epsilon_r = 38.825$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature: 22.7°C Liquid Temperature: 21.7°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3748; ConvF(6.9, 6.9, 6.9); 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)

CW2450/Area Scan (71x81x1): Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm

Maximum value of SAR (interpolated) = 9.46 W/kg

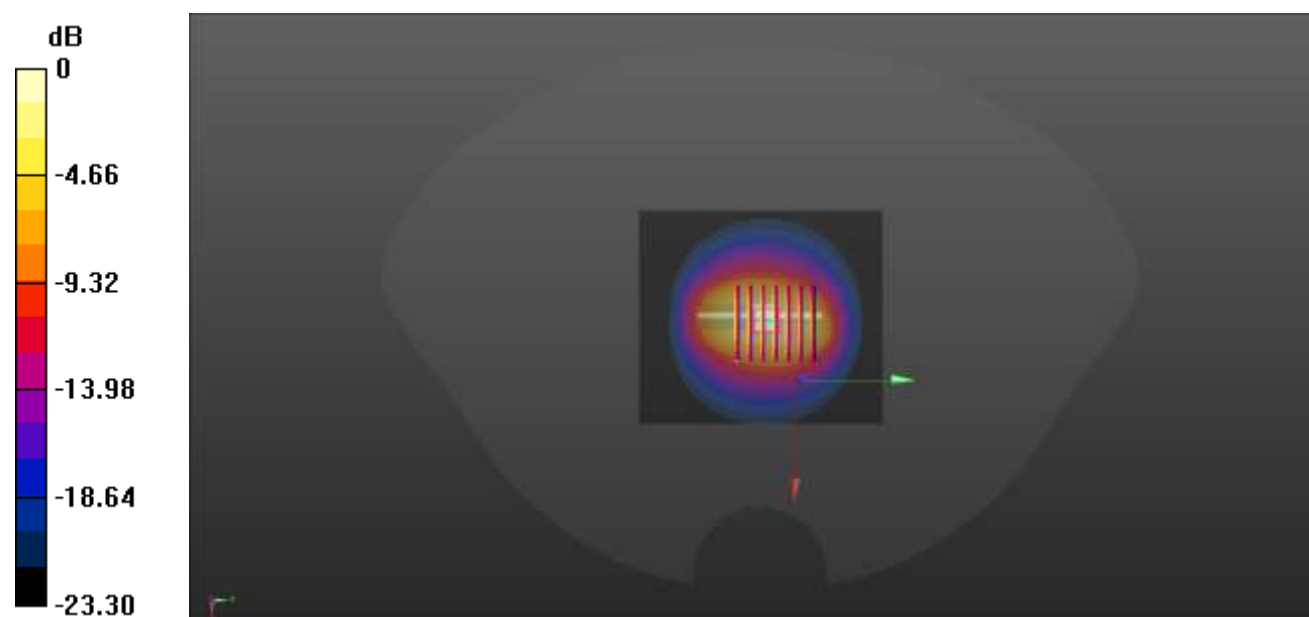
CW2450/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 58.18 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 11.4 W/kg

SAR(1 g) = 5.42 W/kg; SAR(10 g) = 2.49 W/kg

Maximum value of SAR (measured) = 9.10 W/kg



0 dB = 9.10 W/kg

System Performance Check Data (2600MHz)

Date: 2025/8/18

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

Medium parameters used: $f = 2600$ MHz; $\sigma = 1.997$ S/m; $\epsilon_r = 38.374$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature: 22.7°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)

CW2600/Area Scan (71x81x1): Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm

Maximum value of SAR (interpolated) = 9.26 W/kg

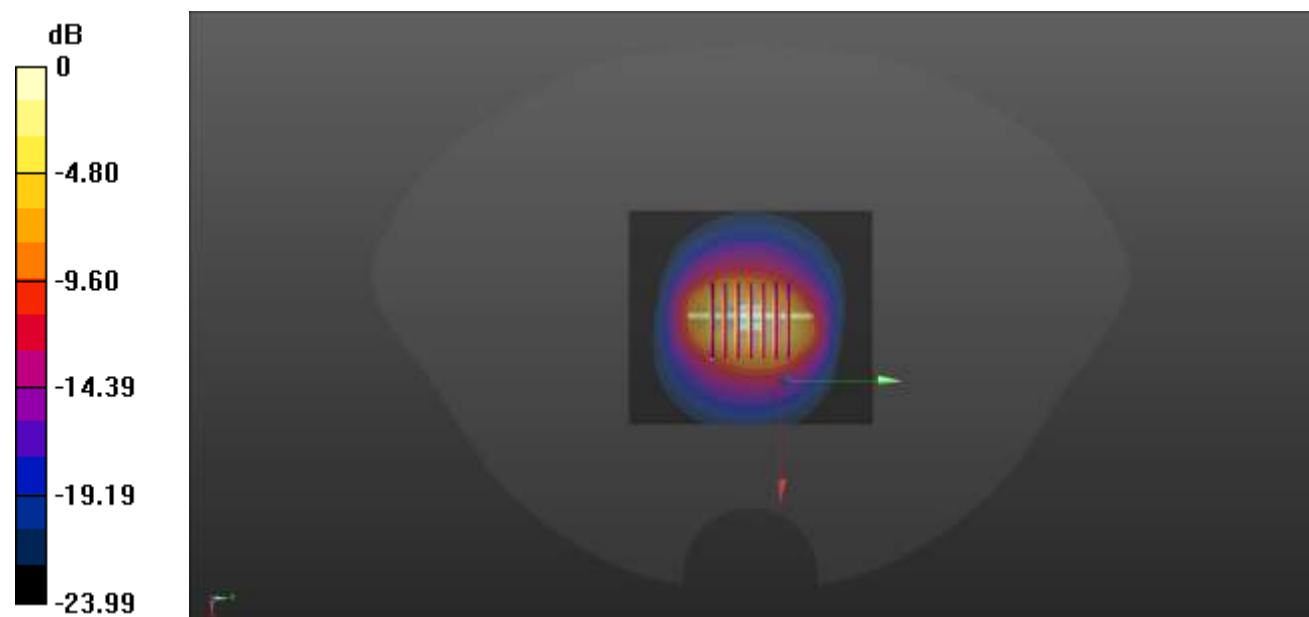
CW2600/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

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

Peak SAR (extrapolated) = 11.3 W/kg

SAR(1 g) = 5.2 W/kg; SAR(10 g) = 2.31 W/kg

Maximum value of SAR (measured) = 8.95 W/kg



0 dB = 8.95 W/kg

System Performance Check Data (2600MHz)

Date: 2025/8/19

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

Medium parameters used: $f = 2600$ MHz; $\sigma = 2.005$ S/m; $\epsilon_r = 38.653$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature: 22.6°C Liquid Temperature: 21.2°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)

CW2600/Area Scan (71x81x1): Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm

Maximum value of SAR (interpolated) = 9.66 W/kg

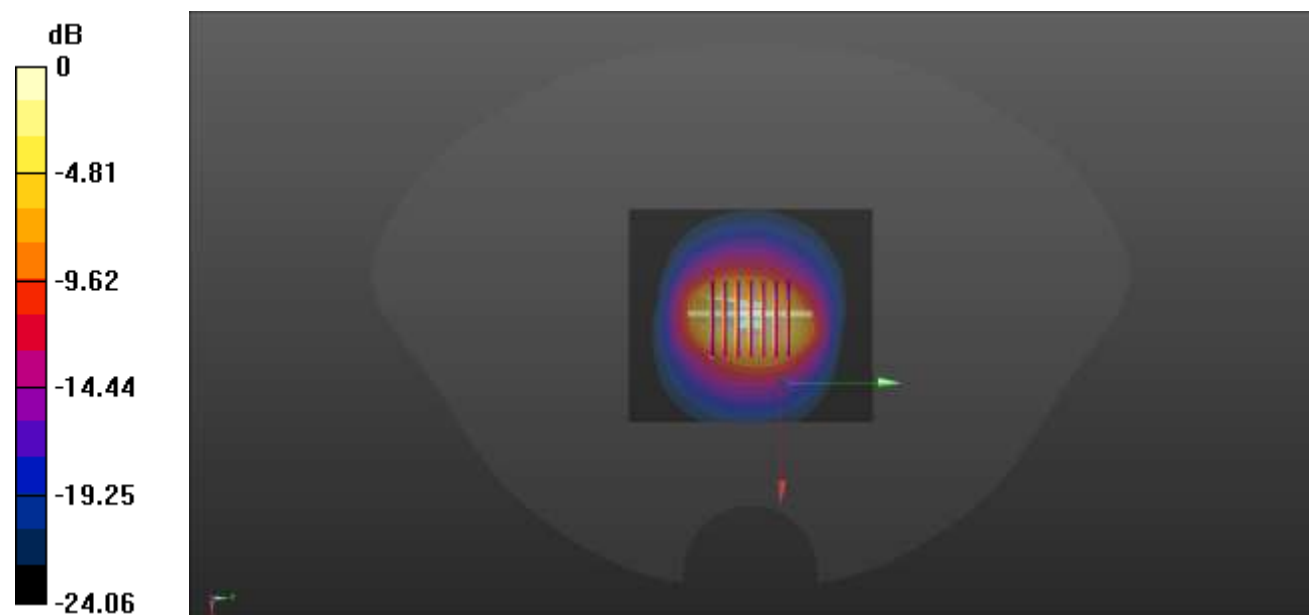
CW2600/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 57.40 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 12.0 W/kg

SAR(1 g) = 5.47 W/kg; SAR(10 g) = 2.43 W/kg

Maximum value of SAR (measured) = 9.48 W/kg



0 dB = 9.48 W/kg

System Performance Check Data (5300MHz)

Date: 2025/8/20

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

Medium parameters used: $f = 5300$ MHz; $\sigma = 4.892$ S/m; $\epsilon_r = 34.908$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Ambient Temperature: 22.8°C Liquid Temperature: 21.5°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)

CW5300/Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 17.0 W/kg

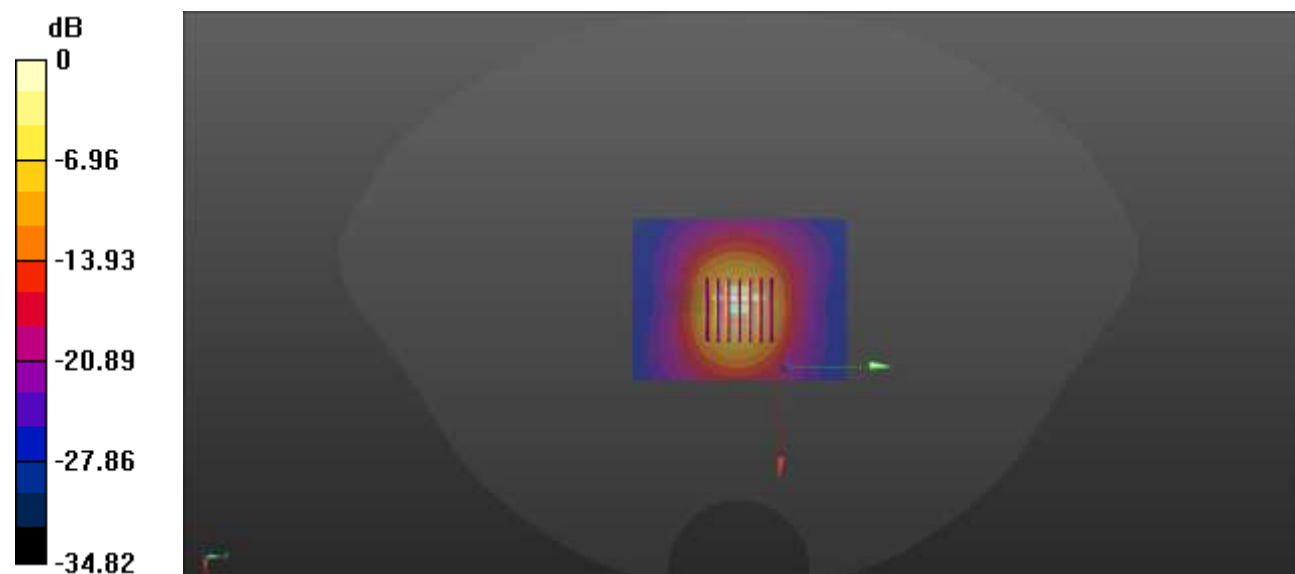
CW5300/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 41.36 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 34.4 W/kg

SAR(1 g) = 8.13 W/kg; SAR(10 g) = 2.3 W/kg

Maximum value of SAR (measured) = 17.0 W/kg



0 dB = 17.0 W/kg

System Performance Check Data (5600MHz)

Date: 2025/8/21

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

Medium parameters used: $f = 5600$ MHz; $\sigma = 5.204$ S/m; $\epsilon_r = 34.499$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN3748; ConvF(4.39, 4.39, 4.39); 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)

CW5600/Area Scan (81x101x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm
Maximum value of SAR (interpolated) = 17.4 W/kg

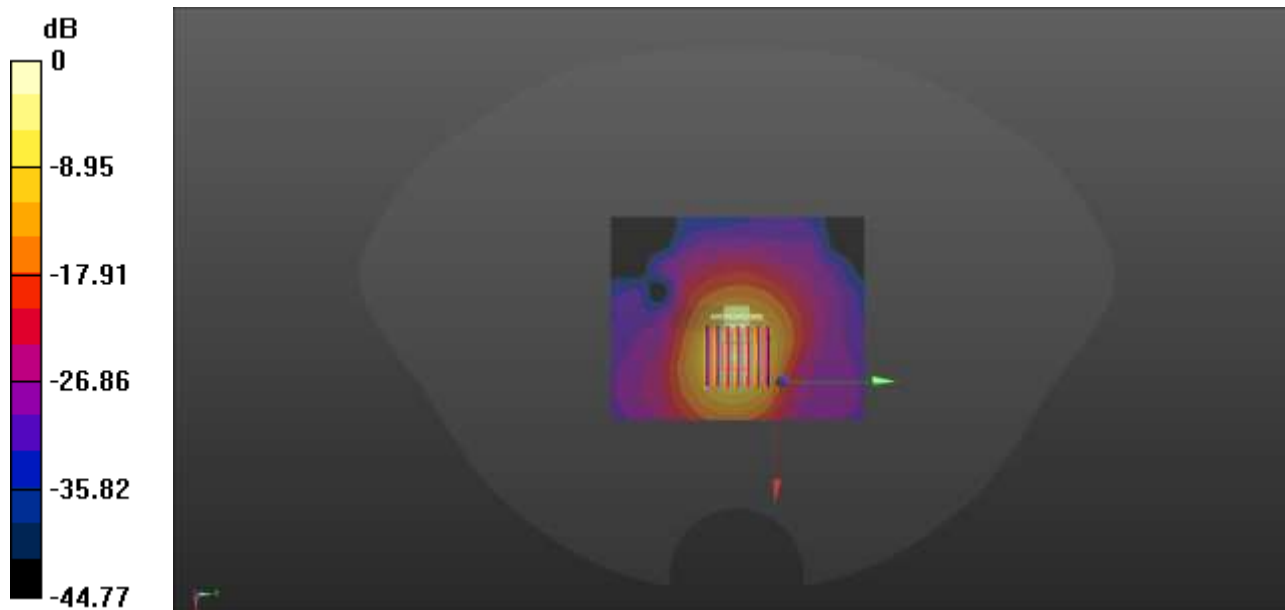
CW5600/Zoom Scan (7x7x12)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2$ mm

Reference Value = 16.21 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 38.5 W/kg

SAR(1 g) = 8.29 W/kg; SAR(10 g) = 2.33 W/kg

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



0 dB = 17.8 W/kg

System Performance Check Data (5800MHz)

Date: 2025/8/21

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

Medium parameters used: $f = 5800$ MHz; $\sigma = 5.426$ S/m; $\epsilon_r = 34.003$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

CW5800/Area Scan (81x101x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

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

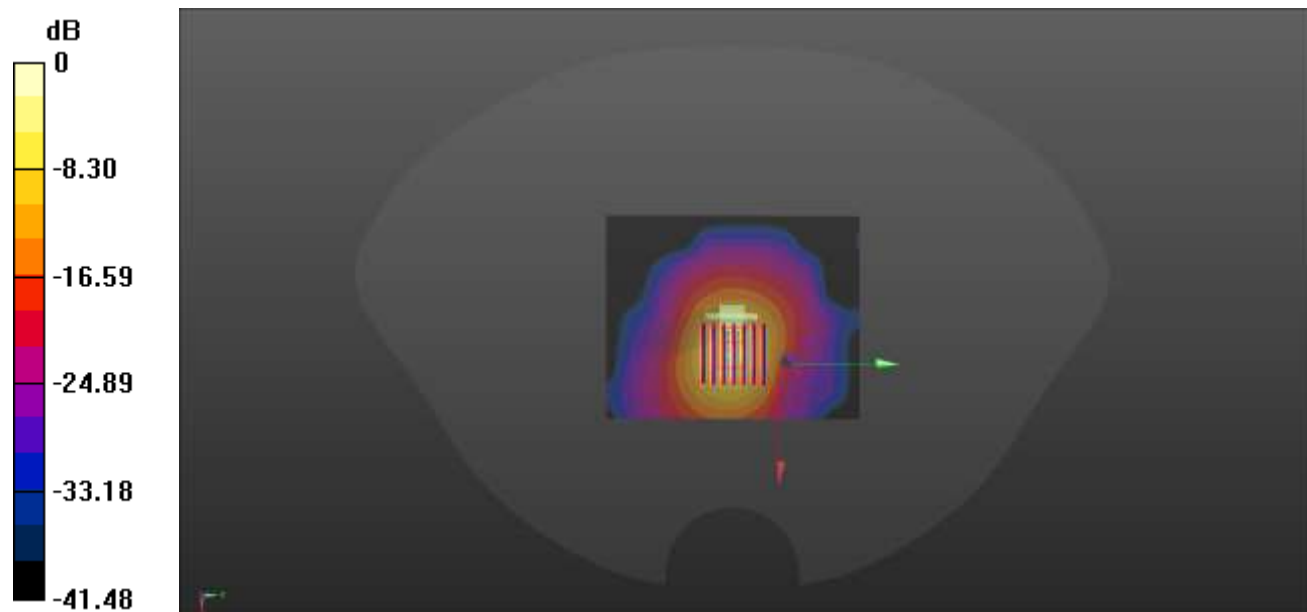
CW5800/Zoom Scan (7x7x12)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2$ mm

Reference Value = 15.38 V/m; Power Drift = -0.20 dB

Peak SAR (extrapolated) = 36.7 W/kg

SAR(1 g) = 7.56 W/kg; SAR(10 g) = 2.11 W/kg

Maximum value of SAR (measured) = 16.4 W/kg



0 dB = 16.4 W/kg

ANNEX C TEST DATA

Please refer the document “BL-SH2580894-ATD.pdf”.

ANNEX D EUT EXTERNAL PHOTOS

Please refer the document “BL-SH2580894-AW.pdf”.

ANNEX E SAR TEST SETUP PHOTOS

Please refer the document “BL-SH2580894-AS.pdf”.

ANNEX F CALIBRATION REPORT

Please refer the document “BL-SH2580894-AC.pdf”.

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--END OF REPORT--